COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF NEOLA CAVENY

DECLARATION OF NEOLA CAVENY

1. My name is Neola Caveny. I am a resident of Huelo, Maui County in the State of Hawaii. I am a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am the owner of Lot 1 of Hanehoi Gardens, being a portion of Grant 2784 to Kaiewe, 2.219 acres in size, designated as TMK No. (II) 2-9-11:14, which I purchased by Warranty Deed dated April 27, 2001, recorded in the Bureau of Conveyances, State of Hawaii on May 4, 2001 ("my property"). See Exhibit E-19.

4. My property possesses riparian water rights. Hanehoi Stream passes right through my property. My property abuts Hanehoi Stream on two sides. This is shown on TMK No. (II) 2-9-11 which is presented as Exhibit E-20.

5. My predecessor in title, Stanley E. Rushworth, registered the water rights of my property with the Commission on Water Resources Management in 1989. See Exhibit E-21. He noted the prior use of my property for taro cultivation. He sought restoration of 100,000 gallons of water per day delivered in Hanehoi Stream to my property. I have been concerned about the lack of water available in Hanehoi stream for over a decade. In 2004 I contacted the State Water Commission to ask their assistance in claiming my riparian rights. A copy of my letter of March 15, 2004 is presented here as Exhibit E-22.

6. Hanehoi Stream has two branches. The main branch ("East Hanehoi") is diverted at least four times by EMI diversion works upstream of my property. The western branch is diverted by the EMI Lowrie Ditch Diversion, before it rejoins the main branch, thus limiting any flow it can contribute to the stream. There are two diversion works on Hanehoi Stream above my property that must be mentioned here.

7. Hanehoi Stream is dewatered by the Lowrie Ditch diversion works. The full flow of the Hanehoi Stream flows from above the Lowrie Ditch downstream towards the Lowrie Ditch. There are two four inch (4") pipes in the Lowrie Ditch diversion works which were intended, at some time in the past, to allow water to flow downstream of the Lowrie Ditch.

8. Within the last ten (10) to fifteen (15) years, these two 4" pipes were either totally blocked or were allowed to become totally blocked so that very little water, except in extreme storm events, flows downstream of the Lowrie Ditch diversion works. Conditions in these pipes

is shown in the photographs presented here as Exhibit 23 A-C. Unless there is an extreme storm event, Hanehoi Stream is almost completely dewatered below the Lowrie Ditch diversion works.

9. Wildlife experts have recommended that the two pipes be replaced by a more natural channel for water to bypass the diversion and return to the stream. Such a structure was added to Honopou stream at EMI's Haiku Ditch but this has not been implemented on Hanehoi or Puolua streams. This solution implemented at Honopou stream is shown as Exhibit E-6 A & B.

10. Below the Lowrie Ditch diversion works on Hanehoi Stream are the New Haiku Ditch diversion works. The Hanehoi Stream is totally dewatered by the New Haiku Ditch diversion works. There were pipes within the New Haiku diversion works that allowed, in the past, some water to flow in Hanehoi Strean after the New Haiku Ditch diversion works. In approximately 2000, the above-referenced pipes in the New Haiku Ditch diversion works were removed and the holes left by them were filled completely with cement.

11. The Hawaii Commission on Water Resource Management ("CWRM") adopted an amended interim instream flow standard ("IIFS") for Hanehoi stream in September 2008. CWRM adopted a flow standard of seven-hundred and forty-thousand gallons per day (740,000 gpd) on East Hanehoi stream above the Lowrie ditch to provide water for the Huelo community water pipe, the stream itself and downstream users.

12. CWRM also adopted a flow standard of four hundred and ten-thousand gallons per day (410,000 gpd) on Hanehoi stream below the New Haiku Ditch diversion works to provide water for downstream users, such as myself, and for the stream. Both of these recommended restoration flow levels were adopted by the State Water Commission and a diagram of the release points described above is shown on Exhibit E-7 p. 26.

13. In spite of both of these actions, there currently is rarely any water in Hanehoi Stream downstream of the New Haiku Ditch diversion works.

14. Currently, Hanehoi Stream is almost completely dewatered as it passes through my property, except during and shortly after large storm events. The streambed is often dusty and devastated as it passes through my property. Upstream from my property along EMI land, the stream bed is overgrown in sections with alien plants and trees and there is no maintenance to keep its natural channel open and encourage mauka-makai flows in the stream.

15. Below the New Haiku Ditch diversion works and upstream of my property the Puolua Stream empties into Hanehoi Stream. Puolua stream is almost totally dewatered by the Lowrie Ditch diversion works. The full flow of the Puolua Stream flows from above the Lowrie Ditch downstream towards the Lowrie Ditch and is then virtually entirely intercepted by the Lowrie Ditch. There are two deteriorating four inch (4") pipes in the Lowrie Ditch diversion works at Puolua which lead to one short section of eight-inch (8") pipe to allow some water to bypass the Lowrie Ditch diversion and flow downstream of the Lowrie Ditch.

16. According to Ernest Schupp, these two 4" pipes on Puolua Stream were supposed to be replaced by a trough-style bypass installation to allow streamlife to migrate along the stream and lower maintenance costs, but this has never happened. The two pipes are often totally blocked with debris and are not regularly maintained by EMI even thought they are situated on land EMI claims to own. As a result, very limited amounts of water, except in extreme storm events, flows in Puolua Stream downstream of the Lowrie Ditch diversion works. Unless there is an extreme storm event, Puolua Stream is often severely dewatered below the Lowrie Ditch diversion works.

17. Below the Lowrie Ditch diversion works on Puolua Stream are the New Haiku Ditch diversion works. The Puolua Stream is significantly dewatered by the New Haiku Ditch diversion works.

18. The Hawaii Commission on Water Resource Management ("CWRM") adopted an amended Interim Instream Flow Standard ("IIFS") for Puolua Stream in September 2008. CWRM adopted a flow standard of five-hundred and seventy-thousand gallons per day (570,000 gpd) on Puolua stream below the New Haiku Ditch to provide water for Ernest Schupp's kalo cultivation on TMK No. (II) 2-9-08:14 along Puolua stream and for downstream users, such as myyself. See Exhibit E-7 p. 26.

19. In spite of this action, there currently are very limited flows in Puolua Stream downstream of the New Haiku Ditch diversion works.

20. The agreement finalized by the Water Commission in 2008 included a requirement for regular monitoring and "adaptive management" of the Instream Flow Standards. The CWRM Staff Submittal which is presented as Exhibit E-7, included this statement. on p. 18, which was part of the Commission's final adopted decison:

"Staff shall monitor streamflow by taking periodic flow measurements, subject to available funding, at the proposed interim IFS locations, as weather permits. These will be point-in-time measurements; however, the installation of stream gaging stations remains an option for long-term management."

21. To my knowledge, no monitoring of the stream flows on Hanehoi stream below the New Haiku Ditch, has taken place since 2009 when a report was made to the Commission. This is the proposed release point that most effects my property. The September 2009 report concluded that the proposed IIFS was not being met. I and other downstream users were not consulted as to possible solutions to meet the standards. This report is presented as Exhibit 10, pp. 36 and 46.

22. As part of the Malama Hamakua Watershed Action Project several community members walked the Hanehoi stream bed in the area below New Haiku Ditch and found it so overgrown to be impassable for humans or water.

When the Commission resumes its monitoring of Hanehoi Stream, a plan for regular maintenance of this stream bed should be part of the plan, if those of us with riparian rights ever expect to the see a flow of water except during rains.

23. If water flows in Puolua Stream, it will empty into Hanehoi Stream below the New Haiku Ditch diversion works on Hanehoi Stream and is a potential manner in which streamflow can be provided to my property on Hanehoi Stream. As such, the Declaration of Ernest Schupp is hereby realleged and incorporated by reference with respect to the functioning of Puolua Stream and his use of any streamflow in Puolua Stream upstream of my property.

24. I understand that representatives of EMI have alleged that there is some sort of sump upstream of my property and below the juncture of Hanehoi and Puolua Streams such that when water flows to the sump it disappears into the ground and does not or would not flow below the sump area to my property. I suspect that the representatives of EMI make this allegation in an attempt to suggest that it would be futile to attempt to place more water in Hanehoi or Puolua Streams for the benefit of my property, or for protected instream ecology or recreational uses, because any such water would not purportedly pass beyond the sump area.

25. There is no such sump area which functions as described in the paragraph above. I have been told by Ernest Schupp that members of the Lukela-Keala family who own the land he leases, told him that they also cultivated wetland kalo along Hanehoi stream on what is now my land. An area of Hanehoi stream a little upstream of my property adjacent to another Lukela family kuleana parcel, designated as TMK No. (II) 2-9-008:31, is referred to as "Mary's Pond or

Pool." The location of this pond and other traditional ponds used for community recreation is indicated in a map created by Maui Tomorrow which corrects and overlays a CWRM-produced Hanehoi area stream map. This map is presented as Exhibit E-24.

26. According to Huelo kama'aina families, this pond area in the Puolua stream was a favorite swimming area for many generations and there was water available in the pond and the stream year round. Any lack of stream flow in these areas now is due to a century of extreme dewatering of Hanehoi and Puolua streams and their tributaries by the EMI diversion works and the insufficient amount of water restored to these streams by the September 2008 CWRM IIFS decision. If adequate streamflow were restored to Hanehoi and/or Puolua Streams, the great majority of that streamflow would pass down the streams to my property.

27. Above the New Haiku Ditch and the Lowrie Ditch diversion works on Hanehoi Stream, a waterfall falls into a pond. A two-inch (2") pipe diverts water from this pond and is the beginning of the community water system that serves many Huelo residents.

28. The State Water Commission set an IIFS for the pool on Hanehoi Strteam above Lowrie ditch at seven-hundred and forty-thousand gallons per day (740,000 gpd) to provide domestic water for the Huelo community water system, which has been in place for almost 100 years. Huelo residents have no County water service available. EMI's East Maui water Licenses and permits with the State of Hawaii specify that the needs of domestic users along the streams shall be provided for, yet there is insufficient water in the pool above Hanehoi stream or in the stream itself to meet this need. Thus, only some of Huelo's residents are able to receive the benefits of streamflow diverted from Hanehoi Stream, although all should have that right.

29. I am one of the many who is not receiving domestic water from the community pipeline or the stream, even though I have riparian rights. Because the amount of flow and the

manner of flow restored to Hanehoi stream is not adequate, there is not enough streamflow to satisfy the multiple uses protected under the State Water Code, such as kuleana, riparian and appurtenant rights of downstream users; recreational use; habitat for native stream life; and domestic use by community members who have no available public water source.

30. Because I was not and am not on the Huelo Community water system and because Hanehoi Stream is still inadequately supplied with water, even under the current IIFS set in September 2008, there is not enough water in Hanehoi Stream to satisfy my riparian rights and other protected uses. I have been forced to expend thousands of dollars constructing, maintaining and operating a private catchment water system with a very large tank. I would not have been required to spend this amount of money and would not be required to continue to spend money on this private water system if my riparian water rights were not being violated by EMI.

31. I have a commercial tropical flower farm on my property called "Pualana Farms." See Exhibit E-25. Kalo lo'i existed on my property. Thus, I also possess appurtenant water rights. I would like to partner with other community members to grow kalo on the land in the future. As such, I am entitled to have in Hanehoi Stream at my property, available for my use, the amount of water that it would take to grow healthy taro on one acre of land.

32. I have recently begun the cultivation of wauke (*Broussonetia papyrifera*) on my land. This the plant used for making kapa bark cloth. I wish to expand my cultivation area for this very culturally important and sought after plant, that was traditionally grown alongside streams and kalo lo'i. If I had a sufficient supply of water in Hanehoi Stream, I would grow wetland taro bordered by wauke. I also have a large vegetable garden on my property. There is not enough streamflow in Hanehoi Stream to supply water for my farm, in its present form. I

cannot expand my farm along the stream, as I would like to because there is not a sufficient supply of water in Hanehoi Stream to support such an expansion.

33. Hanehoi and Puolua streams need to have mauka-makai flows to support the various kuleana rights, instream health and Public Trust uses protected in the State Water Code. The IIFS total of one million-seventy two hundred thousand gallons per day (1,720,000 gpd) for both streams combined, set in 2008, is too low to meet all of these protected uses. In comparison, CWRM restored twice that amount: three million-five-hundred and sixty-thousand gallon per day (3,560,000 gpd) to Pi'inaau and Palauhulu streams to serve the community of Ke'anae in 2008.

34. I have been harmed by the violation of my riparian and appurtenant water rights because (1) I am forced to pay more for water than I otherwise would in order to operate my commercial farm; (2) I cannot expand my commercial farm in the manners I wish to and therefore cannot make the profits I otherwise would derive from my business; and (3) I cannot grow some of the sorts of crops that I want to grow that are more water intensive as part of my commercial farm and am therefore being deprived of my ability to conduct the sort of farming that I should be able to conduct on my property if my riparian and appurtenant water rights were not being violated.

35. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water I demand is supplied to me for reasons including but not limited to the following: (1) my water rights are superior to theirs and must be satisfied first; (2) these within watershed needs for water must be satisfied before out-of-watershed needs can be satisfied; (3) it would violate the public trust doctrine not to satisfy my water rights first; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having

to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

36. My property is not located in a water management area. As the owner of a parcel of land with riparian rights, I am entitled to the full flow of Hanehoi Stream through my property, according to the law in the State of Hawaii. The Lowrie Ditch diversion works and the New Haiku ditch diversion works on Hanehoi Stream and/or on Puolua Stream must be modified to allow the full flow of Hanehoi Stream through my property and to allow the amount of water to flow to my property that is necessary to grow healthy taro on one acre of land and sufficient water for other agricultural and domestic use, as well as sufficient flow to remain in the stream past my property to provide for the natural ponds used by the community. I estimate the amount of flow needed in the stream at my property to be at least three-hundred and fifty-thousand gallons per day (350,000 gpd.) This would provide for my needs and allow enough water to remain in the stream to satisfy other instream uses like the natural pools, as shown on Exhibit E-24 map that are popular with community residents. A traditional trail to Moke's Ponds is located adjacent to Hanehoi stream just before my property. The health of the ponds is dependent on the flows in the stream.

37. Since my property is downstream from others who have riparian, kuleana and appurtenant rights and from the intake for the Huelo community water pipe, it is not enough for Hanehoi and Puolua stream to only have flows sufficient to address my needs. Unless there is a

significant increase in the amount of overall flow of both streams, which I would estimate would need to be more than double the IIFS promised in 2008, there will not be sufficient water in the stream by the time it reaches my property to satisfy my riparian and other rights.

I declare under penalty of law that the foregoing is true and correct.

Executed this 13th day of December 2014.

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF MICHAEL D'ADDARIO

DECLARATION OF MICHAEL D'ADDARIO

1. My name is Michael D'Addario. I reside in Huelo, Maui, Hawaii. I am a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am the land manager of Hale Akua Garden Farm and Agricultural Education Center ("our farm"), which is owned by Lorraine L. Grace. I represent the activities of the farm and center with the full acknowledgement and permission of Ms. Grace. A statement from Lorraine L. Grace is presented as Exhibit E-37

4. The Farm owns lots 1-B, 1-C and 2-A in the "Kahiamoe-Pitt Subdivison " in the ahupua'a of Huelo being a portion of LCA 520:1 granted to J.D. I'i as konohiki of Huelo and also a portion of Lot 9 of the Huelo Hui Partition, recorded in Liber 765, pp

349-389. The three parcels we farm are designated as TMK No. (II) 2-9-7:53 (2.782 ac); TMK No. (II) 2-9-7:56 (2.27 ac); and TMK No. (II) 2-9-7:57 (2.60 ac), which we purchased by Warranty Deeds in 1984 and 2004 and 2005 ("our property"). This is reflected in County Tax records of ownership which are presented as Exhibit E -38 A-C.

5. Our property totals 7.6 acres, of which over three and one half acres (3.5 acres) is in active farming. We sell our farm products to Maui restaurants and health food stores, value-added food and beverage producers and have a regular farmer's market booth in Upcountry Maui. We also have a neighborhood produce stand on our property.

6. In addition, we train interns in agricultural skills and offer ongoing classes on basic farm practices like composting, grafting, beekeeping, soil nutrient testing and vegetable growing as well as specialty classes with guest presenters. We have a permit from the County of Maui to allow short term visitor stays as part of our classes.

7. As described below, our property does have extensive agricultural plantings.

8. Our property possesses appurtenant rights to surface water from Hanehoi stream. As a part of Land Commission Award 520:1 we are entitled to have access to stream water, although our land does not directly boarder Hanehoi stream, but is located on a pali or cliff above the stream. As a practical way of implementing this right, we have received water for many years from State of Hawaii Registered Stream Diversion 538.6 on TMK (II) -2-9-014:009 ("Huelo community pipe") that is located in a small pool above the Lowrie Ditch diversion on East Hanehoi Stream ("Hanehoi Stream.")

9. Our predecessor in title, John Kahiamoe, provided a pipeline from the community water storage tank on his former property (TMK No. (II) 2-9-7:11) which carried stream water to storage tanks we constructed on our properties from the East Hanehoi stream. This water was conveyed to the community storage tank through the Huelo community pipe. Our farm was able to help financially in the upkeep of the Huelo community pipeline over the last decade.

10. As mentioned above, our farm is also a portion of a Land Commission Award (LCA) granted to J. D. I'i during the Mahele. Witness Ua testified in Native Testimony that I'i had "cultivated and held uninterrupted possession of the land" in Huelo. This Native Testimony is found in Wai O Ola by Kumu Pono Associates on p. 240 and is presented as Exhibit E -3

11. Since Hanehoi is the only stream that passes through LCA 520:1 in Huelo, we believe that the stream water was likely used in Kingdom days to provide for the cultivation of Mr. I'i's LCA 520:1 lands. Based upon this likely prior use, and the fact that lands directly along Hanehoi stream have extensive kalo lo'i, indicating water freely flowed in the stream prior to diversions, our property, and others in LCA 520:1, should have appurtenant rights to have an adequate supply of water available from Hanehoi stream and its tributaries.

12. Huelo, where our farm and agricultural education center is located, is a traditional community of several hundred households which has no public supply of domestic water. We and many other families and farms depend on stream water from the Huelo community pipe that goes to East Hanehoi Stream.

13. Our farm and agricultural education center especially needs regular access to the stream water to expand our agricultural production onsite from seven (7) to ten (10) garden plots. The additional area would help us develop test plots to experiment with planting methods that promote soil remediation and improvement. This would put close to (four) 4 acres of our land under some sort of cultivation or agricultural research regime.

14. In general, our agricultural operations are very careful and limited with water use, but our yields would increase if more water was available. To reach our full agricultural potential I estimate that our Farm would need an average of around ten thousand (10,000) gallons of water per day.

15. In September 2008, a stream flow level of .74 mgd (740,000 gallons per day) was set for the pool on East Hanehoi Stream that serves the Huelo community water pipe. We do not believe that stream flow level has been fully implemented on East Hanehoi Stream, because the water volume available in the pool for the Huelo community pipe did not increase, but rather seemed to remain low, or diminish over the past several years, except in times of heavy rains.

16. As a consequence, we and around 15 other households who have customarily had access to domestic water from Hanehoi stream the Huelo community water pipe, and have historically depended upon the water from the Huelo community pipe, have not been able to do so for a number of years, since there simply is not enough water to go around.

17. At least 30 Huelo residences, such as ours, have depended upon the waters of the Hanehoi stream for all their basic domestic needs, to irrigate their farms and

gardens and water their animals. Our household, and all of these other households have been impacted by the lack of adequate water in East Hanehoi stream to serve the needs of the Huelo community, which is entitled to adequate domestic use of the stream water. It is also important that the stream itself have enough water to flow, as well as meeting the needs of the community.

18. The most recent Water Commission East Maui stream monitoring report I was able to find online that mentioned Hanehoi stream was dated September 2009. Portions of this report that refer to Hanehoi and Puolua streams are found on pp. 36 and 46 and are presented in Exhibit E-10. If I understand the report correctly, the amount of flow set to serve our community pipe never came even near to being met.

19. Our property overlooks Hanehoi stream and the 200 ft high "Hanehoi" waterfall. A photograph of this waterfall which is magnificent to behold when it has water, is presented as Exhibit E -39. When the water levels of the stream are diminished, as is usually the case unless there are rain storms, this water fall is not more than a trickle. This persistent condition is not natural, and it limits the aesthetic enjoyment of this major scenic attraction in our neighborhood. Views of this waterfall from our land are open to the whole neighborhood to enjoy.

20. A former partner in our property still holds the lease for TMK No. (II) 2-9-7:3, the eleven acres of state Conservation land that borders Hanehoi stream below our farm.

21. A traditional trail leads along the pali (cliff) on state land below our farm state land to a series of several smaller pools and waterfalls on Hanehoi stream below our property and above the big Hanehoi falls. These are known in the neighborhood as

"Moke's Pond," named for one of our neighbors, Moses Kahiamoe, Sr. This pond is shown in the map prepared by Maui tomorrow and presented as Exhibit E-24.

22. All three of our farm parcels were once part of the 26 acre homestead of Mrs Abigaila Kahiamoe, Moke Sr.'s great grandmother and her family. Our agricultural interns, staff, ag workshop guests and many neighbors use the traditional trail to access the smaller pools and waterfalls when water conditions in the pond permit.

23. These pools have been used by generations of families in our neighborhood, especially in the summer months. Unfortunately, Hanehoi stream is so severely dewatered by the four EMI diversions on the main branch of the stream and other diversions on its four tributaries (East and West Huelo stream, Puolua stream and West Hanehoi stream), that summer water levels and flows in the pools often do not permit this traditional use to be safe or healthful. When the pools on Hanehoi stream become stagnant from lack of stream flows, I am concerned that they can present a health hazard to those who may access them.

24. The main branch of Hanehoi Stream ("East Hanehoi") is diverted at least four times by EMI diversion works upstream of our property. There are two diversion works that dewater East Hanehoi Stream above the pool where the Huelo community water pipe is located: Wailoa Ditch and the New Hamakua Ditch. There are two diversion works that dewater East Hanehoi Stream below our community water pipe: Lowrie Ditch and New Haiku Ditch. West Hanehoi Stream, a smaller branch, is also dewatered at the Lowrie Ditch, before it joins with the East branch of Hanehoi stream, to form one stream, below the Lowrie Diversion works.

25. A Hanehoi-Huelo-Puolua stream map created by Maui Tomorrow illustrates the various tributaries of Hanehoi and their EMI diversions is presented as Exhibit E-40. It is based on a detailed 1925-26 map known as Reg Map 2745

26. Puolua Stream, which joins Hanehoi stream makai of Hana Highway, is also diverted twice before it reaches a junction with Hanehoi, limiting its input. Huelo stream, which has East and West branches is also diverted at the EMI Lowrie ditch diversion works, then joins Hanehoi stream before the Haiku ditch, but its input to Hanehoi is also very limited by the earlier diversion.

27. Unless there is an extreme storm event, Hanehoi Stream is completely dewatered below the Lowrie Ditch diversion works. There is also rarely any water in Hanehoi Stream downstream of the New Haiku Ditch diversion works. In short, Hanehoi stream and its tributaries, are so severely dewatered by the numerous EMI Diversion works draining them dry, that they are not able to recover. Even the Division of Aquatic Resources (DAR) Watershed Report for Hanehoi Stream prepared in 2008 for the State Water Commission noted the extreme dewatered condition of Hanehoi and concluded on p. 2 that: "Currently little water exists in this stream." This report is presented as Exhibit E-5.

28. Hale Akua Garden farm also would like to incorporate the Hanehoi and Puolua streams into our educational offerings to the public. We would like to have classes on traditional kalo growing taught by local kalo growers in the neighborhood who are located along the streams.

29. Part of our mission as a farm is to help support the continued existence of Huelo as a traditional Hawaiian agricultural area. We are committed to seeing our

community work towards a mauka-makai ahupua'a based watershed management system that is supported by the return of mauka-makai stream flows.

30. Through our Agricultural Education Center and crop distribution networks, Hale Akua Garden Farms wants to provide more opportunities for Native Hawaiian families in the area who are interested, to grow and sell traditional crops and sustain a viable agricultural economy on their own lands. This cannot happen unless stream flows are returned and kuleana landowners have a hope of adequate water.

31. We would like to partner with local presenters to offer classes on stream ecology to local schools and youth groups and have students help clean alien plants out of the streams while learning about the important habitat the streams provide. These types of activities are not possible when our stream beds are dry a great deal of the time because Hanehoi and Puolua streams have been so dewatered.

32. The 2008 CWRM decision to release a limited amount of water back into the streams at a few limited locations has not had a measurable affect on stream flows and does not reflect either traditional management principles or sound biological decisions.

33. Most community members doubt if the full amounts were ever actually released. The restoration did not include any plan or program for maintaining the stream beds, which mostly run through lands owned by EMI or the state. Without caring for the stream beds, we cannot hope to effectively restore flows in our streams.

34. Our State water laws protect and encourage hands-on educational activities in our watersheds, but Hanehoi stream and its tributaries appear to be more

severely dewatered than most streams in Hawaii, depriving local residents and students of the enjoyment of nature study and traditional cultural experiences.

35. The DAR Hanehoi Watershed Report (2008) commented on the extremely dewatered condition of the stream. These stream experts observed:

"...diversions resulted in an increased frequency of dry or shallow sites as compared to streams statewide."

36. The same report also remarked:

"the stream was shallower downstream of diversions then would be expected in a normal stream"

and concluded:

"the stream is now nearly permanently intermittent as a result of water diversions....The intermittent nature of this stream currently reduces habitat and restricts instream migration for the native animals. A more consistent flow would reconnect habitats and allow for upstream migration of native species."

These quotations from pp 2-3 of the June 2008 DAR report are presented as Exhibit E – 5.

37. These conditions persist in the stream even after some stream flow has supposedly been restored and in spite of the fact that an endangered native damselfly, Megalarion Pacificum, still clings to existence in the undiverted areas of the stream and could use more habitat.

38. Because Hanehoi Stream is totally dewatered, there is not enough water in the East Hanehoi Stream pool above Lowrie ditch diversion to serve all the homes who have traditionally depended upon the Huelo community water pipe and there does not appear to be enough water for the stream itself to survive.

39. Our farm has been forced to expend thousands of dollars installing a well (State well 6-5411) as well as maintaining and repairing a private water system with several very large storage tanks. We would not have been required to spend this amount

of money and would not be required to continue to spend money on supplying water to this private water system if our water rights were not being violated by EMI.

40. We have created a Certified Organic permaculture farm of over three and a half (3.5) acres on our agricultural property, with numerous varieties of bearing fruit trees; bees, and beds of commercially grown greens, vegetables and herbs. We also grow Pohole fern and other edible and medicinal plants and shrubs and have three (3) aquaculture ponds that produce fish. We have a growing demand for the produce we cultivate on our farm, but are limited in the amount of well water we can pump for irrigation. We have found that higher pumping demands lower the quality of the well water we depend upon for drinking water.

41. In conclusion, we are much more limited in the amount of plants and crops we can grow, and the soil and plant science tests we can pursue, since losing access to Hanehoi Stream water from the Huelo community pipe. We cannot consider expanding our crop area, our aquaculture, or many of our educational activities until there is a reliable supply of water available to us from Hanehoi Stream to support such an expansion.

42. Our farm has been harmed by the violation of our right to use Hanehoi Stream water for our domestic and agricultural use because (1) We are forced to pay more for water than we otherwise would in order to farm on our agriculturally zoned land; (2) we cannot expand our farm in the manner we wish to and produce crops that require more water; and we are therefore being deprived of our ability to conduct the sort of farming and educational activities, that we should be able to conduct on our property

and the ability to bring in additional income, if our rights to receive water from the Huelo stream via the Huelo community pipe were not being violated.

43. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water we demand is supplied to us for reasons including but not limited to the following: (1) our appurtenant water rights are superior to theirs and must be satisfied first; (2) those with domestic water rights within the watershed must be satisfied before out-of-watershed needs can be satisfied; (3) it would violate the public trust doctrine not to satisfy our water rights first as domestic use is a protected right under the public trust; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream domestic use, riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

44. Our farm is not located in a water management area. As the owners of a parcel of productive agricultural land with domestic water rights, and as part of a community who enjoy the recreational and aesthetic use of the local streams, pools and waterfalls, we are entitled to the adequate flows of Hanehoi Stream.

45. As downstream residents of an area where State water leases and licenses are granted, our farm is entitled to adequate stream water to supply domestic use as part

of those license agreements. Our state laws also support increased flows in Hanehoi and Puolua streams to provide enough water for all protected uses such as native streamlife habitat, kuleana and riparian rights, local recreation, scenic enjoyment and nature study,

46. The September 2008 CWRM decision specified .74 mgd of instream flow to accommodate the Huelo pipe and its community users. That level has not been reached with the present diversions and it is likely that it would not prove adequate for both the domestic and kuleana users and the needs of the stream ecology itself.

47. The New Hamakua Ditch diversion works and the Wailoa ditch diversion works on Hanehoi Stream must be modified to allow an adequate flow of over one million gallons a day (1 mgd) in Hanehoi Stream to reach the pond above the Lowrie diversion and satisfy the demands of both the stream ecology and the Huelo community through the duly registered Huelo community pipeline.

I declare under penalty of law that the foregoing is true and correct.

Executed this 29 day of December 2014.

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF RICHARD "DICK" MAYER

DECLARATION OF RICHARD "DICK" MAYER

1. My name is s Richard "Dick" Mayer. I am a resident of Kula, Maui, Hawaii.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am a retired professor of Economics and Geography from Maui Community College (now UH Maui College.) A true copy of my Curricula Vitae is presented as Exhibit E-73.

4. Over the years I have served on many County appointed planning bodies. I have served on the Maui Planning Commission in the 1970s, I was vice Chair of the Citizen's Advisory Committee for the Upcountry Community Plan in the 1990s; and most recently I was appointed by Mayor Arakawa to the Maui Island General Plan

Advisory Committee (GPAC.) The acknowledgement page of the 2012 Maui Island Plan is presented as Exhibit E-74 . The GPAC members elected me to serve as their Vice-Chairman. I served in that capacity from 2006 to 2014.

5. I wish to offer information on several topics that are related to the matter of the Interim Instream Flow Standards ("IFS") contested case for East Maui that would relate current planning and development legislation to future HC&S agricultural water demand and consider the overall economic perspective of the current East Maui water leases.

6. I offer my knowledge as a trained economist and a person involved with the planning process that is shaping Maui's future growth. The topics I will offer expertise on are:

A. How much East Maui water does HC&S really need and really use and what are they doing to meet the "beneficial use" test. Does HC&S have un(der)utilized alternative water sources such as: central Maui wells, efficiency improvements, water conservation, greater reservoir capacity, lower reliance on lands in drier areas?

B. What is A&B really planning to do with their 35,000 acres of sugar cane land that places such high demands on East Maui stream water? What did A&B, Inc. propose to Maui's General Plan Advisory Committee (GPAC)? What did their application for "Important Agricultural Lands" claim and what are the water-use implications?

C. Are the State and its agencies receiving a fair lease fee for the water diverted from State lands? What is the true market value? What economic impact does the artificially low rent for access to East Maui water and lands have on the State's ability to support DHHL and OHA? What is the loss to rural East Maui communities which lack adequate water? How is Maui's major industry affected?

A) **How much East Maui water does HC&S really need, and really use and what are they doing to meet the "beneficial use" test.**

7. In 1986 I attended a presentation by Robert L. Warzecha, Vice-President and Manager of East Maui Irrigation at a Maui Water and Energy Symposium cosponsored by the Chamber of Commerce and Maui Economic Development Board, Inc. I have a book that includes that speech in which he discussed the Plantation and its water needs, on pp. 49-54,, This section of the book is presented as Exhibit E-75.

Surface Water/ Ground Water Proportions

8. Mr. Warzecha stated that HC&S plantation at that time consisted of 35,000 acres (as it does now) and noted that the EMI system diverted around sixty (60) billion gallons a year and that irrigation water constituted 55% of the plantation's water needs. From this, one can conclude that 45% of HC&S's water came from other sources; presumably, much of the 45% balance came from water wells in central Maui. Mr Warzecha stated on p. 51 that HC&S plantation was short of water, and on average, there was insufficient water 24% of the time, or at least the equivalent of three months out of the year. See Exhibit 75.

9. HC&S reported to the Water Commission in 2010 that they now have insufficient supplies of water 85% of the time or ten months out of the year (if their needs

are calculated at 270 mgd.) This is discussed in the May 25, 2010 CWRM Staff Submittal on p.p. 13-14, which is presented as Exhibit E-50.

10. While 55% of the plantation's water supply came from east Maui streams in 1986, more recently HC&S reports in the 2009 IFSAR documents that 71% of their water is from the EMI system, a gain of 16%. This information is included on p. 136 of the December 2009 Waikamoi Instream Flow Standard Assessment Report ("IFSAR") which has portions presented as Exhibit E-48. Why has this percent risen?

11. As an economist, I question whether we are being given all the right data by EMI/HC&S. If the plantation still imports the same amount of East Maui water as they did in 1986 (55% or about 149 mgd) of their overall daily irrigation needs of 270 mgd, and they were chronically short of water, because the stream water supply was unreliable, how and why did they boost their reliance on stream water to 71% or 191 mgd in 2002, as is claimed?

12. The 2009 Waikamoi IFSAR on p. 136 reports that: "from 2002 to 2004, HC&S received 71 percent of its surface water supply from EMI, while the remaining 29 percent was supplemental ground water." See Exhibit E-48. No change in that percentage was mentioned in the 2009 document, leading to the assumption that the same percentage is still in effect.

Irrigation Wells

13. In the 2009 Waikamoi IFSAR, HC&S did not reveal that its irrigation well system has a substantial pumping capacity, actually greater than its average stream diversion capacity. The only statement provided was on p. 133 which described one of the plantation's water sources as:

"ground water pumped from 16 brackish water wells located on the plantation."

See Exhibit E-48. However, this was revealed in A&B's 2009 "Important Agricultural Lands" (IAL) Petition to the Hawaii Land Use Commission ("LUC"), which included this statement:

"In addition, HC&S owns and operates 15 brackish water wells with a total pumping capacity of approximately 228 mgd which are used to supplement ditch flows as needed." Exhibit E-76, Appendix "A" of A&B's 2009 IAL petition to LUC, pp.3-4.

The IAL petition also does not refer to any plantation water shortages, but states on p. 4:

"In addition to the existing wells, reservoirs and irrigation system, the proposed IAL lands also receive an average of 15.8 to 59.1 inches of rain annually. Therefore, the proposed IAL lands have sufficient quantities of water to support viable agricultural production." See Exhibit 76.

14. I would conclude that this selective presentation of information by A&B to the Water commission and their staff, calls into question the actual amount of east Maui stream water that the HC&S Plantation really needs.

15. The information A&B presented to the Commission appears calculated to support the conclusion that east Maui stream water is HC&S's most viable irrigation option, and must be maximized, or the entire agricultural operation would be at risk.

16. The presentation that A&B made during the same time period (2009) to the LUC in their IAL Petition paints a very different picture. It describes a plantation that purports to have no water problems because it depends upon multiple irrigation strategies such as wells, reservoir storage, natural rainfall and stream waters.

17. If this second view is accurate, and I believe it is, A&B should be willing to restore more flow to east Maui streams and compensate with other irrigation sources when needed, such as improved storage and their extensive well system.

18. From an economics viewpoint, I would question that the HC&S Plantation, as self reported in 2009, was "short on water" ten months of the year (85% of the time), when it was formerly short of water only three months of the year (24% of the time) as self-reported in 1986.

19. Since both descriptions were based upon cultivation of the same amount of land (35,000 acres) and based on similar overall east Maui withdrawal numbers of 60 billion gallon a year, I would suggest that this conclusion of water shortage may be based upon theoretical demands, rather than actual demands.

20. Is the 270 mgd "average" water demand a "solid" number? It appears to derive from the statement on p.133 of the Waikamoi IFSAR based on the 2007 findings of fact of the previous BLNR contested case on the East Maui Water Licenses. The IFSAR quotes this source stating:

> "HC&S needs from EMI varies largely with weather and seasonal conditions, but ranges from a low of 134 million gallons per day in the winter months to a high of 268 million gallons per day during peak usage in the months of May to October (Findings of Fact, Conclusions of Law, and Decision and Order, 2007)."

See Exhibit E-48.

21. This statement would indicate that peak water demand is six months of the year: May-October. The documents provided to the Commission by A&B for the 2010 hearing and referred to in the May 25. 2010 staff report note that water demands are only met in "November and December" which would indicate the other ten months, not just six months, had high water demands. This inconsistent information is not a solid foundation on which to base water allocation decisions.

22. The HC&S conclusion that they are so extremely short of irrigation water from east Maui, and by implication, do not have other options, does not make economic

sense for the continued survival of the company. It is likely that the demand has been exaggerated to seek justification for lower IIFS amounts in east Maui streams, which legally have the right to an adequate flow of water.

23. I would conclude that the role that the plantation's extensive private well system can and should play in meeting its overall irrigation needs should be part of the IIFS decision making process and its capacity should be clearly defined.

Plantation Lands With No Access to Well Water

24. There is also the matter of how much land HC&S is only able to irrigate exclusively with East Maui stream water, due to no wells at higher elevations. In the Waikamoi IFSAR document on p. 133, presented as Exhibit E-48, the Commission is informed by HC&S that:

> "Of the 29,000 acres irrigated with EMI water, approximately 13,000 acres are located in the higher elevations of the plantation (mainly above Lowrie Ditch) where irrigation with pumped water is either geographically impossible and/or economically impracticable. Since these fields are dependent on water from the EMI System, they are highly susceptible to diminished yields during drought conditions and in the summer months when ditch flows are low."

25. The Commission is asked to conclude that these 13,000 acres, 45% of the total 29,000 acre EMI irrigated portion of the plantation, need to be assured of a reliable water supply. However, A&B is not sharing the same information with their shareholders. Information from A&B's 2007 Annual Report Form 10k notes, referred to in the 2008 CWRM IFSAR for Hanehoi stream offers another pattern of use:

> "Approximately 30,000 acres are irrigated with water delivered by EMI, with 5,000 acres irrigated solely with EMI water, and the remaining 25,000 acres are irrigated with a mix of EMI water and supplemental ground water pumped by HC&S."

See Exhibit E-32, Hanehoi IFSAR, p.109.

26. Did HC&S go from having 17% (5,000 out of 30,000) to 45% (13,000 out of 29,000) of its lands highly susceptible to drought in the short period of 2 years, or is CWRM being told the most compelling version of the story, whether it is accurate or not?

27. From my review, the 5,000 acre figure for HC&S's most drought susceptible lands is likely the more reliable, since it was given to shareholders. I would want additional information such as the field numbers of these lands and how often they are planted.

28. I also do not believe that the matter of alternative ground water sources for upper elevation HC&S lands has been fully considered by the Commission.

29. For example, there is a production-sized well, with at least one million gallons a day (1 mgd) capacity owned by Maui Land and Pine in Hailiimaile (state well No. 5220-01) that is upslope of the HC&S Hamakua Ditch system and could be a possible existing water source for HC&S during times of limited stream flows. The well reports no use by ML&P or its successor, Haliimaile Pineapple Co. since 2011, according to an November 2014 with CWRM records.

30. The Commission has been informed that HC&S and Maui Land and Pine (ML&P) already have several agreements whereby ML&P supplies water into one HC& S diversion ditch and withdraws it from another. This is discussed in the Waikamoi IFSAR on p. 134, which is presented as Exhibit E-48. It is possible that this well could be added to that agreement and serve as a backup supply for HC&S' upper fields.

31. My conclusion is that the range of irrigation water possibilities open to HC&S is likely greater than is presently being explored in the East Maui IIFS process.

32. Economic benefits of restoring steams and promoting the long-term health of our public trust watershed resources must be weighed along side the increased costs HC&S may need to bear during the drier parts of the year to supply water to areas that now rely entirely on east Maui stream water.

Uncertainty in Use and Diversion Figures

33. It is equally vague just how much water HC&S actually uses, compared to how much they divert. The 2009 IFSAR states that 29,000 HC&S acres are irrigated from East Maui waters. In the same document HC&S gives a high usage figure of 6,858/gallons per acre for irrigation during the driest times. This is discussed in the Waikamoi ISFAR, p.134 and presented as Exhibit E-48.

34. If every one of HC&S's 29,000 acres were irrigated at this highest use rate, at the same time (which HC&S says is not the case, as irrigation schedules are staggered and are dependent upon weather patterns) the daily water demand would be 198 mgd (29,000 acres X 6,858 gal/ acre). However, HC&S claims their average water demand is 270 mgd and that, "on average, streamflow provides 167 mgd of water to the plantation with an additional 72 mgd from ground water sources."

35. This would add up to a total "average use" of 239 mgd or water, not 270 mgd. And the 167 mgd stream/72mgd well ratio would be more like 70% stream water and 30% well water. All of the above data is found on pp. 14-15 of the CWRM staff report of May 25, 2010. See Exhibit E-50. Which set of numbers are to be believed? Are HC&S fields still short of water when 239 mgd is available from all sources? Would this be every day of ten months of the year, or only a few days each month? The Commission

has asked for this level of information at public hearing I have attended, but it has not been provided.

36. **Does the HC&S plantation need around 200 mgd at a maximum irrigation rate of 6,858 gallons for each of its 29,000 acres or is it 270 mgd?** The difference is very significant. Even 30 million gallons a day restored to a variety of east Maui streams, could make a huge impact on the ability of east Maui residents to farm their own lands, enjoy healthy stream flows and recreational activities and practice traditional gathering in the streams.

37. Furthermore, there is no discussion to clearly define the amount of water that is diverted versus the amount of water that actually makes it to the fields to irrigate the crops. Other topics are lacking information as well: how much water that arrives through the EMI ditch system is being diverted to non-agricultural uses: for Pu'unene mill electricity operations? Substantial losses of water to evaporation from hot open ditches? Leaking irrigation pipes? Reservoir seepage, (which was once estimated at nearly 30 mgd?) No specific data on these topics was presented to the Commission by HC&S, although it was requested by some Commission members and staff. This information on efficient use of water resources certainly should be part of the decision-making process, especially if measures could be used to reduce waste and losses.

38. I am including a few pictures which illustrate how open ditches transport water through the HC&S fields. They are presented as Exhibit E-77 A-B. While much discussion has been made of the loss of water during its transport through the east Maui rainforest, we must also consider the evaporation losses that occur in the hot, windy open plains of Central Maui, where the ditches travel.

39. From a longterm view, HC&S will need to look for alternative sources of water to ensure their economic future, regardless of the outcome of the East Maui IIFS hearings. This is due to the decreasing certainty of rainfall patterns across Maui and the state and the need for agriculture and other human activities to adapt. The online Rainfall Atlas of Hawaii notes that:

" ..the rainfall record and other evidence point to a downward trend in mean rainfall that may persist at least through the end of this century. One possible explanation for the decline has to do with the weather disturbances that regularly disrupt the trade wind inversion and produce widespread rainfall over the islands. These disturbances, often associated with incursions of mid-latitude weather systems into the Hawai□i region during winter, have declined in frequency, as storm tracks have apparently migrated northward. This shift in storm tracks is thought to be a result of global warming and is predicted to continue... mean rainfall will decline, and drought will become more frequent."

40. Fig 13-10 graph on p. 142 in the Waikamoi IFSAR shows the combined East Maui ditch flows from 2003 to 2009. It is presented as Exhibit 48. The graph illustrates the wide fluctuations in ditch flows that we already experience. The figure 13-10 graph shows an average of diverted flows of 138 mgd rathe and how much water is being diverted?

Loss of Storage Capacity

41. Although EMI/HC&S has dismissed their own investment in new reservoirs as being impractical, during discussions with the Water Commission they have been pushing on Maui County for many years to build more reservoir capacity at its Kamole treatment plant to hedge against low ditch flows during droughts.

42. The EMI website (2010) claimed the ditch system itself had 7 reservoirs with a total capacity of 274 million gallons. HC&S representatives told the Water Commission in the minutes of their May, 25, 2010 meeting on p. 6:

"Water on the HC&S plantation is used in conjunction with 36 reservoirs, 31 of which are unlined. According to the 1960 data, EMI estimated 23 to 31 million gallons per day of seepage losses from these reservoirs. These estimates are based on furrow irrigation practices when the water was stored in the reservoir for longer periods of time. Drip irrigation practices now rely on the reservoirs more as collection points". No capacity figures for the reservoirs were given.

This reference is presented as Exhibit E-60.

43. A 1976 report from UH Water Resources Research Center gave a much greater reservoir capacity for those times, noting on p. 4 that the ditch system itself had eight reservoirs with a capacity of 290 mg and also reported:

"In addition, there are many small reservoirs in the HC&S sugarcane fields; however, due to the steep slopes and rugged terrain, the total storage capacity of these reservoirs is about 4,049,950 m3/ (1.07 bil gal)."

Portions of the UH Water Resources Research Center Report are presented as Exhibit E-79.

44. In 1990, the Maui Water Use and Development Plan (WUDP) reported on p. R-5 that HC&S had 47 reservoirs with a capacity of 1.065 billion gallons. See Exhibit E-83.

45. From 1990 to 2010 it appears that the HC&S water storage capacity has declined considerably, from forty-seven (47) reservoirs storing over 1 billion gallons to thirty-one (31) reservoirs with a capacity possibly as low as 274 million gallons. This is not an encouraging trend for HC&S, because their surface water supplies can surge in some months and diminish in others. It appears that the plantation has been contributing to their own water troubles by eliminating 35% of their storage facilities over the last 20 years and not adequately using their ground water systems when needed.

46. In conclusion, it is not precisely clear how much water HC&S diverts from East Maui, how much is actually used on their plantation and what is lost in the

process. As long as the HC&S plantation continues to depend upon a widely fluctuating surface water system for the majority of their water needs, they are unlikely to have a secure water supply, whether or not higher Instream Flow Standards are set for various streams. With shifts in weather patterns, the reliability of such a water supply is even less secure.

47. HC&S plantation claims to the Water Commission that they are pumping their Central Maui wells at maximum capacity, and cite the low sustainable yields for the Kahului and Paia Aquifers.

48. When their parent company A&B wants to drill new municipal wells in the same Kahului aquifer they tell the Land Use Commission that there should be sufficient water because

"..the sustainable yield ignores significant importation of surface water into the aquifer from outside the aquifer system area"

and that Kahului aquifer is recharged by underflows from Haleakala and the West Maui Mountains as well as local rainfall. These statements are found on p. 51 of the Wailale Final EIS approved by the LUC in 2012. and are presented as Exhibit E-80.

49. It would appear the A&B/ HC&S has one set of facts for the Land Use Commission and another set of facts for the Water Commission.

50. HC&S could greatly replace the need for stream water during the driest periods if it pumped water from its many wells in central Maui or drilled or utilized existing higher elevation wells. The energy needed to pump the water could come from investments in renewable energy production; both wind and solar are abundantly available on A&B's own lands.

51. I would recommend that CWRM really needs to take a hard look at the EMI/ HC&S "numbers." To my review, they show an inconsistency that does not provide the basis for sound decision making.

52. Other important questions remain unanswered. For example: CWRM staff have asked if the HC&S Plantation would still be viable if it irrigated fewer acres, a reduction in 1%, 3% or 5%? but that question has not been answered by company representatives. This is an important topic and will be discussed in the next section.

53. Would the HC&S business model be viable if the plantation is asked to use only a "fair share" of East Maui's stream water that the Water Code requires, and not insist on the lion's share to prop up a less than efficient system?.

B. A&B's Long Range Plans for 35,000 acres of sugar cane land

C. "IMPORTANT AGRICULTURAL LANDS" PETITION LIMITS THE AREA OF COMMITTED AGRICULTURAL LANDS

54. In April 2009, A&B, Inc, parent company of HC&S and EMI, filed a Petition for a Declaratory Order with the Hawaii State Land Use Commission ("LUC") to designate 27,133 of their 35,100 acres as Important Agricultural Lands ("IAL").

55. According to p. 3 of the petition, of those lands, 87% (23, 577 ac) were currently in use for sugar cane cultivation; 6% (1,626 ac) were in cultivation for seed corn, pineapple or grazing; and 7% (1,897 ac) were gulches, slopes and other drainage areas. Surprisingly, 27% of the 27,133 acres proposed as Important Ag Lands had a state soil system productivity rating of "C", "D" or "E", or the lowest soil ratings in the system. Portions of the A&B IAL petition, Exhibit "A" are presented as Exhibit E-76.

56. The majority of land proposed by A&B/ HC&S to be protected for perpetual agricultural use is located in the driest part of the island, where rain levels are less than 29 inches/year and generally average between 16 to 20 inches/year. Conversely and surprisingly, the Fig 5 Map, included in the 2009 IAL Application on p. 9, shows that a sizable amount of HC&S cane lands which are in the rainiest zone (averaging 29 to 59 in of rain per year), and also have access to water from lower elevation irrigation wells, were left out of the IAL proposal. In other words, their future as sugar growing lands is uncertain. Fig 5 Map is included in Exhibit E-76.

57. HC&S's future agricultural plantation footprint has implications for the East Maui contested case proceedings. HC&S is a company chronically short of water for its crops. Notwithstanding, they have placed the water-shortage areas of their plantation within the "Important Agricultural Lands," and left many acres of the wetter lands with more natural rainfall, outside the IAL boundaries, as candidates for future non-agricultural development.

58. This planned type of operation does not appear to support the standards the Commission would consider when evaluating the most "beneficial use of water" as a public trust resource. Why would A&B choose to protect the farming potential of many of their most water hungry lands and leave better watered lands open for development?

59. Only 27,133 acres of the 35,000 acres currently farmed by HC&S will be protected as "Important Ag Lands." The remaining 8,000 acres of HC&S cane land, about 25% of the plantation currently irrigated by the EMI system, may be farmed for many years, or it may be "developed" for non-agricultural activities. This would have implications for East Maui stream flow standards.

60. I was the Vice-chair of the Maui General Plan Advisory Committee (GPAC) and served in that capacity from 2006 to 2014. GPAC's charge was to advise the County on future growth plans out until 2030. We heard detailed presentations on future plans from A&B/HC&S and most of the island's large landowners.

61. All of the new development areas proposed and discussed with GPAC by A&B representatives were for lands left out of the IAL petition. These lands proposed by A&B for future development during the Maui Island Plan process are indicated overlaid on a map of HC&S Plantation lands prepared by Maui Tomorrow. See exhibit E-81..

62. These were often agricultural lands presently using East Maui stream water. The outstanding question is whether A&B is already looking for non-agricultural uses for its lands, and whether they are already planning to need less EMI water since any of the likely urban developments will be less water-intensive than sugar cane.

LONG TERM SIZE OF HC&S PLANTATION

63. The Commission should also consider if A&B's IAL petition is actually proposing a new smaller plantation size of 27, 133 acres, with 23, 577 acres in actual cultivation. This could address HC&S' claims that even with complete diversion of East and West Maui stream water, they were, are, and will be chronically short of water

64. As noted above, based upon the statement in A&B's IAL petition that 87% (23, 577 ac) of the lands proposed, and later granted, IAL designation were currently in use for sugar cane cultivation, I would conclude that the remaining 3,523 acres of the "Important Ag Land" will not be growing sugar, and therefore, will not need to be irrigated, or if they are, would not need the tremendous amounts of water required by thirsty sugar cane. The current status of these 3,523 acres of lands, which as designated

"IAL" have a greater claim to water than other ag lands, should be confirmed by the Commission to determine their actual use and water needs as part of the contest case process.

65. An eventual plantation size of 23,577 acres would be one-third smaller than today's operation. Water demand could drop by 20% or more. A 20% reduction in current average demand of 168 mgd would be an average of 33.6 mgd of water that could be available for long overdue restoration of East Maui streams. Or, will EMI's water use be transitioned from irrigation of crops, to providing for future residential and commercial developments. This would be important information for the public, the plaintiffs, the hearings officer, and the Commission to have when weighing the balance of use.

STATUS OF MAUI LAND AND PINE WATER NEEDS

66. The status of Maui Land and Pine ("MLP") agricultural lands and water needs should also be clarified during the IIFS contested case. Maui Land and Pine ceased pineapple operations in East Maui as of December 2009, but still owns 2000 acres of land in Upcountry Maui, according to p. 2 of their 2013 10-K form filed with the US Securities and Exchange Commission and presented as Exhibit E-82.

67. According to information provided in the Waikamoi 2009 IFSAR on p. 135 at that time:

> "MLP estimated their water requirements from the EMI System at 4.5 million gallons per day from 2004 through 2009, and a reduction to approximately 4.4 million gallons per day from 2009 to 2016."

This was based upon the Findings of Fact, Conclusions of Law, and Decision and Order, 2007 in the BLNR contested case on East Maui Stream Licenses and was based on farming 2,200 acres of land in Upcountry Maui. See Exhibit E-48.

68. Haliimaile Pineapple Company or Maui Gold Pineaple Company, who has leased land from MLP does not appear to be using water from the Kuhiwa Well in Nahiku or the MLP well in Haliimaile. Both of these have been MLP sources,
The Maui Gold Pineapple website http://www.pineapplemaui.com/history.php indicates they grow pineapples on 1,350 acres in the Haliimaile area. It is assumed they are using some EMI supplied water, perhaps from the Hanawi stream pump, but they are unlikely to need the 4.5 mgd accepted by the Commission in 2010.

69. According to p. 3 of their 10-K filing, MLP plans to develop about 300 acres of their lands in Haliimaile and also has a 620 acre parcel upcountry in escrow. This could leave as little as 400 acres available for pineapple. Water needs for pineapple in the IIFS proceedings could be less than 1 mgd.
I would urge the Commission to take this opportunity to return water to the streams and communities where it originates and not reserve unneeded allotments in the EMI system.

C. Are the State and its agencies receiving a fair lease/license fee for the water diverted from State lands and creating incentives to avoid waste?

How much is the public subsidizing this one company and how much does that cost others?

70. In 1959, Hawai'i became the 50th state by in part pledging, under a compact with the U.S., that it would act as a trustee for certain lands, established by the Hawai'i Admission Act. Under section 5(f) of that Act, the State accepted responsibilities to

administer the ceded lands under a trust to promote, among other public purposes, "the betterment of conditions of native Hawaiians.

71. In addition, the 1920 Hawaiian Homes Commission Act sec 213(i) in part, specifically provides for 30% of all water licenses to be paid into the native Hawaiian Rehabilitation Fund to be operated by the DHHL. This provision became a part of the state constitution, article 12, section 1. In addition, state statutes provided that 20% of water licenses are also to be paid to the Office of Hawaiian Affairs (OHA). (HRS sec. 10-13.5. (The 20% to OHA is now temporarily capped at $15 million/year under HRS sec. 10.13.3).

72. In practice, for the past 32 years, the Board of Land and Natural Resources ("BLNR") has not issued water licenses to East Maui Irrigation Company and Alexander & Baldwin, as it had in past decades. Instead, it has relied on revocable permits, technically avoiding payments to the DHHL and to OHA.

73. Furthermore, instead of valuing the lease of lands from which EMI collects water, the BLNR has been charging a nominal water lease amount for the 33,000 acres in question, or approximately $160,000 per year, for the use of an average of 164 MGD (about 59,860,000,000 gallons/year). This information is shown on p.130, Table 13-8 of the Waikamoi IFSAR and is presented as Exhibit E-48.

74. At that level of revenue, A&B pays about a quarter of a penny (26.7% of one cent!) per 1,000 gallons of water diverted from over 100 streams and tributaries in East Maui. At such a low price for diverted water, A&B and its subsidiaries EMI and HC&S are getting the water at an absurdly low cost and have little incentive to make the

continuing investments necessary, such as lining there 30 reservoirs, to conserve this precious water.

75. In contrast, Maui County's Department of Water Supply charges Maui farmers 75 cents per 1,000 gallons for non-potable water (an agricultural water rate that is approximately 280 times higher than A&B/EMI is paying). That 75¢ /1,000 gallons agricultural rate is severely discounted from even higher rates charged to Maui's homeowner customers as attached as Exhibit E-85 and shown on Maui County's website http://www.co.maui.hi.us/index.aspx?NID=216

76. If the BLNR charged A&B/EMI the County's non-potable agricultural water rate for the diverted water from its Crown Lands, it could generate revenues of about $44,895,000 per year. Doing that math, over the past 13 years (since this case was originally filed), the State BLNR has subsidized A&B/EMI to the tune of about $581 million during that period.

77. This would be computed by subtracting the present lease rate: $160,000/year from $44,895,000 (the price for 164 mgd at Maui County non-potable ag water rates). This equals $44,735,000 X 13 years = $581,555,000.) Even if the State decided to offer A&B/EMI a rate greatly discounted from what the County charges its non-potable water customers, a tremendous amount of additional revenue could be generated to help care for the watersheds and aid native Hawaiian programs.

78. This pricing severely distorts optimal allocation of resources by making water so cheap, A&B/EMI/HC&S have no financial incentive, and suffer no monetary penalties, for wasting water.

79. HC&S staff gave their own estimates of irrigation system losses during the Na Wai Eha contested case in February of 2014. Page 6 of the rebuttal brief gave

estimates of seepage and evaporation losses for EMI's West Maui collection system stating:

"The total expected seepage losses from seepage and evaporation combined range from 2.15 mgd to 4.20 mgd. This corresponds to a percentage rate of loss of from 9% to 17.7%".

This statement is presented as Exhibit E-86.

80. If these same formula were applied to the EMI system, loses from seepage and evaporation of ten to fifteen percent of the 165 mgd of East Maui stream water delivered to central Maui would be 16.5 to around 25 MGD.

81. In addition, HC&S loses between 23-31 MGD from its irrigation delivery system, mainly from evaporation and leakages from its 36 reservoirs on the plantation, 31 of which are unlined. This figure is given in the May 25, 2010 CWRM meeting minutes on p. 6 which are presented as exhibit 60.

82. The "Ola I Ka Wai" video on OHA's Kamakako`i webpage http://kamakakoi.com/ has a scene showing actual leakage from one of those reservoirs on the HC&S plantation.

83. In summary, if EMI and HC&S were paying a market rate for the water it diverts and uses for storage on the plantation, it would have a huge incentive (288 times more) to be frugal with the water and incentivized to be pro-active in improving the irrigation system. Furthermore, if they were paying the already discounted agricultural market rate (75 ¢ / 1,000 gallons) for the water based on Maui County agricultural water rates, there would be additional funds available for both DHHL and OHA.

84. This economic analysis is particularly important when you consider A&B's traditional argument that the loss of ANY water means it will throw 800 workers

into unemployment. The balancing that CWRM must perform under HRS sec. 174C-71 cannot be properly done without accounting for the huge and currently invisible public subsidy that BLNR gives A&B for the use of water coming from former Crown Lands.

85. From a cultural perspective, Hawaiians may feel insulted that such public trust property is being wasted by such pricing with the direct consequence of depriving East Maui Hawaiians today of this important resource so essential to the protection of their continued ability to pursue traditional and customary practices associated with the streams - fishing, gathering, and cultivating taro.

86. For Maui's major industry, tourism, employing tens of thousands of workers -- far more than agriculture, there is the negative consequences of deteriorating the tourist experience of a million tourists each year who are unable to view the numerous waterfalls that could be flowing along East Maui's Hana Highway if more water were restored to the streams.

I declare under penalty of law that the foregoing is true and correct.

Executed this 21 day of DECEMBER, 2014.

Richard D. Mayer

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF DONALD M. HALLEY OR CHRISTA A. MORF

DECLARATION OF DONALD M. HALLEY JR OR CHRISTA A. MORF

1. Our names are Donald M. Halley Jr. and Christa A. Morf, husband and wife. We are residents of Huelo, Maui, Hawaii. We are supporters of Maui Tomorrow.

2. We are the owners of Lot 2-C, a portion of Lot 2 of "Vision Hawaii Subdivision" being a portion of Grant 2079 Apana 3 to Kaiewe and Grant 3214 to Papaikea, 2.011 acres in size, designated as TMK No. (II) 2-9-7:64, which we purchased by Warranty Deed dated March 21, 1997, recorded in the Bureau of Conveyances, State of Hawaii on May 2, 1997 ("our property"). Our Deeds are presented as Exhibit E –41.

3. Our property has extensive agricultural plantings.

4. Our property possesses domestic water rights to surface water from Hanehoi stream. As a part of Royal Patent Grants 2079 and 3214 we are entitled to have access to stream water, although our land does not directly border any stream in Huelo.

5. As a practical way of implementing this right, our parcel, and those that surrounded it received water for many years from State of Hawaii Registered Stream Diversion 538.6 on TMK (II) -2-9-014:009 ("Huelo community pipe") that is located in a small pool above the Lowrie Ditch diversion on East Hanehoi Stream ("Hanehoi Stream.") The widespread community use of the Huelo Community pipe was noted in the Water Commission's September 2008 staff submittal addressing the various uses of Hanehoi stream water. This reference on p. 21 is presented as Exhibit E-7.

6. Our predecessor in title, Robert Polster, regularly filled the water storage tank on the property with stream water from the East Hanehoi stream that had been transported through the Huelo community pipe and we followed suit when we became owners of the property.

7. Huelo is a traditional community of several hundred households which has no public supply of domestic water. We and many other families depend on stream water from the Huelo community pipe that goes to East Hanehoi Stream.

8. In September 2008, a stream flow level of .74 mgd (740,000 gallons/day) was set for the pool on Hanehoi Stream that serves the Huelo community water pipe. We do not believe that stream flow level has been fully implemented on Hanehoi Stream, because the water volume available for the Huelo community pipe did not increase, but rather seemed to diminish over the past several years, except in times of heavy rains.

9. As a consequence, we and around 15 other households who have the right to have some source of domestic water from the major stream in the area, which is Hanehoi stream, and have historically depended upon the water from the Huelo

community pipe, have not been able to do so for a number of years. There simply is not enough water to go around under current conditions.

10. At least 30 Huelo residences, such as ours, depended upon the waters of the Hanehoi stream for all their basic domestic needs and to irrigate their farms and gardens and water their animals. Our household, and all of these other households have been impacted by the lack of adequate water in Hanehoi stream to serve the needs of the Huelo community, which is entitled to domestic use of the stream water.

11. Our property adjoins the Kaulanapueo Church and cemetery, built in 1853 on TMK No. (II) 2-9-07:12 (1.54 ac) also known as the "Huelo Church." The Huelo Church and its congregation also depends upon water from the Huelo Community pipe and Hanehoi stream, as does nearby Huelo Door of Faith Church and Bible school on TMK No. (II) 2-9-07:32 (.933 ac.)

12. Hanehoi Stream is diverted at least four times by EMI diversion works upstream of our property. There are two diversion works on Hanehoi Stream above the pool where the Huelo community water pipe is located and two below.

13. Hanehoi Stream is dewatered by the Wailoa Ditch and the New Hamakua Ditch above our community water pipe, mauka of the Lowrie Ditch. A West branch of Hanehoi stream is also dewatered at the Lowrie Ditch, before it joins with the East branch of Hanehoi stream, below the Lowrie Diversion works.

14. Unless there is an extreme storm event, East and West Hanehoi Stream branches are completely dewatered below the Lowrie Ditch diversion works. There is also rarely any water in Hanehoi Stream downstream of the New Haiku Ditch diversion works.

15. Because Hanehoi Stream is totally dewatered and there is not enough water in East Hanehoi Stream to serve all the homes who have traditionally depended upon the Huelo community water pipe, we have been forced to expend thousands of dollars maintaining and repairing a private water system with a very large tank. We would not have been required to spend this amount of money and would not be required to continue to spend money on supplying water to this private water system if our water rights were not being violated by EMI. In spite of the size of our storage tank, we still face water shortages at times.

16. We have created an organic permaculture farm on over 1 acre of our agricultural property, with numerous varieties of bearing fruit trees; herb and vegetable gardens; pineapple beds and many varieties of ornamental plants. We also grow specific blooming floral plants that are used as part of the religious gatherings we host on our land during the holiday seasons.

17. We exchange food crops with friends and neighbors and sustain ourselves from the fruit of the land, but we are limited in the amount of plants and crops we can grow since losing access to Hanehoi Stream water from the Huelo community pipe.

18. We have discussed expanding our fruit orchards and gardens, but there is not currently a reliable supply of water available to us from Hanehoi Stream to support such an expansion.

19. We have been harmed by the violation of right to use Hanehoi Stream water for our domestic use because (1) We are forced to pay more for water than we otherwise would in order to farm on our land; (2) we cannot expand our farm in the manner we wish to and produce crops that require more water; and we are therefore being

deprived of our ability to conduct the sort of farming that we should be able to conduct on our property if our rights to receive water from the Huelo community pipe were not being violated.

20. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water we demand is supplied to us for reasons including but not limited to the following: (1) our water rights are superior to theirs and must be satisfied first; (2) these with domestic water rights within the watershed must be satisfied before out-of-watershed needs can be satisfied; (3) it would violate the public trust doctrine not to satisfy our water rights first as domestic use is a protected right under the public trust; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream domestic use, riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

21. Our property is not located in a water management area.

22. As owners of a parcel of land with domestic water rights, we are entitled to the adequate flows of Hanehoi Stream to serve the Huelo Community pipe, the only practical source for us to access a domestic water supply.

23. The State has agreements in their Huelo Water License with EMI that provide for the domestic water needs of watershed residents downstream from the

diversions. Domestic use of stream water is a protected use under our State Water Code. The Huelo License agreement is presented as Exhibit E-96.

24. We are grateful that the Water Commission recognized the domestic water needs of our community and of the Hanehoi stream itself when it approved nearly three-quarters of a million gallons (.74 mgd) of instream flow to accommodate the Huelo pipe and the other downstream kuleanas. This flow has not been implemented and we have no way of knowing if it will be adequate. By the dry look of Hanehoi stream in our neighborhood, we believe the full natural flow of the stream would be needed.

25. The New Hamakua Ditch diversion works and the Wailoa ditch diversion works on Hanehoi Stream must be modified to allow an adequate flow of Hanehoi Stream to meet the domestic needs of the Huelo community as well as the needs of the stream and kuleana users.

I declare under penalty of law that the foregoing is true and correct.

Executed this 16th day of December, 2014.

Name Donald M. Halley, Jr.

Donald Halley

Christal Morf

C. Morf

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF LUCIENNE DE NAIE

DECLARATION OF LUCIENNE DE NAIE

1. My name is Lucienne de Naie. I am a resident of Huelo, Maui County in the State of Hawaii. I am a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I have lived on TMK No. (II) 2-9-007:48 ("my property") since 1985 and have been the co-owner of this land since 1989. My property is located in the ahupua'a of Puolua, being a portion of Royal Patent Grant 2079, Apana 3 to Samuel Kaiewe. Its location is represented in TMK Map No. (II) 2-9-007, Exhibit E-42.

4. I have the right to expect an adequate supply of domestic water would be available for my property from the Puolua or Hanehoi stream, since there is no public water supply available in Huelo and our streams are diverted by EMI, who has an obligation under their license agreement with the state to allow enough waters in the

streams for the downstream domestic users in the Water License Lease areas, like Huelo. This Huelo License Agreement of 1960 and its subsequent renewals is part of the Water Commission record and is presented as Exhibit E- 96 .

5. I have never been part of the Huelo Community pipeline, since my predecessors in title, Mr. and Mrs. Robert Meens, drilled one of the first fresh water wells in the Hanehoi Hydrological unit in 1979. This two inch (2") diameter well is my water supply.

6. My well, State well No. 5413-15, is entirely dependent upon the overall health of the Hanehoi Hydrological unit of the Honopou Aquifer and the surface water systems that are part of it. Many of the wells drilled on surrounding properties have relatively high levels of chlorides (salt), even though they are drilled deeply enough to contact what is viewed by hydrologists as the "basal aquifer."

7. I am concerned that the continued extreme dewatering of the Hanehoi stream and its numerous tributaries that has been going on since 1878 is taking a toll on the groundwater resources of our area.

8. My immediate neighbor, who depended upon a natural spring for his water supply since the 1970's, finally had to get a loan and drill a well a few years ago. After thirty (30) years of serving as dependable water source for his family farm, his spring would just dry up too many times a year for him and his family to depend on it.

9. As a long time resident of the Huelo area, and as a person very familiar with the streams and watershed lands from firsthand experience, I feel the Commission needs more accurate information before they make a decision about stream flow standards for many East Maui Streams, including Hanehoi and its tributaries.

10. While everyone appreciates the tremendous amount of work done by the Commission staff to assemble the information for these reports, I need to mention some vital information that is missing from the September 2008 Instream Flow Standard Assessment Report (IFSAR) for Hanehoi Hydrological Unit. The pertinent parts of the IFSAR report I will be referring to are presented as Exhibit E-32.

11. As a resident of Huelo, I wish to bring these errors and misrepresentations to the attention of the Commission because they clearly illustrate how little is actually known about the Hanehoi hydrological unit, its natural water sources and the tremendous dewatering of those natural water resources and what we must know in order to make well grounded decisions.

12. Fig 12-2 in IFSAR on p.64 does not reflect an accurate map of the traditional ahupua'a found in The Hanehoi Unit. Our property deeds, TMK Maps, Land Commission awards and other documents indicate three ahupua'a are found in the Hanehoi hydrological unit. From Wailuku side to Hana side they are: Puolua, Huelo and Hanehoi. The ahupua'a correspond to the three streams in the area. Two of the ahupua'a names, Puolua and Huelo, are shown on TMK Map No. (II) 2-9-007, Exhibit E-42. Hanehoi is shown on adjacent plat map, TMK Map No. (II) 2-9-011, Exhibit E-20. Our community would appreciate if future documents concerning traditional ahupua'a in the area reflect this information.

Hanehoi Stream and its Tributaries

13. I have personally hiked a great deal of the reaches of Hanehoi, Puolua and Huelo streams over the last twenty-nine (29) years I have lived in Huelo. I also participated in the first community-based biological survey of Hanehoi stream (2009) and

Maui Tomorrow's Malama Hamakua Action Project which explored and documented conditions on the various Huelo streams in 2010-2011.

14. I wish to set the record straight about the physical nature of these streams. I speak to this matter from direct experience of actually "hiking" the streams, from the ocean to the mountains, using traditional trails and often just pushing through undergrowth to follow the stream beds.

15. We need the Water commission and the USGS to realize that their maps have left out one of our streams: **Huelo Stream**. "Huelo" and "Puolua" Stream are not two names for the same stream, but that is how all the Commission's documents are written. There are two (2) streams: Puolua and Huelo. Both streams eventually join into Hanehoi Stream, which also has two branches, both of which are diverted at Lowrie ditch. This is simply portrayed on an informational stream system map created by Maui Tomorrow, based upon reg. Map 2745, a 1925-26 EMI map of the Hanehoi-Huelo area. This map is presented as Exhibit E-40. A narrative to accompany the map is presented as Exhibit E-44

Extreme Diversion of a Limited Area of Stream Basin

16. The Commission needs to realize that the branches of the Hanehoi stream and its two tributary streams: Huelo and Puolua are diverted at least nine times in around one mile by significant EMI diversion structures which take the vast majority of their flows except during storm events. The heaviest diversions being along the Lowrie ditch.

17. The maps and diagrams in the Hanehoi IFSAR do not accurately portray these diversions or their locations. **In fact, five of the six major diversions pictured and discussed in the CWRM IFSAR are either described in the wrong location or do**

not have their true function described. A more extensive commentary on the numerous errors in the IFSAR diversion maps and text found in Section 13.1 and 13.2 of the IFSAR, can be found as Exhibit E-43.

Lack of Accurate Diversion or Base Flow Information for Hanehoi

18. The fact that the Commission staff does not have an accurate map of the stream system capacity of the hydrological unit, and many stream branches are not shown, may have had a negative effect on the Commission's rationale for setting Instream Flow Standards "(IFS") amounts. I believe that the overall volume of "base flow" being diverted from these three (3) streams and their tributaries is likely much greater than the Commission may realize.

19. The September 2008 CWRM staff submittal on p. 20 acknowledges that no formal study of flow measurements for Hanehoi and its tributary streams exists. On p. 27 of the same report the diagrams indicate that flow levels below the diversions on Hanehoi and Puolua are "unknown." These references are presented in Exhibit E-7. The CWRM Staff Monitoring Update powerpoint from September 2009 indicates on p. 46: "Little is known about Hanehoi Stream." See Exhibit 10.

20. When setting IFS, it appears from the charts and discussions in the 2008 CWRM staff submittal that the amount of streamflow proposed to be restored was based upon Q90 or Q50 of estimated baseflow. If the final IFS amount were based upon fewer stream inputs, which would almost certainly result in an underestimated base flow, the CWRM decision needs to be re-examined and the IFS adjusted upward as the community has requested.

21. CWRM staff indicated that they had tried to be more generous in assuming base flow, to compensate for the fact that no formal study of flow measurements for Hanehoi and its tributary streams exists. However, lacking knowledge of the range of Hanehoi, Huelo and Puolua streams and their tributaries would limit the accuracy of any estimates, even well-intentioned ones.

22. From a common sense standpoint, these numerous EMI diversions on each tributary would not have been constructed and maintained, if there was no water to harvest from them. They are taking water that needs to be part of the equation. The IFS currently set for Hanehoi and Puolua streams, a total of 1.72 mgd, is not sufficient to sustain stream life or provide for other protected uses such as domestic use, recreation or aesthetic enjoyment for the hundreds of residents of Huelo.

Effects of Extreme Dewatering on Stream Ecology and Stream Health

23. The Division of Aquatic Resources (DAR) report on Hanehoi Stream prepared for the Commission in June, 2008 factually sets out the problem and the solutions facing Hanehoi. Hanehoi Hydrological unit is a small watershed of one-and-a-half square miles (1.5 sq miles,) It has been dewatered so much, by so many EMI diversions, for so long, **that it has become an artificially intermittent stream.** On p. 2 of the DAR report on Hanehoi Stream the situation is clearly stated.

24. Repeated Hanehoi diversions at various elevations have resulted in a very shallow stream habitat, creating abnormal stream conditions where it is difficult or impossible for native stream life to survive, depriving kuleana users and others of any flows. The DAR report states:

"The diversions resulted in an increase frequency of dry or shallow sites as compared to streams statewide. The distribution of depths in comparison to elevation

showed that the stream was shallower downstream of diversions then would be expected in a normal stream. This is likely restricting habitat for climbing native amphidromous animals."

25. Above the highest diversions on Hanehoi stream, DAR found a completely different stream with a rich variety of native insects, including the endangered Megalagrion pacificum damselfly. Unfortunately, since a stream flow pathway to the undiverted reaches of the stream does not exist most of the time, native stream life has no way to reach these upper reaches of the stream where they may survive.

Effects of Extreme Diversions on Watershed Health

26. The streams of Hanehoi unit are surrounded with mute evidence of their former productivity. I have personally seen remains of kalo lo'i, house platforms, 'auwai, shrines, a heiau and even likely grave markers along the Hanehoi, Huelo and Puolua streams. I have also observed that many sections of stream, due to years of chronic dewatering, are so choked with alien weeds, bushes and trees and they have limited capacity to serve as functioning streambeds. These conditions are shown by photographs taken oven the last five years on Hanehoi and Puolua stream, presented as Exhibit E-46. A-H

27. I have watched the steady march of invasive plants cover trails and streams beds in my nearly thirty (30) years of hiking these streams. The situation, from my observation has in large part been caused by human activities and it will take human activities to address.

Who Will Care for Our Streams?

28. I participated in the Malama Hamakua Action project, a pilot project in 2010 and 2011 aimed at caring for streams and watersheds in the Huelo region. The project was initiated by Maui Tomorrow in cooperation with the local non-profit TARO.

I was able to secure a small grant to cover stipends for those working to clear away the stream overgrowth. Three individuals working a few days a week for several months were able to clear debris and noxious weeds from state lands and private kuleana lands on nearly half a mile of Puolua stream, as well as eliminate many of the invasive African Tulip trees trying to colonize the area.

29. This pilot project proved that we don't have to give up on our streams and watersheds. With a small amount of funding, communities could take care of their 'aina. This type of watershed management goes hand in hand with restoration of stream flows. The Commission Staff Submittal of September 2008 summarized conditions in East Maui that led to decreased streamfiow on p.7 and affirmed the need for regularly clearing the stream channels. The staff commented that:

"Streamflow trends have decreased Statewide Many people testified that the water in the east Maui streams has diminished in the last 20-30 years, but there may be multiple variables,.."

Two of the seven variables were:

f) " Landcover has changed. Changes in vegetation over time may considerably impact water uptake and storage thus affecting availability of surface water resources.

g) Waterways are not kept clear of growth as they were in the past."

These references are presented in Exhibit E- 7.

30. The Commission and its staff also discussed the need to "keep the streams clear" during their September 24-25, 2008 deliberations on eight East Maui Streams, including Hanehoi. The CWRM minutes for that meeting, on p. 14, reported that Commissioners wanted to know how maintenance of the watershed could be built into the restoration process.

31. Commissioners were informed that under current state laws, .."property owners had a responsibility to maintain stream channels." The CWRM minutes are presented as Exhibit E-47.

32. It is obvious from my many hikes along Huelo streams, that this maintenance responsibility is not being carried out, to the detriment of public trust resources like streams and streamlife. The Commission has a duty as Trustees of our public trust resources to see that the stream channels are cared for.

33. A large part of the middle watershed area in Huelo is owned by A&B, Inc/ EMI. No restoration of our streams can take place unless they are willing to cooperate to clear away the unwanted overgrowth and restore adequate flows to keep the stream beds open. To restore a healthy stream system in Hanehoi will take continuity of flow. It is not enough to open diversion gates a few inches at a couple of stream locations.

Hanehoi: Diverted More Times and Longer than 25 other Streams in this Case

34. The Commission should also take into account that the hydrological units of Hanehoi and Honopou are the only stream systems in the IFS contested case which have been diverted for the full 136 years by the EMI/ HC&S systems. These are the streams where the Alexander and Baldwin's new marvel, the Old Hamakua Ditch, first traveled in 1878 to harvest water. Five other ditch diversion systems have followed.

35. Since they have been diverted the longest, Hanehoi and Honopou also have the most levels of ditch diversion structures in place. Each new ditch EMI built went further and further east, but the new ditches did not bypass the streams previously exploited. Instead, the new ditch simply exploited the same streams at a different elevation. This combination of a small watershed basin, multiple dewatering levels and

unceasing exploitation for over 130 years has taken its toll on Hanehoi. In short, our stream has given all it has to give, and now we need to give back.

In Summary:

36. I and others in Huelo feel that the restoration numbers for our streams were set too low and should be reconsidered for several reasons:

1) There was no ongoing data collected in the Hanehoi-Puolua stream area over the years regarding the average stream flows, so CWRM staff were making educated guesses.
2) USGS and CWRM maps incorrectly portray Hanehoi stream and its tributaries and how they are diverted: This limits estimates of base flow.
3) Our streams and their tributaries are diverted many times in a short stretch and the CWRM reports don't have accurate information about the diversions. This limits our knowledge of what is being withdrawn and what needs to be restored.
4) The Stream restoration decisions for Hanehoi and Puolua streams appear to be based on returning a percentage of an assumed base flow. The input of the several other diverted tributaries to overall base stream flow of Hanehoi Stream may have not been accurately considered. Since more tributaries are involved, that base flow is likely considerably greater, and therefore the amount restored to keep the streams healthy should be greater.
5) The completely dewatered state of so many tributaries of Hanehoi stream in such a short distance is likely to affect the underground water bodies that would normally recharge stream beds and springs, affecting the water security of the

entire Huelo community who depend upon the streams and springs. This Includes well owners like myself.

37. The Huelo community includes those with kuleana, riparian and appurtenant rights. It includes two active churches and a number of active farms, an agricultural education center and a eco-education center. The population of the area served by Hanehoi and Puolua streams is over 200 people. All of these people depend upon the streams, springs or groundwater as well as the rain for their water supply. Many enjoy the streams for recreation;

38. The State Water Code prioritizes the protection of stream habitat, domestic, kuleana, riparian and recreational use of our stream waters. I am being harmed because the IFS set for Hanehoi and Puolua streams does not allow for mauka-makai flows that would meet these protected purposes in my community and protect the longterm health of the streams and the aquifers. The Commission is obligated to consider the degraded, dewatered state of Hanehoi and Puolua streams and conclude that our laws require more than stream flow releases at several disconnected locations to restore the health of these beloved streams.

39. The Lowrie and New Haiku ditch intakes for East Hanehoi and Puolua streams should be bypassed by EMI for a period of at least ten years to let the Hanehoi ecosystem to begin to recover.

40. The Commission should also require a fund to be set up by the A&B Foundation to allow East Maui communities to apply for grants to hire workers, if necessary, to care for the stream beds and watershed and allow the released flows to travel freely along the streams.

I declare under penalty of law that the foregoing is true and correct.

Executed this 30 day of DECEMBER 2014

Laurent deVaul
Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF MIRANDA CAMP

DECLARATION OF MIRANDA CAMP

1. My name is Miranda Camp. I am a resident of Kihei, Maui County in the State of Hawaii.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am a Sierra Club Member and a supporter of Maui Tomorrow. The Sierra Club Maui Group, a branch of Sierra Club Hawaii Chapter, was formed on Maui in 1976. At that time, a Sierra Club Maui Group Outings Committee was also formed, whose purpose was to provide recreational and educational nature hikes on public and private lands with lawful permission. Sierra Club Hawaii Chapter and Sierra Club Maui Group are both part of the Sierra Club, a California non-profit organization founded in 1892, whose headquarters is located at 85 Second St, 2nd Floor, San Francisco, CA 94105.

4. The Sierra Club Maui Group Outings Committee has been leading recreational and educational nature hikes to east Maui streams, pools and waterfalls for over thirty years. Many of these streams, pools and waterfalls are the subject of the current East Maui Stream contested case. All hikes and accesses have been conducted after securing permission from and providing participant waivers to East Maui Irrigation Co. (EMI) or other appropriate landowners.

5. As Chair of the Sierra Club Maui Group Outings Committee, I have personally led hikes along the EMI ditch trail system that visited, crossed or followed many east Maui streams over the past 10 years. The streams included in the East Maui Stream contested case that I have visited on these hikes include:

Hanehoi
Puolua
Waikamoi/Alo
Wahinepee
Puohakamoa
Honomanu
Pi'ina'au
Palauhulu
West Wailuaiki
East Wailuaiki
E. and W. Wailuanui
Waiokamilo
Puaka'a
Waiohue
Pa'akea
Waiaka'a
Kapaula
Hanawi
Makapipi

6. In general, I have observed conditions in these streams below the EMI diversions to be very dry and unnatural during all but heavy rain events, while nearby EMI diversion ditches are carrying the stream water away. The lack of stream flows in

many reaches of the streams **limits** recreational enjoyment, nature study opportunities, and could lead to unhealthful conditions for those who seek to enjoy recreational use of the waters.

7. I wish to comment specifically on conditions in Waikamoi stream in the Ko'olau area. Sierra Club Maui has offered extensive comments over the years on conditions in various East Maui streams which are the subject of this contested case, including specific remarks regarding WAIKAMOI STREAM area that were incorporated into the final drafts of the Instream Flow Standard Assessment Reports "(IFSAR") produced by the Water Commission in December 2009. on p. 60 and 66. See Exhibit E-48.

WAIKAMOI STREAM

8. WAIKAMOI STREAM/and its tributary ALO STREAM have their flows diverted by East Maui Irrigation (EMI) diversion works at Manuel Luis, New Hamakua and Wailoa/Ko'olau ditches. In addition, WAIKAMOI is diverted by the Maui County Department of Water Supply (DWS) intakes for both the lower and upper Kula Pipeline. See Exhibit E-48 Waikamoi IFSAR Fig 3-3 Diversions p. 41.

9. On our Sierra Club hikes we have visited stream, pool and waterfall areas along WAIKAMOI STREAM on state and EMI land at the approximately 900 ft elevation and the 4,000 elevation. These are shown on the Map presented as Exhibit E-61, showing the approximate locations. We have also observed these areas being accessed by local families and visitors for recreation and aesthetic enjoyment.

10. Sierra Club hiking groups have visited stream, pool and waterfall areas along WAIKAMOI STREAM for educational and recreational hikes for many years,

both before and after the 2010 Commission on Water Resource Management (CWRM) decision to set amended Interim Instream Flow Standards (IIFS). The stream areas often have long dry stretches caused by the lack of sufficient flows making it past the diversions. The lower stretches of the stream between the EMI's Manuel Luis ditch and New Hamakua/Wailoa Ditch are often overgrown by water hungry invasive species of noxious weeds such as pole bamboo, various ficus species, Coix lacryma-jobi (Job's Tears), Clidemia hirta, Hedychium flavescens (yellow ginger), Tibouchina herbacea, and Ardisia elliptica (Inkberry). It does not appear that any maintenance of the stream beds is ongoing by either EMI or the State.

11. We note that the CWRM 2009 IFSAR report for Waikamoi referred to these same overgrown conditions. Portions of this Assessment Report, including p. 45,are presented as Exhibit E -48. The Report states on p. 45:

"Another factor that affects the distribution of native species is the condition of the streambed. Stream channels are often overgrown with alien grasses and shrubs. Vegetation along the stream bank has exposed roots that take up large amounts of water when sufficient flow is in the stream. Thus, during a high flow event, streams that are normally dry become only partially wetted because invasive plants and water thirst roots eventually absorb much of the water. In addition, fallen trees and other debris are found to block sections of the stream, which may reduce streamflow and even divert flow away from the main stream channel in the long term. Without proper maintenance of the streambed, restored streamflow in the upper elevations may not reach the ocean. **Plans to rebuild healthy streambeds** should be considered to help maximize the flow in the stream."

12. We note many fallen trees and bushes blocking sections of the stream bed when we hike. It does not appear there is any effort to maintain a clear path for whatever flows there are in the Waikamoi stream.

13. The CWRM May 2010 East Maui stream IIFS decision stipulated that NO water be released during the dry season in the WAIKAMOI STREAM. CWRM records

show an Interim Instream Flow Standard of only 1.68 mgd for the wet season in WAIKAMOI STREAM. See exhibit E-60, which includes a summary of IIFS set by the Commission on Water Resource Management (CWRM) on p.52,of the May, 24, 2010 CWRM Meeting minutes.

14. We have found no documents on the Water Commission website indicating that consistent monitoring has been done to determine the effectiveness of even the minimal proposed IIFS for WAIKAMOI STREAM on habitat maintenance or survival rates of stream life, in either the wet or dry season.

15. Recent stream flow reports released by CWRM appear to indicate that some individual days in Waikamoi stream have substantial flows (likely due to rain storm events) and others have only a few hundred thousand gallons, even in the so-called "wet season." Some "dry season" months like July, August and September also appear to have substantial flows over a few days, and then minimal flows. These reports, and a cover letter dated December 18, 2014, were provided to Maui Tomorrow and other contested case parties. If they are averaged, the very minimum wet season flow level for Waikamoi, could be said to have been met, however, the actual habitat conditions these flow levels create for stream life could be a very different matter. The report for Waikamoi Stream and the cover letter is presented as Exhibit E-52.

16. Monitoring of both the stream flow levels and the response of stream biota was promised during the Commission's May 2010 adoption of IIFS. Without this information it does not seem that the Commission, as the trustee of the these public trust resources, can determine if the current IIFS is adequate to support the full potential of this

stream to provide healthy habitat for native freshwater aquatic species and support recreational activities like nature study, swimming and traditional fishing and gathering.

17. Sierra Club hike leaders want to offer educational presentations and nature study opportunities for hike participants about native stream flora and fauna in WAIKAMOI STREAM, but the flows in many lower portions of WAIKAMOI STREAM are inadequate to support an abundance of native stream biota, limiting educational opportunities much of the year.

18. A popular website on Maui Waterfalls and streams **http://mauiguidebook.com/road-to-hana-maui/waikamoi-stream-waterfalls/** has this description of Waikamoi Stream and waterfalls: A screen shot of this website posting is provided as Exhibit E-71.

"A drive-up stop, one waterfall and pool are right next to the road. The second, larger waterfall and pool just upstream are impressively beautiful....A popular, user-friendly (but frequently under-rated) stop on the Road to Hana. The reason this is so underrated by the other guidebooks is that they came to see it on the wrong day. The water source is heavily tapped and diverted above and these falls can be essentially "turned off" by EMI to feed thirsty sugar plantations. You can tell if this is worth a stop by looking at the waterfall closest to the road. If it is flowing, then you're in for a treat."

19. This matter-of-fact report reflects the fact that the aesthetic and recreational resource provided by the WAIKAMOI STREAM adjacent to Waikamoi Ridge Trail on state land, is not available to the public due to inadequate year round flows being restored to the stream. As a Sierra Club hike leader I have noted the same conditions in other pools below the diversions on WAIKAMOI STREAM. It is clear that flows in WAIKAMOI STREAM are not meeting the standards put forward in the Water Code to support public trust purposes of ecosystem maintenance and recreational and aesthetic use.

20. As a Sierra Club hike leader I am aware that WAIKAMOI STREAM originates in one of Maui's most pristine native forest areas: Waikamoi Preserve, managed by the Nature Conservancy. The riparian resources of Waikamoi Stream were classified as "substantial" by the Hawaiian Stream Assessment. This is shown by a chart on p. 265 of the HSA which is presented as Exhibit E-58.

21. I am dismayed to see that the Commission decision in 2010 allowed so much of WAIKAMOI STREAM to be left in a degraded, dewatered condition. In contrast to this, the Commission's stream assessment report notes that: "The proportion of a stream course flowing through native forest provides an indication of the potential "naturalness" of the quality of a stream's watershed; the greater the percentage of a stream flowing through native forest most of which is protected in forest reserves **the more significant the resource."** See Exhibit E-48 which includes Fig 6-1, Waikamoi IFSAR, p. 64)

22. The CWRM WAIKAMOI STREAM assessment also concludes that: "Based upon the current designations, the Waikamoi hydrologic unit contains critical habitat areas for ten plant species (Table 6-6). While critical plant habitats are more promenint [sic} above the 1,300 feet altitude, the area around 600 feet elevation and along the Wahinepee Trail has a good representation of native endemic plants." This statement is found in p. 66 of the Waikamoi IFSAR, and is presented as Exhibit E-48, Table 6-7 on p. 67 in the Waikamoi IFSAR indicate that almost 85% of the WAIKAMOI hydrological unit has a high concentration of threatened or endangered species. This Table is presented as Exhibit E-48.

23. Given that 30% of WAIKAMOI STREAM originates and travels through one of Maui's most notable and protected native forests, Waikamoi Preserve, the entire steam below the EMI diversions is a prime candidate for stream flow restoration, but the CWRM decision of May 2010 did not support any additional restoration of flow. This decision continues to limit recreational, aesthetic and ecological uses of this major East Maui stream by native stream life, Sierra Club members, native Hawaiian practitioners and the general public.

24. Sierra Club Maui and its members are harmed, in summary, because the activities they hope to enjoy when visiting WAIKAMOI STREAM and its tributaries, an area of noted ecological value, are greatly limited due to the highly dewatered conditions of the streams. The "status quo" IIFS proposed by the Commission in May 2010 did not provide enough flow for WAIKAMOI STREAM to ensure that the protected instream uses of this waterways could be enjoyed by Sierra Club Maui members, native stream life, local residents and cultural practitioners or the general public.

25. Neither EMI, the County of Maui nor those entities or persons who rely upon them for water will be harmed if the water we demand is supplied to this stream for reasons including but not limited to the following: (1) Our uses of these Public Trust resources are a protected use under the State Water Code and can not simply be ignored in favor of offstream uses; (2) these within watershed needs for water have not been satisfied under the current IIFS set in May, 2010; (3) EMI can satisfy its irrigation needs through other sources of water nearer to their agricultural fields, without having to depend as much on natural stream water from state lands; (4) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed

desires; **given the limited nature of NHLC and MT interim demands,** they are reasonable and must be met; (6) any right to divert by EMI is already subject to **protection** of adequate instream uses under the State Constitution and Water Code which have not been met, (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

26. As an organization who seeks to regularly offer safe, recreational access and opportunities for nature study to these streams and watersheds, Sierra Club Maui is entitled to have public trust stream resources assets be available in a healthy state that provides adequate water quality habitat for native stream species and the general public, adequate water levels to maintain natural ecosystems and allow for nature study, aesthetic enjoyment of streams, waterfalls and pools and recreational opportunities, in accordance with the laws of the State of Hawaii.

27. The EMI ditch diversion works on WAIKAMOI STREAM must be modified to allow the more adequate flow level of 4.4 cfs (2.87 mgd) recommended by the DAR in their May, 2010 report.on p. 5. Portions of this report are presented as Exhibit E-72. WAIKAMOI STREAM should be restored to this recommended mauka-makai flow to fully and adequately support the numerous public trust uses that Sierra Club Maui and the public are entitled to enjoy under Hawaii State laws.

I declare under penalty of law that the foregoing is true and correct.

Executed this 4th day of December 2014.

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF LUCIENNE DE NAIE ON BEHALF OF SIERRA CLUB MAUI

DECLARATION OF LUCIENNE DE NAIE

1. My name is Lucienne de Naie. I am a resident of Huelo, Maui in the state of Hawaii. I am a Sierra Club Member and a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. The Sierra Club Maui Group, a branch of Sierra Club Hawaii Chapter, was formed on Maui in 1976. At that time, a Sierra Club Maui Group Outings Committee was also formed, whose purpose was to provide recreational and educational nature hikes on public and private lands with lawful permission. Sierra Club Hawaii Chapter and Sierra Club Maui Group are both part of the Sierra Club, a California non-profit organization founded in 1892, whose headquarters is located at 85 Second St, 2nd Floor, San Francisco, CA 94105.

4. The Sierra Club Maui Group Outings Committee has been leading recreational and educational nature hikes to East Maui streams, pools and waterfalls for over thirty years. Many of these streams, pools and waterfalls are the subject of the current East Maui Stream contested case. All hikes and accesses have been conducted after securing permission from and providing participant waivers to East Maui Irrigation,Co or other appropriate landowners.

5. As Vice-Chair of the Sierra Club Maui Group Outings Committee, I have personally led hikes along the EMI ditch trail system that visited, crossed or followed many East Maui streams over the past 19 years. The streams included in the East Maui Interim Instream Flow Standards (IIFS) 2014 contested case that we have visited on these hikes include:

Honopou
Hanehoi
Puolua
Waikamoi/Alo
Wahinepee
Puohakamoa
Honomanu
Pi'ina'au
Palauhulu
West Wailuaiki
East Wailuaiki
E. and W. Wailuanui
Waiokamilo
Puaka'a
Waiohue
Pa'akea
Waiaka'a
Kapaula
Waikamoi

Hanawi and
Makapipi streams

6. Sierra Club Maui has offered extensive comments over the years on conditions in various East Maui streams which are the subject of this contested case, including specific remarks regarding various streams that were incorporated into the final drafts of the Stream Flow Assessments produced by the Water Commission, such as those found on pp. 60 and 66 of the December 2009 Waikamoi Interim Instream Flow Standard Assessment Report ("**IFSAR**") See Exhibit E-48.

7. In general, I have observed conditions in these streams below the EMI diversions to be very dry and unnatural during all but heavy rain events, while nearby EMI diversion ditches are carrying the stream water away. The ditches themselves have deteriorated over the nearly two decades I have walked these trails and they appear to be leaking and wasting water. I have observed ditch walls cracked by tree roots, ditches and intakes blocked by fallen trees and branches and ditches filled with debris.

8. Because the EMI ditches capture virtually all of the upstream flows, lack of water in many reaches of the streams limits recreational and aesthetic enjoyment of the streams and pools, limits nature study opportunities, and could lead to unhealthful conditions for those who seek to enjoy recreational use of the waters.

9. The healthful conditions of our streams are a public concern to me as a Sierra Club Hike leader and to the general public. Water Quality is also an important protected use under the State Water Code. The Water Commission staff acknowledged this in on p.6 of their Sept 24, 2008 staff submittal regarding the East Maui IIFS petition. The Staff report stated:

Public health.

"Public testimony indicates that the decrease in the ability to gather impacts nutrition. Stagnant water in the streams results in increased mosquitoes, which may lead to increased risk in dengue fever or other mosquito-borne illnesses. Stagnant water may also increase the risk of skin disease from the water."

The Staff Submittal is presented as Exhibit E-7.

10. As a Sierra Club hike leader, I concur that insufficient stream flows can create unhealthful conditions in the diverted streams of East Maui, encouraging mosquito breeding, and potentially put residents and visitors at risk.

11. I would like to comment on conditions we have observed in specific East Maui streams.

HANEHOI, HUELO & PUOLUA STREAM

12. HANEHOI, HUELO AND PUOLUA STREAM and their tributaries have their flows diverted by EMI diversion works at Lowrie ditch. There are a total of five (5) diversions on these three (3) streams along Lowrie Ditch. HANEHOI STREAM is also diverted by EMI diversion works at New Hamakua and Wailoa/Ko'olau ditches. HANEHOI and PUOLUA STREAMS have their flows diverted by EMI diversion works at New Ha'iku Ditch.

13. We have visited natural stream and pool areas along HANEHOI STREAM and PUOLUA STREAM on state and private land in the general locations shown on Exhibit E-24. These natural pools and stream areas have been used by Huelo community members for recreation for many generations.

14. Sierra Club hiking groups have visited stream, pool and waterfall areas along HANEHOI AND PUOLUA STREAMS for educational and recreational hikes for many years, both before and after the 2008 CWRM decision to set amended IIFS. We have observed these areas at times, over the past ten years with insufficient water levels,

slow moving stream flow, completely dry sections of stream and waterfalls reduced to a trickle.

15. It has been six years (September 2008) since the HANEHOI and PUOLUA STREAMS were granted partial restored flows, but those flow levels promised either were not delivered or do not appear to be adequate to ensure a healthy stream flow and clean, moving waters.

16. As a Sierra Club hike leader I am aware of another critical issue in our East Maui streams that must be addressed. We observe long dry stretches of stream beds on HANEHOI stream caused by the lack of sufficient flows making it past the diversions. These stretches are often overgrown by water hungry invasive species of noxious weeds such as various ficus species, Coix lacryma-jobi (Job's Tears), Clidemia hirta, Hedychium flavescens (yellow ginger), Tibouchina herbacea, and Ardisia elliptica (Inkberry). Experts agree that these weeds threaten the health and productivity of our watersheds. See Exhibit E-46 A-H showing overgrown sections of HANEHOI and PUOLUA STREAMS.

17. This overgrown condition is not natural or desirable. If only meager or inconsistent stream flows are released to HANEHOI STREAM, these alien weeds will drink up much of the water and impede any meaningful mauka-makai flows. The need for maintenance of the stream beds themselves was mentioned a number of times during the East Maui IIFS petition public hearings in 2008. Commission members asked staff how this critical issue would be addressed and it is discussed in the CWRM meeting minutes of September 24-25, 2008 on pp. 13-14. See Exhibit E-47.

18. The Commission was told that maintenance of the stream beds could be part of the adaptive management plan for the East Maui streams, such as HANEHOI since all owners of land along the stream have the responsibility to care for the stream beds. It does not appear that any effort has been made to incorporate this into the oversight of the instream flow restoration process, yet it is the most basic of solutions: open stream beds allow more flows.

19. Sierra Club volunteers used to participate in removal of invasive species along the East Maui streams. We have not heard of any State or EMI efforts to keep these streams clear, but observe that it is an important part of the overall Water Commission responsibility to protect our public trust resources. We would like to participate if the opportunity was offered.

20. Under current severely diverted conditions, our members who join the hikes to streams like HANEHOI and PUOLUA are deprived of a full aesthetic and recreational experience, due to inadequate stream flows that limit water levels in some pools, reduce waterfall volume and deprive the stream of native stream life for nature study.

21. We are also concerned that the endangered native Hawaiian damselfly Megalagrion Pacificum, which has been found above the diversions on Hanehoi stream, is being deprived of the vitally needed opportunity to expand its habitat range along the other nearby reaches of the stream, due to the extreme dewatering of HANEHOI below the upper diversions. If this rare damselfly had adequate natural habitat areas provided to allow it to survive at lower elevations, it would greatly enhance our opportunities for nature study and environmental education.

Restoration Potentials:

22. PUOLUA STREAM has a low diversion area on Lowrie Ditch that is poorly maintained and completely stops any migration of stream life. PUOLUA STREAM is edged with continuous kalo lo'i and other cultural sites for most of its length. This stream should have its full flow restored to support the water needs of the Huelo community where it joins HANEHOI STREAM and can help rewater it. A series of pictures of Puolua stream and the Lowrie diversion is submitted as Exhibit E-12 A-E.

EAST & WEST WAILUAIKI STREAMS

23. EAST & WEST WAILUAIKI STREAMS have their flows diverted by EMI diversion works at the Wailoa/Ko'olau ditch.

24. Sierra Club hikes have visited stream, pool and waterfall areas along EAST and WEST WAILUAIKI streams on State and EMI land in the general locations shown on Exhibit E-49. We have observed these areas being accessed by many local families and visitors for recreation and aesthetic enjoyment. Sierra Club hiking groups have visited stream, pool and waterfall areas along EAST & WEST WAILUAIKI STREAMS for educational and recreational hikes for many years, both before and after the 2010 CWRM decision to set amended IIFS. The stream areas often have long mostly dry stretches below diversions, which the IIFS have not addressed, caused by the lack of sufficient flows bypassing the diversions.

25. A small amount of water was set for the streams. An IIFS of two-hundred and sixty-thousand gallons a day (260,000 gpd) in EAST WAILUAIKI and one-hundred and-thirty thousand gallons per day (130,000 gpd) in WEST WAILUAIKI was stipulated to be released during the dry season in each stream in 2010. A small "splash path" for

native stream life appears to have been installed on EAST WAILUAIKI stream at the Ko'olau ditch intake. These amounts are found in the Water Commission's May 24, 2010 Staff submittal that was adopted by the Commission at their May 24 meeting and shown in Exhibit E-50.

26. Photographs taken in March, 2012, shows the splash path and the barely wetted surface and isolated pools below the EMI diversion on EAST WAILUAIKI STREAM. These are presented as Exhibit E-51 A-E. These are the conditions that recreational users find below the EMI diversions, even in the winter season. We feel that the lack of a natural mauka-makai stream flow impacts the recreational experience the streams could offer. Although the Commission specified that regular monitoring of conditions would occur, and adaptive strategies would be employed, they have not posted reports on their website on whether studies have been done to determine if the IIFS is effective for EAST or WEST WAILUAIKI STREAMS. Recently released CWRM Monitoring reports covering 2011 to 2014 have no flow data for EAST WAILUAIKI and very erratic data for WEST WAILUAIKI, with widely varying flow levels from day to day. It appears the flow levels are more connected with rain events rather than any released flows from diversions. These are presented as Exhibit E-52.

27. We also note that EAST WAILUAIKI STREAM is the last location in the world where the endangered flying earwig Hawaiian damselfly Megalagrion nesiotes was found in a 2002 survey below the Ko'olau diversion, near Hana Highway. USFWS Researchers reported that:

> "Additional colonies could be present at intermediate elevations [on the same stream] , but these may have escaped detection because the topography of the area makes sampling difficult, as does the tendency of adults to fly low into tangled undergrowth when disturbed."

This information was in a USFWS Federal Register report (2007) to support listing the Earwig Damselfly as an endangered species and is presented in Exhibit E-53.

28. Hawaii's Comprehensive Wildlife Conservation Strategy Report issued in October 1, 2005 and included as Exhibit E-54, names EAST WAILUAIKI STREAM as a "key habitat" for the extremely endangered species of damselfly.This potential habitat includes areas of the stream that are subject to the EMI diversion structures, where the stream bed habitat needed by the endangered damsel flies can be virtually dry a great deal of the time. The damselflies are aquatic insects and depend upon flowing sections of the stream in their immature stages to survive.

29. Sierra Club hike leaders want to offer educational presentations and nature study opportunities for hike participants about native stream flora and fauna in the WAILUAIKI STREAMS, but the flack of continuous lows in portions of the EAST and WEST WAILUAIKI STREAMS are inadequate to support an abundance of native stream biota, limiting educational opportunities. Increased year round stream flows in EAST and WEST WAILUAIKI STREAMS could extend habitat range for the endangered earwig Hawaiian damselfly and provide the public with the recreational and educational enjoyment of the streams that our State Water Code protects.

Restoration Potentials

30. The IIFS for WEST WAILUAIKI STREAM was set in May 2010 by CWRM at 3.80 cfs (2.45 mgd) in the wet season and only .40 cfs (.26 mgd) for the dry season. The Commission should follow the DAR staff habitat guidelines and set IIFS for WEST WAILUAIKI STREAM at 6 cfs (3.87 mgd) and a minimum continuous flow of 1.4 cfs (.9 mgd).

31. IIFS for EAST WAILUAIKi stream was set in May 2010 was set by CWRM at 3.70 cfs (2.39 mgd) in the wet season and only .20 cfs (.13 mgd) for the dry season. The Commission should follow the DAR staff habitat guidelines and set IIFS for EAST WAILUAIKI STREAM at 5.75 cfs (3.71 mgd) with a minimum continuous flow of 1.4 cfs (.9 mgd). The "wetted path" created for the migration of native stream life appears to be a very artificial solution offered instead of actual continuous flow needed by the stream animals. The Commission should have factual data provided on its effectiveness to determine of greater flows are needed.

32. The Commission has a responsibility to protect Public Trust resources and these revisions in the IIFS can improve the recreational and educational potential and promote maximum habitat potential for these important stream which ranked number two (2) and four (4) overall of the eight streams DAR evaluated for restoration. See Exhibit E-55 DAR chart 2010.

WAIOHUE STREAM

33. Sierra Club hiking groups have visited stream, pool and waterfall areas along WAIOHUE STREAM for educational and recreational hikes for many years, both before and after the 2010 CWRM decision to set amended IIFS. We access WAIOHUE STREAM as part of our hikes along the Makapipi Trail in Ko'olau District. The approximate location of these hikes is shown on Exhibit E-56, a USGS map of the area. Virtually all of WAIOHUE STREAM is located on publicly owned land, from the mountains to the sea. Sierra Club hikers value the scenic and recreational attributes of WAIOHUE STREAM.

34. WAIOHUE STREAM flow is diverted by EMI diversion works on both its East and West branches and the water directed into EMI's Ko'olau Ditch. Maps in the CWRM 2009 IFSAR for WAIOHUE hydrological unit do not show that the stream has two branches, both diverted. The Waiohue 2009 IFSAR is presented as Exhibit E-57.

35. I have led Sierra Club hikes along the Ko'olau Ditch Trail which crosses WAIOHUE STREAM since 1996, and I have observed the diversions on both branches of the stream, and many other small EMI diversions in the general area as well. In figure 3.3 of the Dec 2009 CWRM Waiohue IFSAR on p. 36 shown as Exhibit E-57, a map shows the location of diversions on two branches of WAIOHUE STREAM and the IFSAR discusses them on pp. 95-96. See Exhibit E-57.

36. The extent to which multiple tributaries of WAIOHUE STREAM are being diverted is important for the Commission to consider because, under natural conditions, all of these flows would be contributing to the exceptional native stream life habitat that is struggling to survive in this stream.

37. As mentioned above, recreational users of the trails around WAIOHUE, observe how many of the stream's other smaller tributaries and nearby springs are also captured by cement troughs or pipes and diverted away from the stream and aquifer and into the EMI ditch. This is also shown in Exhibit E-57, which shows pp.97-99 of the 2009 CWRM Waiohue IFSAR (PR-2009-11) picturing the numerous "minor diversions."

38. As a result of this thorough and systematic dewatering, WAIOHUE STREAM bed below the Ko'olau ditch is often very dry under normal rainfall conditions, limiting opportunities for recreational use, scenic enjoyment and nature study for Sierra Club members and the general public.

39. WAIOHUE STREAM has been rated as having "Outstanding" recreational and aquatic stream life characteristics by the Hawaii Stream Assessment ("HSA") See Exhibit E-58 CWRM/NPS, 1990 study on pp. xxv and 265. It was more recently rated in USGS and Hawaii DAR stream studies as having a high variety of native stream life. This is shown as Exhibit E-57 Table 5-1 from p. 52 of the 2009 CWRM Waiohue IFSAR. The HSA identified opportunities for camping, hiking, fishing, swimming, parks, and scenic views related to Waiohue.

40. WAIOHUE STREAM passes through the very popular Pua'a Ka'a State Wayside Park along the Hana Highway. There are natural pools and waterfalls on WAIOHUE STREAM in Pua'a Ka'a Park that are easily and safely accessible. The pools are overlooked by the public picnic areas in the park, providing the potential for scenic enjoyment. This is practically the only natural pool that is visible, and easily and legally accessible to the public along the entire forty mile drive from Pa'ia to Hana. Since there are also comfort stations located at Pua'a Ka'a State Park, thousands of residents and visitors stop there every day. Water from WAIOHUE STREAM is also diverted, by means of a pipe in the stream, to a tank that provides non-potable water to the comfort stations. This is shown in the Waiohue IFSAR on p. 96 of Exhibit E-57.

41. Our Sierra Club hike participants use the pools in Pua'a Ka'a park for swimming when water levels permit and enjoy the scenic views of the pool and waterfall in the park when the waterfall has flows. We have observed the ponds in Pua'a Ka'a park being accessed by many local families and visitors for recreation and aesthetic enjoyment when water levels permit. The numerous diversions dewatering WAIOHUE STREAM and its tributaries limit the opportunities for recreational use of this stream.

42. This becomes clear when the popular pond areas on WAIOHUE STREAM are also described and "rated" on several internet sites. See Exhibit ___. Visitors comment on the lack of water in the pool during the "dry season." A comment from the website "Trip Adviisor" is typical:

"This is our favorite stop along the Hana Highway for a picnic lunch, to take in the beauty of the rainforest with an opportunity to swim in the small natural pool under the waterfall although there was not enough water in the pool during our recent visit during the dry season. "

http://www.tripadvisor.com/Attraction_Review-g29220-d1020424-Reviews-Pua_a_Ka_a_State_Park-Maui_Hawaii.html

43. A similar comment was posted on http://www.world-of-waterfalls.com/hawaii-puaa-kaa-falls.html:

"Puaa Kaa Falls (or Pua'a Ka'a Falls; rolling pig) resides in the Pua'a Ka'a State Wayside Park, which made it one of the rare waterfalls on the Hana Highway where public access was welcome. There are two waterfalls in the park. It looked like it would've been a real nice place for a picnic, but I believe the water diversion from EMI ditches further upstream tends to keep the water flow low unless it has raining like it was during our visit."

44. It is ironic that the state expends public funds to promote visitors coming to Maui and seeking places of natural beauty, such as WAIOHUE STREAM, yet the guardians of the public trust did not allow enough water in the stream for those same visitors to enjoy what they came to find.

45. At the ocean is Waiohue Bay, where the WAIOHUE STREAM discharge. It is accessible by a narrow fishing trail trail from Wailuanui, labeled on maps as the "old Government makai road." Two other streams (Puakea and Paakea) discharge into Waiohue Bay and there is a small but productive estuary there for native stream life. The area is used by local residents for traditional fishing and gathering practices, which is

confirmed in the December 2009 CWRM Waiohue IFSAR. See Exhibit E-57 Fig 5-2, p. 55.

46. Our Sierra Club educational hikes follow the EMI's Ko'olau ditch trail, which crosses both branches of WAIOHUE STREAM. We too, have observed that the stream beds are virtually dewatered below the ditch by two major and five minor diversions that all drain into EMI's Ko'olau ditch. This affects water levels in the Pua'a Ka'a Park ponds and waterfalls as is noted by visitors.

Restoration Potentials

47. According to the DLNR Division of Aquatic Resources (DAR) studies referred to in the 2009 Waiohue CWRM IFSAR, the dewatering of WAIOHUE STREAM also impacts habitat availability for the large array of native species found in the stream. The Assessment offers an analyses of stream life habitat conditions for WAIOHUE STREAM based upon USGS studies and concluded: "Overall, less than 50 percent of the natural habitat for all species in Waiohue Stream was maintained below Koolau Ditch under diverted conditions." See Exhibit E-57 p.43. On p. 46 of the December 2009 CWRM Waiohue IFSAR another useful analyses was offered: "Since Waiohue Stream already has a great diversity of native stream animals under diverted conditions, it has the potential to carry a full compliment of native stream fauna if allowed continous (sic) mauka to makai flow." See Exhibit E-57.

48. We are concerned and disappointed that the CWRM 2010 East Maui stream IIFS decision stipulated a very small amount of water to be released during the dry season in the WAIOHUE STREAM and left status quo for the "wet season," by simply assuming that around 2 mgd of flow would be available and sufficient. CWRM

minutes show an entirely inadequate "dry season" IFS of 0.06 mgd (60,000 gpd) was adopted. See Exhibit E-60, May 25, 2010 CWRM minutes p. 52 .

49. We could find no monitoring reports, or biological studies of how the native stream life were responding to the IIFS decision made four years ago. With such minimal restoration, continued monitoring is imperative. The Commission did set a goal of regular monitoring as well as updated biological studies as part of the IIFS process in 2010. We did note that a pipe was installed on the diversion to provide a wetter path for stream life migration on the main branch of WAIOHUE STREAM. All efforts should be made to actively monitor conditions in this stream.

50. From our long experience hiking in this area, we believe that any future CWRM decision should adopt the 2010 DAR recommendation for WAIOHUE flow levels, which would be an IIFS of 3.6 mgd. The DAR August 2009 Waiohue study measured flows above the Ko'olau Ditch diversion at almost 5 mgd. Boosting flows by 1 mgd would better comply with the Commission's responsibility to protect Public Trust resources such as the recreational and biological value of this outstanding stream resource.

51. In summary, Sierra Club members come on our hikes to enjoy the natural watershed beauty, enjoy recreational opportunities and learn about native ecosystems. The recreational and educational resources in WAIOHUE STREAM are potentially outstanding, but they cannot be fully enjoyed by Sierra Club members and the public under the present highly diverted conditions of WAIOHUE STREAM.

HONOMANU STREAM

52. Sierra Club hiking groups have visited stream, pool and waterfall areas along HONOMANU STREAM for educational and recreational hikes for many years, both before and after the 2010 CWRM decision to review the IIFS for this stream. We access HONOMANU STREAM as part of our hikes along the Wahinepe'e trail in Ko'olau District, as well as in the coastal portion of the stream. See Exhibit E-61 for approximate locations. Around half of the extensive length of HONOMANU STREAM is located on publicly owned land, while portions flow through land owned by Haleakala Ranch and Alexander and Baldwin. Sierra Club hikers value the scenic and recreational attributes of HONOMANU STREAM and are concerned that these are being limited due to lack of adequate flow in the stream.

53. HONOMANU STREAM has been rated as having "Outstanding" recreational and riparian characteristics by the Hawaii Stream Assessment (HSA) on the p. 265 chart. See Exhibit E-58, CWRM/NPS, 1990. The HSA identified opportunities for "camping, hiking, fishing, hunting, swimming and scenic views related to Honomanu."

54. HONOMANU STREAM was more recently the subject of a 2007 Stream and Estuary study published in the Bishop Museum Bulletin in Cultural and Environmental Studies. The study concluded that the presence of coastal ground water springs and a coastal estuary "results in significantly higher hïhïwai counts and allows recruits to grow to larger sizes (>20 mm)." The same study however, concludes that: "Most hïhïwai will not survive beyond the estuary because of dry stream beds and the lack of consistent stream flow." See Exhibit E-62.

55. HONOMANU STREAM flow is diverted five (5) times by EMI's Spreckels (529 m. elevation) and Ko'olau (400 m. elevation) diversion works and once

by the County Department of Water Supply's (DWS) Lower Kula Pipeline (936 m). Haleakala Ranch also has two small diversions at higher elevations. This is represented by Fig. 13-19 on p. 148 of the December 2009, Honomanu IFSAR, which is presented as Exhibit E-63.

56. HONOMANU STREAM has four separate tributaries affected by EMI diversion works. EMI's Spreckels Ditch has 4 intakes on various branches of HONOMANU STREAM and EMI's Ko'olau Ditch has one. All EMI diversions are located on State owned public trust lands in the Honomanu water lease area as shown on the land ownwership map, Fig 12-3- on p. 100 of the 2009 IFSAR. See Exhibit E-63.

57. The stream's other smaller tributaries and nearby springs are also captured by cement troughs or pipes and diverted away from the stream and aquifer into EMI's Spreckels ditch. See Exhibit E-63 , Fig 13-2 pp 111-. As a result, HONOMANU STREAM bed below the Ko'olau and Spreckels Diversions all the way to the ocean is usually very dry under normal rainfall conditions, limiting opportunities for recreational use, scenic enjoyment and nature study for Sierra Club members and the general public.

58. The upper areas of Honomanu stream along the Spreckels ditch are of particular interest to Sierra Club for nature study. This region has many varieties of native forest plants that are easy to view from the trail and are used as part of the nature study opportunities offered on Sierra Club hikes. Higher elevations of the stream, above the diversions, also have excellent native plant density, according to the HSA, and habitat for several endangered species. Severe dewatering of the steam has an overall negative effect on the surrounding native plant habitat.

59. One of the greatest losses from this dewatering are the once magnificent waterfalls that are found near the 500 m. elevation of the stream, below the Spreckels and Ko'olau Ditch diversions. I have lead hikes to this area for almost twenty (20) years and it has become increasingly difficult to find any water visible in these waterfalls, since it is all taken by the EMI diversions. These falls, on public land, are now dry except during heavy rain events when access to the area is not safe. This means that the public is denied the opportunity to enjoy the beauty of a public trust resource located on public land. A few photographs of one of the smaller upper water falls are presented as Exhibit 64-A-C.

60. HONOMANU STREAM meets the ocean below Hana Highway and forms a large estuary. The area is accessible to local residents and is a popular recreation area well used for camping, swimming, surfing, kayaking, fishing, hiking and family picnics. Local residents report long time use of Honomanu stream for traditional gathering of native stream life and ocean species. See EXHIBIT E- 63 Fig 5.2 on p. 59 in the Honomanu IFSAR.

61. Lack of sufficient flows to overcome the so-called "losing" stretches of HONOMANU STREAM in Honomanu Valley, limits the recreational use of the makai area of the stream by Sierra Club Members and the general public as well as severely limiting its habitat potential for native stream species..

62. Honomanu Valley had numerous Land Commission Awards shown on traditional maps, such as Reg Map 2467 which is presented as Exhibit E-65. Sierra Club uses these types of maps on our educational hikes to let participants connect with the history of the area. Map 2467 makes it clear that kalo cultivation was being done in Honomanu as of 1909, around the time EMI's Wailoa Ditch was built. Oral interviews in

Wai O Ka Ola, by Kumu Pono Associates, 2001 speak of wetland kalo cultivation in Honomanu Valley. It appears obvious that the HONOMANU STREAM had continuous stream flow to the ocean under natural conditions and that the lack of this continuous flow in present times is harmful to those who wish to enjoy the beauty of the stream and waterfalls and engage in recreation, nature study or traditional practices.

63. Participants in classes and gatherings held at nearby Camp Ke'anae also access Honomanu Bay and stream for recreational and educational activities. Sierra Club itself used these facilities to hold a youth eco-camp in the past, which included a visit to Honomanu with the youth. This stream and estuary have tremendous potential for public education and appreciation of our natural resources as well as traditional gathering, but the lack of stream flows is a major impediment to those public trust purposes being realized.

64. Lack of sufficient stream flows also impacts water quality in the HONOMANU estuary and could put the public at risk. The 2014 State of Hawaii Water Quality Monitoring Assessment Report shows on p. 82 that the ocean waters of Honomanu Bay have not attained federal standards for enterococcus levels, and are therefore, impaired. HONOMANU STREAM and other East Maui streams surrounding it have never even been tested for pollutants harmful to human health as the same report indicates on p.79. This information is presented as Exhibit E-66. Increased stream flows would be a part of restoring a natural healthy system in Honomanu Bay.

65. Sierra Club members and the public come on our hikes to enjoy the natural watershed beauty, recreational opportunities and to learn about native ecosystems. The recreational and nature study resources of HONOMANU STREAM are potentially

outstanding, and have been recognized as such by state studies. The HONOMANU STREAM also has the potential to provide outstanding habitat for the native hIhiwai and other stream species and to perpetuate traditional gathering practices for local residents, which is something the Sierra Club strongly supports. We are concerned that these protected uses of public trust resources cannot be fully enjoyed by Sierra Club members, local residents and the public under the present highly diverted conditions of HONOMANU STREAM.

Restoration Potentials

66. The CWRM 2010 East Maui stream IIFS decision stipulated that NO water would be returned to the heavily diverted HONOMANU STREAM. The May 25, 2010 CWRM staff submittal report makes the following statement. "Honomanu Stream: The interim IFS below all EMI diversions and just above Hana Highway, near an altitude of 20 feet, shall remain as designated on October 8, 1988. This is equivalent to an estimated flow of 0 based on USGS estimates of total flow at Q95 (TFQ95.)" See Exhibit E-50, p. 21. No flow levels were set for any of the four diverted tributaries of the HONOMANU STREAM above the Honomanu Valley, to restore the scenic grandeur of the upper waterfalls.

67. In spite of this shortsighted decision, made in 2010, The restoration potential of HONOMANU STREAM is high. The November 2009 HSHEP study completed for DAR and Bishop Museum by Parham et al can be found as Exhibit E-67. On pp 71-72 the HSHEP offered the following analyses of the restoration potential of Honomanu Stream, ranking Honomanu as the highest candidate for restoration out of the twenty-four streams analyzed:

"From a ranking perspective, Honomanü Stream ranked as the second stream for the amount of potential suitable habitat for native species in comparison with the other streams in this analysis. Overall, the results of the HSHEP model predicted approximately 13.5 km of habitat for all species combined in Honomanü Stream with 99.8% of this lost due to the combined effects of the stream diversion. There is the potential to recover over 13.4 km of habitat units in this stream and it ranked first among all streams in this report for its potential for restoration."

The 2005 USGS report **SIR** 2005-5213 entitled

provided information on East Maui Stream base flow in Table 8 on p. 41. This table is Exhibit E-69. Baseflow of lower Honomanu stream is listed in Table 8 as nine (9) cfs or 4.83 mgd.

68. The USGS report estimates that in the lower reaches of Honomanu restoration of fifty-percent (50%) of base flow or 2.36 mgd would restore the majority (ninety-percent) of habitat in that portion of the stream. From an "on the ground" perspective, this once mighty stream has been so dewatered in its upper reaches that restoring hydrological capacity in the lower section may not respond to a minimal formulaeic approach. Restoration of 3 mgd, or 64% of base flows would seem the prudent first step to take to return this public trust resource to the public benefits it once provided.

MAKAPIPI STREAM

69. Sierra Club hiking groups have visited stream, pool and waterfall areas along MAKAPIPI STREAM for educational and recreational hikes for many years, both before and after the 2010 CWRM decision to review the IIFS for this stream. We access MAKAPIPI STREAM fas part of our hikes along the Makapipi trail in Ko'olau District, as well as visiting the makai portion of the stream in the Lower Nahiku Community. See Exhibit E-56 for approximate locations of these hikes. Around half of the extensive length of MAKAPIPI STREAM is located on publicly owned land, while lower portions

flow through land owned by EMI/Alexander and Baldwin. Sierra Club hikers value the scenic and recreational attributes of MAKAPIPI STREAM and are concerned that these are being limited due to lack of adequate flow in the stream.

70. MAKAPIPI STREAM flow is diverted by EMI diversion works on both its East and West branches and the water directed into EMI's Ko'olau Ditch. On our hikes we observe the stream areas below the diversions are usually completely dry. This limits the public's ability to enjoy the beauty of views of downstream waterfalls and stream courses.

71. CWRM's 2009 Instream Flow Assessment Report ("IFSAR") for MAKAPIPI STREAM on p. 31 states that "Makapipi Stream is dry in the 0.7 mile reach between the Koolau Ditch to the stream gaging station (station 16507000)" and characterizes this section as "not perennial." The Makapipi IFSAR is presented as Exhibit E-68.

72. In my experience of hiking in the this area, I have seen tunnels and other diversion structures that tap water and bring it to the Ko'olau ditch. It is possible that these have intercepted water that was once captured by the Makapipi stream and interfered with the stream's natural recharge system below the diversion.

73. Makapipi stream area is a favorite place to take new Sierra Club hike leaders to show them many varieties of native plants that live in East Maui. We plan hikes on this trail to coincide with the blooming of the 'Ohi'a trees to enjoy the different colors. The native 'ie'ie plants, Hapu'u ferns, 'Olapa and koa trees, and many other varieties of native ferns, trees and plants are all found in this lush location. In the CWRM IFSAR Table 2-5 on p. 16 describes Makapipi as a place of nearly fifty percent (50%)

native forests, Fig 6-4 onp. 61 shows the extent density of rare and endangered plants in the Makapipi stream basin. It is also described in its upper reaches as part of the pristine Hanawi Natural Area Reserve System ("NARS".) These references are found in Exhibit E-68.

74. The upper reaches of Makapipi stream are critical habitat for rare and endangered native plants, birds and the rare endangered Megalagrion pacificum damselfly also lives there. Many native aquatic species have been observed in studies according to the 2009 IFSAR in MAKAPIPI STREAM. The 1990 HSA classified the aquatic resources as "outstanding." This is presented in Exhibit E-58.

75. The IFSAR concluded: "Since Makapipi Stream already has a diversity of native stream animals under diverted conditions, it has the potential to carry a full compliment of native stream fauna if allowed continous {sic} mauka to makai flow." See Exhibit E-68, 2009 Makapipi IFSAR, pp 42-43.

76. The local residents we meet while hiking in the MAKAPIPI STREAM area agree that the stream resources were naturally abundant, but have diminished over the years due to persistent lack of adequate streams flows. They speak of traveling further and further upstream to find any traditional foods to gather.

77. Our latest Sierra Club hike to this area, during a rainy period in August of this year (2014) found Makapipi stream makai of Hana Highway with a few stagnant ponds and no real flows. Some residents wonder if the promised flows of over half a million gallons a day set in May of 2010 were ever fully released. Our observations, on our Sierra Club hikes over the last few years, did not find evidence of additional flows below the Ko'olau diversion.

78. We are concerned about the extreme dewatering of Makapipi and the surrounding streams and springs. We are also concerned that the watershed itself, mostly public lands, is not being well managed along the ditch systems. We have seen the intrusion of more and more alien invasive plants, every year. Are these carried in by EMI ditch maintenance equipment? The care and management of of watersheds does not appear to be anyone's responsibility in Makapipi-Hanawi stream areas.

79. Photographs of Makapipi stream and surrounding areas from 2003-2011 Sierra Club hikes are included as Exhibit E-70 A-R. They illustrate the dewatered stream bed below the Ko'olau diversion; the numerous small diversion along the Koolau ditch draining the water away everyday, the native plants found along the trail to the diversion and the invasive plants that are being allowed to overtake the lands immediately surrounding the Ko'olau ditch. This is a snapshot of a valuable ecosystem that can still survive with the involvement of the Commission, DLNR, EMI and the community. But action must begin.

80. MAKAPIPI STREAM and the surrounding lands have outstanding recreational resources. Many Nahiku families live along the stream and play and gather food there. The coastal areas where MAKAPIPI stream discharges are popular community areas for fishing and gathering and the area is rich in cultural and historical resources. These were rated as "Outstanding" in the 1990 Hawaii Stream Assessment ("HSA") included n the Makapipi IFSAR in Table 5-1 on p. 50. See Exhibit E-68. This IFSAR also noted the abundance of aesthetic points of interest in Fig 7.1 diagram on p.63 of the IFSAR. See Exhibit E-68.

81. Sierra Club Members, the general public and local residents all appreciate the presence of the panoramic views, the historic Nahiku landing area and ocean vistas. The only detracting point in this picture is the usually dry state of Makapipi stream bed below the EMI diversion, except for a few disconnected pool areas.

82. I have observed many ancient kalo lo'i on lands along the Makapipi stream below Hana Highway. This stream once had the flows to support the growing of food to nourish the community and it deserves to have that chance again. The upper stream areas still showcase our native watershed plants and birds and are valuable for nature study as well as hunting, gathering and hiking.

Restoration Potentials

83. MAKAPIP{I STREAM has every characteristic that should be preserved and protected as part of our public trust. The majority of waters entering into the Ko'olau ditch originate on ceded lands that are held in trust for native Hawaiians. It has outstanding biological, recreational and cultural resources and is the lifeblood of Nahiku, an active traditional community. As Nahiku was the center of a serious dengue fever outbreak (2002), the health of the community depends upon the health of this stream. Stagnant pools along Makapipi stream do not reassure the community that the exposure to dengue will not return.

84. The community of Nahiku were the first to ask King Kalakaua to not grant water leases to the sugar growers. They were ignored then and told no harm would come and all would benefit. Their stream, Makapipi has gradually withered through a century of dewatering by EMI diversions. The IIFS of .66 mgd (660,000 gpd) set in May of 2010 is not sufficient to let this stream live. The Commission should end the diversion of

MAKAPIPI STREAM for the period of several years to allow the natural hydrology a chance to recover. No adequate work has been done to date to study the hydrology of the stream, but its dewatered state is not what kupuna of the area recall as its natural condition.

Conclusions:

85. Sierra Club Maui and its members have enjoyed the recreational, aesthetic and educational resources of many East Maui streams for over 30 years. As a Sierra Club hike leader since 1995 I have walked the ditch trails and explored the streams that many on Maui never see. I have guided hundreds of Sierra Club participants safely through the watersheds of East Maui on these same trails.

86. During this nearly twenty years I have observed the stream and watershed resources of East Maui gradually diminish through dewatering, lack of management and neglect. Aggressive alien species have been accidently introduced and not controlled. The size and vitality of stream pools and waterfalls has shrunk. Fewer and fewer streams have native streamlife and insects visible, and more and more have given up their banks to tangles of alien weeds. Ditch systems and facilities are deteriorating, leaking, overgrown and allow water to be wasted on its fifty (50) mile journey to the HC&S sugar cane fields.

87. I truly believe that I and our Sierra Club members are being harmed by the current policies that allow an extreme and unsustainable amount of water to be removed from the twenty-seven (27) East Maui streams that are the subject of this contested case.

88. We have been harmed, in summary, because the activities we hope to enjoy when visiting HANEHOI, PUOLUA, WAIKAMOI, HONOMANU, EAST AND WEST WAILUAIKI, WAIOHUE AND MAKAPIPI STREAMS and their tributaries are

greatly limited due to the highly dewatered conditions of these streams. The IIFS levels proposed by the Commission in May of 2010 did not provide enough flow for these streams to ensure that the protected instream uses of these waterways could be enjoyed by Sierra Club Maui members, native stream life, local residents or the general public.

89. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water we demand is supplied to these streams for reasons including but not limited to the following: (1) Our uses of these public trust resources are a protected use under the State Water Code and can not simply be ignored in favor of offstream uses; (2) these within watershed needs for water have not been satisfied under the current IIFS set in May, 2010; (3) EMI can satisfy its irrigation needs through other sources of water nearer to their agricultural fields, without having to depend as much on natural stream water; (4) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the comparatively limited nature of NHLC and MT interim demands compared to the total diversions, they are reasonable and must be met; (5) any right to divert by EMI on many of these streams is already subject to downstream riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (6) other reasons to be demonstrated during the contested case or are true as a matter of law.

90. As an organization who seeks to regularly offer safe, recreational access and opportunities for nature study to these streams and watersheds, Sierra Club Maui is entitled to have public trust stream resources assets be available in a healthy state that provides for public trust uses protected under our State Water Code. This would include adequate water quality habitat for native stream species and the general public; adequate

water levels to maintain natural ecosystems and allow for nature study; adequate stream flows to allow aesthetic enjoyment of streams, waterfalls and pools; and adequate streamflows to allow the healthy enjoyment of recreational opportunities; all in accordance with the laws of the State of Hawaii.

91. The Lowrie ditch diversion works on Hanehoi, Huelo and Puolua streams and their tributaries and the New Haiku ditch diversion works on Hanehoi and Puolua streams; the Spreckels and Ko'olau ditch diversion works on Honomanu stream and its tributaries; the Koolau ditch diversion works on East and West Wailuaiki streams; and the Ko'olau ditch diversion works on East and West Waiohue Stream and Makapipi Sttream, must be modified to allow a more adequate flow of these streams to traverse mauka-makai and fully and adequately support the numerous public trust uses that Sierra Club Maui and the public are entitled to enjoy under Hawaii State laws.

I declare under penalty of law that the foregoing is true and correct.

Executed this 28 day of DECEMBER 2014

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF ERNEST SCHUPP

DECLARATION OF ERNEST SCHUPP

1. My name is Ernest Schupp. I am a resident of Huelo, Maui County in the State of Hawaii. I am a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I have leased, since September 4, 1998, a kuleana, Land Commission Award No. 3717-B, Apana 1, approximately 1.0 acres in size, designated as TMK No. (II) 2-9-08:14 ("the kuleana"). This kuleana is owned by George Keala and Mary Keala. This property also includes the right to use a poalima owned by the John P. Mattson Estate, Grant 1261, .15 acres in size, designated as TMK No. (II) 2-9-08:15. I have a lease with the owners of this kuleana that requires me to continue to develop its farming potential, among other matters. See Exhibit E-1.

4. The kuleana has kuleana water rights, pursuant to HRS § 7-1, riparian water rights and appurtenant water rights. The kuleana is not located in a water management area.

5. HRS § 7-1 provides that the owners of kuleanas are entitled to running water.

6. The kuleana abuts Puolua Stream and therefore possesses riparian water rights. See Exhibit E-2. The full flow of Puolua Stream must therefore pass by this kuleana.

7. Kalo has always been grown on this kuleana. Native testimony from the Mahele describes LCA 3717-B Apana 1 as growing Kalo. This testimony is has been translated by Kepa Maly of Kumu Pono Associates, in Wai O Ola-He Wahi Mo'olelo no Maui Hikina on p. 225. This translation is presented as Exhibit E-3 A along with EXhibit E-3 B, a copy of the Land Commission Award map and description for this kuleana in original Hawaiian: LCA 3717-B to Kanui dated June 15, 1852 found in the Mahele Award Book, Vol .3 p. 450.

8. Lehua Lapenia, a kama'aina resident of Huelo, grew kalo on this kuleana from the 1950's on. Her 1989 CWRM Declaration of Water Use of for TMK No. (II) 2-9-08:14 is presented as Exhibit E-4.

9. There is an auwai, in good condition, leading from Puolua Stream, to the taro lo'i. There are now four (4) taro lo'i in various stages of cultivation, due to lack of flows and predation by pigs. There are an additional ten (10) taro lo'i that are waiting to be placed into cultivation as soon as I am able to secure sufficient, cool water. I have fencing to install to protect the kalo from pigs, once there is sufficient stream flow to

replant more lo'i. There are a total of fourteen (14) kalo lo'i on one (1) acre of land. The kuleana therefore is entitled to kuleana, riparian and appurtenant water rights.

10. Puolua Stream is diverted at least two times by EMI diversion works upstream of my property. These two diversion works on Puolua Stream above my property must be mentioned here.

11. Puolua Stream is almost totally dewatered by the Lowrie Ditch diversion works. The full flow of the Puolua Stream flows from above the Lowrie Ditch downstream towards the Lowrie Ditch and is entirely intercepted by the ditch. There are two four inch (4") rusting metal pipes in the Lowrie Ditch diversion works which are thereafter joined to a short length of eight inch (8") PVC pipe to allow some water to flow downstream of the Lowrie Ditch. Department of Aquatic Resources ("DAR") staff photographed this arrangement during their 2008 field survey and used the pictures in pp. 42-43 of their "Report on Hanehoi Stream Maui, Hawai'i" from June 2008, prepared for CWRM/ DLNR. The DAR Report is presented as Exhibit E-5.

12. While the 8" pipe has a much greater capacity than the two 4" pipes (about 50% more), this greater capacity is useless because, based upon past flow measurements that have been made, and are known to EMI, the maximum amount of water that is possible to pass through the two 4" pipes in the the Lowrie Ditch diversion works is two-hundred and thirty-thousand gallons per day (230,00 gpd.)

13. The only flow of Puolua Stream below the Lowrie Ditch diversion works until the next diversion works is what passes through these two 4" pipes (which often become clogged and permit little or no water to pass through) and runoff from the land and roads, except during extreme storm events.

14. It has been suggested by community members like myself, that pipes, such as those found on Puolua Stream at Lowrie Ditch, should not be use for bypass of stream diversions since they deteriorate over time and lose capacity, and also prevent migration of native streamlife.

15. The 2008 DAR Hanehoi Stream Report,specifically pointed to this problem at the Puolua stream pipe at Lowrie ditch. On p. 42 of Exhibit E-5 the photo caption under a photo of the Puolua pipe stated that such pipe overpasses:

"make it difficult or impossible for upstream migration of native animals except at flood flows when the diversion is completely overtopped by the stream flow."

16. I and others in the Huelo community have asked that a "trough style" low flow bypass be installed at any diversion on Puolua stream, rather than pipes. Such a bypass was installed at the Haiku Ditch diversion on Honpou stream and is shown in the photos in Exhibit E-6 A and B.

17. The Commission should insist that this modification occurs, or more ideally, that the Lowrie and New Haiku Ditch diversion structures at Puolua stream be decommissioned and the Puoloa stream be allowed to flow naturally and support native stream life habitat, riparian rights and Hanehoi stream.

18. EMI staff, in 2008, did discuss with me plans to replace the two 4" pipes that cross Lowrie Ditch on Puolua Stream with one eight inch (8") pipe with a grate over it to allow walking over the pipe. Some materials for the proposed work were brought to the site, but not utilized.

19. Below the Lowrie Ditch diversion works on Puolua Stream are the New Haiku Ditch diversion works. These Ditch works are a few hundred feet upstream of my kuleana and kalo lo'i.

20. In September of 2008, the State Commission on Water Resource Management ("CWRM") adopted an Interim Instream Flow Standard (IIFS) for the Puolua Stream just below the New Haiku Ditch diversion works. This standard was set at .89 cfs or five-hundred and seventy thousand gallons of water a day (570,000 gpd.)

21. The IIFS for Puolua Stream is shown on a diagram of Hanehoi Unit IIFS from the September 2008 CWRM staff submittal on page 26 as "Site A," which is presented as Exhibit E-7. The same diagram estimates the "total Flow value" of Puolua stream to be around one (1) mgd.

22. No IIFS was set for Puolua Stream at the Lowrie Ditch Diversion. This has contributed to the lack of adequate flow available on Puolua Stream below the Haiku Ditch. This in turn affects Hanehoi Stream, since the flow of Puolua stream contributes water to downstream users of Hanehoi Stream. In Exhibit E-7, the CWRM 2008 Staff submittal, this relationship between Puolua and Hanehoi stream is discussed on p. 26 which states:

" The interim IFS for Huelo (Puolua) Stream is set at a higher flow to allow water to be available for the downstream surface water users, both in Huelo (Puolua) Stream and below its confluence with Hanehoi Stream."

While the Commission staff noted the importance of having greater flows from Puolua stream to Hanehoi stream, they did not take the most logical action, which was to require far less water to be diverted from Puolua Stream at the upper Lowrie Ditch.

23. Puolua Stream above the Hana Highway, has two branches. I have hiked along both the East and West branches of Puolua stream from Hana Highway mauka to nearly the one thousand (1000) ft elevation. I have seen evidence of extensive precontact kalo lo'i systems along both branches of Puolua stream, both mauka and makai of Hana Highway. I have mapped some of these kalo lo'i in just one small section of the stream just above Hana Highway, to illustrate the extent of the cultural sites found along Puolua Stream. This map, created in 2011, is presented as Exhibit E-8.

24. I have also consulted various state and county maps and added up the Land Commission Awards ("LCA") claims for kalo lo'i along Puolua Stream. Puoloa, which is a major tributary of Hanehoi Stream, had eleven (11) Mahele era land claims, totaling over nine (9) acres for kalo growing lands.

25. These were located directly on the stream, and it is likely that other grants and parcels also had appurtenant rights to use the stream waters. The LCA along Puolua stream also had (4) Poalima, or special lo'i areas whose production was dedicated to growing food for the local Konohiki or Ali'i chief. This is an impressive dedication of agricultural use for such a short stretch of stream.

26. The presence of Poalima among the lo'i indicates that the Ali'i and Konohiki of this region viewed this area as rich growing lands capable of producing extra kalo that could be used to pay "taxes" to the chiefs. According to W.D Alexander, who surveyed many lands during the Kingdom Days of Hawaii:

"The patches cultivated exclusively for the chief were called koele or hakuone. In more recent times they were styled Poalima (i.e. Fridays), from the fact that the tenants of the land were formerly obliged by law to labor for their chief on Fridays."

Alexander's writings on traditional Hawaiian land use are presented as Exhibit E-9 and are available online as noted.

27. This massive effort to build numerous kalo lo'i would not have been undertaken in pre-contact times if this stream did not have a robust and reliable source of water, prior to diversion. The remains of this local "food security" infrastructure along Puolua stream indicates that the stream had traditional flow levels that could support at least nine (9) acres of wetland kalo in cultivation and surrounding crops. In today's terms, stream flow levels would have needed to average around three million gallons per day (3 mgd) in Puolua stream to effectively water such a large area.

28. Today, we know very little about the base flow of Puolua stream, but we have ample evidence through archeological remains and Mahele era native testimony and land claims that Puolua was an area much valued and much used for kalo cultivation. As an experienced kalo farmer, I can inform the Commission that the 570,000 gpd IIFS set in September 2008 at one downstream location on Puolua stream is simply not enough flow to support this culturally significant stream and those who depend on it.

29. Although ongoing monitoring and "adaptive management" of Puolua Stream were required as part of the IIFS agreements, the only monitoring of the adequacy of flows on Puolua stream that happened, to my knowledge, was in the first year after the IIFS was set. I attended all the monitoring visits that came to my land.

30. In September 24, 2009 (one year after the IIFS was set for Hanehoi and Puolua streams) a report was made to CWRM by their staff. This report is presented as Exhibit E-10.

31. On p. 36 of that report the staff reported results of limited testing stream flow testing of Puolua at the release point above my kalo lo'i at New Haiku Ditch. Five measurements were done over three days in October 2008. One measurement in November 2008 and one in February 2009. This is the release site that was supposed to provide water for my kalo patches, but the testing showed not one day of flows had met the IIFS standard of .89 cfs or .57 mgd.

32. The slide on p. 46 of the same staff report (Exhibit E-10) summarized the findings: IIFS was not achieved at any of the 3 Hanehoi-Puolua sites. This was exactly what I and my neighbors had observed on our own. The water simply had not been returned.

33. In the figures reported for the release point nearest my kuleana which was labelled "Site A" on the Diagram, also known as Puolua stream at New Haiku ditch, the highest flow seen was only .38 cfs. This is less than half of the proposed IIFS of .89 cfs or .57 mgd. That flow level was only present one day of the seven tested. Most of the days tested, Puolua flow levels past the New Haiku Diversion were around 30,000 gallons per day. These types of flow levels cannot support more than a few small patches of kalo, and even that is risky. This piecemeal approach to stream restoration does not seem to be working on Puolua.

34. Due to the limited stream flows, I was eventually forced to dig up my kalo huli (starts) and move them to kalo growing areas on other's lands where water was available. That was better than seeing them succumb to rot.

35. I am also facing a seasonal invasion of wild pigs on my leased kuleana. I have had fencing donated to me to try to "pig-proof" the lo'i, and replant, but until the water situation is more stable, it does not make much sense to do so.

36. It does not appear from any reports I could find, that any further monitoring has occurred by CWRM or others on Puolua Stream, since early 2009. If such monitoring occurred, I was not notified.

37. It is not clear to kuleana users such as myself, if the Commission staff is committed to restoring a .89 cfs/ 570,000 gpd flow to the Puolua stream below EMI's New Haiku Ditch. It does not appear that the CWRM staff is taking specific steps to have more flow bypass the Lowrie ditch, and flow in the Puolua stream under Hana Highway, especially during drier "low flow" months. This action would increase the flows to my kalo lo'i and also to Hanehoi stream. Under current conditions, flows in Puolua Stream since the IIFS was set are still inadequate to allow me to provide all my kalo lo'i with a sufficient volume of cool stream water.

38. As a consequence of lack of further monitoring by CWRM, the Puolua Stream is still significantly dewatered by the New Haiku Ditch diversion works. Water is supposed to be returned to Puolua Stream to achieve the IIFS by way of an EMI sluice gate. The gate is opened a certain amount to allow the water impounded by the diversion to flow back into the stream. There are two very deteriorated four inch (4") pipes within the New Haiku Ditch diversion works that had allowed some water to flow in Puolua Stream after the New Haiku Ditch diversion works. These pipes now rarely function to bypass the New Haiku Ditch diversion works. See Exhibit E-5, p. 43 of the 2008 DAR stream report, which shows pictures of pipes and ditch gate.

39. There is not enough water available in Puolua Stream at the point of my auwai to divert into my auwai system to supply to my kalo lo'i to grow healthy kalo. The water which does enter my auwai is not all available to use to irrigate my kalo lo'i. As noted in Exhibit E-7 CWRM Staff Submittal, on p. 25, water released at haiku Ditch needs to be of sufficient volume to meet my needs and those of downstream users.

40. In order to do that, approximately half of the water released at the Haiku Ditch intake needs to pass through my auwai unused, clear of the soil that is found in the kalo ponds, and be returned to the Puolua stream to support stream ecology.

41. A portion of the water diverted from Puolua Stream into my auwai, which then passes through my kalo lo'i to irrigate the plants, is eventually returned back into Puolua Stream, after it passes through my taro lo'i, but the stream requires an additional volume of water each day to meet the needs of stream ecology and downstream users. This amount of water simply is not present under the existing IIFS implementation.

42. Shortly before the IIFS was set for Puolua stream, the water temperature in my lo'i was measured by EMI, in places, at 89 degrees, and at the furthest downstream lo'i, at 92 degrees. Healthy kalo will not grow unless there is enough water to move fast enough to supply cooler water that is no higher than 77 degrees. See the Direct Written Testimony of Paul Reppun and Teri Gomes that is hereby realleged and incorporated by reference. When the water is too warm in the lo'i cray fish appear and harm the kalo.

43. Current flow levels in Puolua stream, even after the 2008 IIFS decision, still do not provide a volume of water that is consistently cool enough to support healthy kalo. I therefore do not now have enough water available in Puolua Stream to grow healthy kalo on my kuleana.

44. I would estimate that if current releases at New Haiku Ditch and Puolua Stream could reach 570,000 gpd, I would need the amount to be significantly greater than that to have sufficient volume to irrigate all 14 kalo lo'i on my kuleana with cool water and provide adequate water on top of that to support stream life in Puoloa stream and the riparian needs of downstream users.

45. Downstream users such as Mr. Solomon Lee Jr. and Neola Caveny have lands on Hanehoi stream, just below (makai) of the junction of Puolua Stream and Hanehoi Stream, and, as such, Puolua stream is a major tributary of the flows available to them in Hanehoi Stream. This relationship can be seen on a map showing the location of their lands and the streams presented as Exhibit E-11. Water flows from Puolua stream, then passes through EMI land on TMK (II) 2-9-08:012, and joins Hanehoi stream. These flows can help satisfy their riparian rights.

46. My estimate of the continuous mauka-makai water flow needed in Puolua Stream, past New Haiku Ditch diversion, would be one-million gallons per day (1,000,000 gpd). This would be based on having 300,000 gpd for 1-acre of healthy kalo and another 700,000 gpd to restore stream flows and convey domestic water to downstream users. CWRM estimates in Exhibit E-7 staff submittal, p. 47 that the entire high flow of Puolua stream is around than 1 mgd, This is why I believe the entire Poulua stream should be bypassed by the EMI diversion system and allowed to keep its natural flows.

47. In conclusion, I have kalo land along Puolus Stream in Huelo that has been in kalo cultivation for many years and was claimed as kalo land during Kingdom days. I am harmed, by the current dewatered conditions of Puolua Stream due to the EMI

diversions at Lowrie Ditch and New Haiku Ditch on Puolua Stream, which take the majority of water in the stream.

48. I am harmed because EMI's Lowrie ditch, located considerably upstream of my kuleana, is constructed to divert the entirety of Puolua stream flow unless large storm surges carry stream waters over the top of the diversion. I am harmed because EMI only provides two small antiquated and inadequately sized pipes to let a small amount of water bypass the Lowrie diversion and travel downstream towards my kuleana and kalo lo'i. I am harmed because the small amount of water that does pass the Lowrie ditch in the pipe must make its way through a stream bed that is not regularly maintained by EMI and is overgrown with ginger and other water thirsty plants as well as debris that EMI workers dispose of in the Puolua stream bed.

49. This impacts the volume, temperature and quality of water that travels to my kuleana and kalo lo'i, a half-mile below Lowrie ditch.

50. I have taken photographs of these overgrown conditions in the Puolua stream bed on EMI land just below Lowrie ditch and the bypass pipe, as well as the regularly overgrown conditional of Puolua stream bed just mauka of my land on EMI land, and these are presented as Exhibit E-12 A through J.

51. I am harmed, in summary, because my lease with the owners of this kuleana requires me to maximize the farming potential of this kuleana. I cannot do this so long as there is not enough water in Puolua Stream. Also, I am harmed because I cannot put all of my kalo lo'i into production so long as such a significant amount of the natural flow of the water is being diverted from Puolua Stream and the water temperatures are too warm for healthy kalo. Finally, I am harmed because I am unable to grow healthy

kalo on the kuleana and this harms my economic interests. The kalo needs to be healthy to sell so that I can make a living. So long as the kalo is not healthy, there is less available to sell which harms my economic interests.

52. To grow healthy kalo on one acre of land, I must have 300,000 gallons per day of water available on a regular basis to be diverted into my auwai and into my taro lo'i, as well as at least an equivalent amount to return to the stream unused, through my auwai. The release of 570,000 gpd at the New Haiku Ditch, if indeed that has occurred, does not provide for that required volume of water to reach my kalo lo'i through my auwai and also maintain the Puolua stream.

53. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water I demand is supplied to me for reasons including but not limited to the following: (1) my water rights are superior to theirs and must be satisfied first; (2) these within watershed needs for water must be satisfied before out-of-watershed needs can be satisfied; (3) it would violate the public trust doctrine not to satisfy my water rights first; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

54. As the possessor of a parcel of land with riparian rights with the duty to maximize its farming potential, I am entitled to the full flow of Puolua Stream through my kuleana, according to the law in the State of Hawaii. The Lowrie Ditch diversion works and the New Haiku ditch diversion works on Puolua Stream must be modified to allow the full flow of Puolua Stream through my kuleana and to allow the amount of water to flow to my kuleana that is necessary to grow healthy taro on one acre of land and provide for the continuing health of Puolua Stream and the rights of downstream users.

I declare under penalty of law that the foregoing is true and correct.

Executed this 15 day of December 2014.

Ernest Schnupp

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim InStream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi Streams.	Case No. CCH-MA13-01 DECLARATION OF SOLOMON LEE, JR.

DECLARATION OF SOLOMON LEE, JR.

1. My name is Solomon Lee Jr. I am a resident of Pukalani , Maui County in the State of Hawaii. I am a supporter of Maui Tomorrow.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am the owner of family lands TMK No. (2) 2-9-008:034; TMK No. (2) 2-9-008:035 and TMK No. (2) 2-9-008:007 in Huelo. (collectively "kuleana lands"). A copy of the Maui County Parcel History for the three properties, showing myself as the owner of record, is presented as Exhibit E-26.

4. Hanehoi Stream flows through each of our three parcels. A Tax Map demonstrating this is presented as Exhibit E-27.

5. Two of the three family kuleana parcels were granted to our kupuna as Land Commission Awards during the Mahele. Parcel -035 (.31 ac) is LCA 5459-A:1 and parcel -007 (1.04 ac.) is LCA 5459-A:2. LCA 5459-A was awarded to Naaeae (AKA "Kaaeae") during the Mahele. Page 115 of the Indices showing this award is presented as Exhibit E -28. Both LCA were described as having kalo and kula lands in Mahele era native testimony. See p. 236 of Wai o ke Ola – He Wahi Mo'olelo no Maui Hikina, Kumu Pono Associates, 2001 presented as Exhibit E -3.

6. Parcel -034 (15.2 ac.) was awarded as Royal Patent Grant 1080 to John Puha in 1853. Puha and his wife transferred their interests in the fifteen acres to Samuel Kaiewe II in May of 1877. My grandmother, Kaili Kaea Lee was given parcel -034 when she was eight years old, in 1894, by Samuel Kaiewe II , who owned many acres in the Huelo area. A true and correct copy of the documents involved in this transfer of Royal Patent Grant 1080 from Puha to Kaiewe and Kaiewe to my grandmother Kaili Kaea provided by the Historical Records Branch of Hawaii State Department of Accounting and General Services is presented as Exhibit E-29. My family has resided in Huelo and farmed this land since the time of the Great Mahele.

7. Our kuleana lands have kuleana water rights, pursuant to HRS § 7-1, riparian water rights and appurtenant water rights. The kuleana lands are not located in a water management area.

8. HRS § 7-1 provides that the owners of kuleanas are entitled to running water.

9. My grandmother, Elizabeth Kaili Kaea Lee, (died 1955) lived on the largest parcel of our land TMK (2) 2-9-0008:034 (Grant 1080), which at that time also included land that is shown as Grant 1079 on modern tax maps. The Kaea family home was located on the

grant 1079 parcel. My grandmother was one of 15 Kaea children who grew up on this land. She cultivated wetland kalo on the lo'i on all three of these parcels, as did other family members.

10. All three of our family kuleana lands in Huelo have riparian rights because they incorporate Hanehoi Stream into their boundaries. All three of these family kuleana lands in Huelo have kuleana rights because my family are the descendants of native tenants who claimed the lands in the Mahele. All three of these family kuleana lands in Huelo have appurtenant rights because these water rights are connected with the land through Land Commission Awards and Royal Patents granted to our kupuna who claimed the lands in the Mahele.

11. Hanehoi Stream, which flows through my family's kuleana lands has several tributaries above and below the Hana Highway and all are diverted by various EMI Ditches. These are shown on Reg. Map 2745 from 1925. A portion of Reg. Map 2745 from 1925, showing the tributaries of Hanehoi Stream, is presented as Exhibit E-30.

12. These tributaries of Hanehoi Stream include the East and West Huelo Stream and the West Hanehoi Stream, all of which join Hanehoi Stream mauka of the New Haiku Ditch. Two of these tributary streams, as well as the main branch of Hanehoi ("East Hanehoi Stream") are individually diverted and dewatered by the EMI Lowrie Ditch Division, mauka of Hana Highway. The main branch of the Hanehoi Stream ("East Hanehoi") is also diverted two more times at higher elevations by EMI's New Hamakua and Wailoa Ditch DIversions. This leaves little if any natural flow to contribute to the main branch of Hanehoi Stream that passes through our family kuleana lands.

13. Puolua Stream is another tributary of Hanehoi Stream. Puolua Stream is also diverted by EMI's Lowrie Ditch Division above the Hana Highway. Puolua Stream and the Main (East) branch of Hanehoi Stream are also individually diverted by EMI diversion works at New

Haiku Ditch, below Hana Highway. Puolua Stream then joins Hanehoi Stream below (makai) of the New Haiku Ditch, near one of our kuleana lands.

14. Puolua Stream currently contributes a small amount of flow to the Hanehoi Stream near my property. Under natural, undiverted conditions Puolua Stream had a much greater flow and numerous large, stone walled kalo lo'i are found along Puolua Stream between Hana Highway and our family kuleana lands.

15. In all, Hanehoi Stream and its tributaries, according to Reg Map 2745, are diverted at least nine times before they reach our family's kuleana lands, leaving no water available for our family to exercise our traditional and customary rights to grow kalo or gather from the streams. The proposed IIFS measures, if indeed they were ever implemented, are not sufficient for our family to have access to enough water to grow kalo on the three acres of land our kupuna cultivated for years.

16. We wish to cultivate wetland kalo, fruit trees, vegetables, plants and livestock on each of our three kuleana parcels, with a total acreage for kalo approximating three acres. Healthy taro will not grow unless there is enough water to move fast enough to supply cooler water that is no higher than 77 degrees. See the Direct Written Testimony of Paul Reppun and Teri Gomes that is hereby realleged and incorporated by reference. To grow healthy taro on one acre of land, we must have 300,000 gallons per day of water available on a regular basis to be available for our kalo lo'i. The IIFS for Hanehoi Stream below the New Haiku Ditch would need to be set at .9 mgd to meet our needs alone, plus additional flows to sustain the stream itself, not .41 mgd as was determined in 2008.

17. My family has struggled to have the water we are legally entitled to under our kuleana, riparian and appurtenant rights for many years. In the Territorial days my grandmother,

Kaili Kaea Lee was very concerned about the lack of water in Hanehoi Stream and the effect it was having on her kalo patches along the stream. She wrote to the chair person of the Maui Board of Supervisors, Eddie Tam and asked for his help. We don't believe that Mr. Tam was able to intervene, and our grandmother was eventually obliged to leave the land and move to Pu'unene because she could not grow enough food on her family land and earn enough income from her kalo sales to make a living.

18. By the late 1950's our family was able to convince EMI that our water rights needed to be met in some way and we were able to construct an auwai (ditch) that started near where the East branch of the Hanehoi Stream meets EMI's New Haiku Ditch diversion. This auwai passed by our most mauka parcel, TMK (2) 2-9-0008:007 (LCA 5459-A:2):, which is very near the New Haiku Ditch and continued on all the way to our furthest makai parcel: TMK (2) 2-9-0008:034. A map showing this is presented as Exhibit E-31.

19. This auwai diversion is described as the "Pancho Intake" in the CWRM September 2008 Hanehoi Stream Instream Flow Standard Assessment Report ("IFSAR)") and is shown in Table 13-1, p. 86. Table 13-1 of the Hanehoi IFSAR is presented as Exhibit E -32. The auwai from that time crossed EMI lands as well as our own, and is now too overgrown on those EMI lands to carry any water effectively.

20. We do not have ready access to those EMI lands to clear out the auwai, even if there was sufficient water to fill it, and cannot readily access our own kuleana lands upstream, since EMI has not kept the stream beds open. In summary, for all practical purposes we cannot use our kuleana lands due to the lack of upkeep and clearing on EMI lands surrounding our lands and the lack of water from the EMI diversions.

21. This was different in the past. The Hanehoi IFSAR on p. 86 in Table 13-1 that EMI noted "an abandoned ditch above the diversion was once used to transport water to a down stream user (user known) for the cultivation of taro." See exhibit 32.

22. Our family lands were the "down stream users" referred to in the Hanehoi IFSAR. Pancho Narciso, who the "Pancho Intake" was named for, was a family friend who was the caretaker of our family land. Pancho lived in my grandmother's old house and grew kalo, antheriums and Easter lilies on the land during the 1940's, until he became too elderly in the 1990's.

23. Our land is good land. It has been in use for agricultural purposes for over 100 years. In the 1920's my family leased the 15 acre parcel (Grant 1080) for a 10 year period, to Haiku Fruit & Packing Company, Ltd. for pineapple planting. An abstract from First American Title Insurance showing that lease, as recorded in the Bureau of Conveyances in Book 839, page 231 is shown as exhibit E-33.

24. We have had cattle grazing the land from the 1940's until 2003, since there was not always enough regular water supply for crops, even with the "Pancho intake" auwai. My last attempt at larger scale agriculture, planting a grove of mountain apple trees in the last ten years, was not successful, as the young trees died during a period of limited rainfall.

25. On May 24, 1989 my late father, Rev. Solomon Lee Sr., filed State form 8810-2 to register my family's use of Hanehoi Stream waters for all three parcels with the State Commission on Water Resources Management (CWRM). These registration forms submitted in 1989 are presented as Exhibit E -34 A-C.

26. My father read an announcement in the paper that requested users of ground or stream waters across the state to send in the form. He noted on the form that the land had both

riparian and appurtenant rights, the stream water had been used for these parcels since the 1850's and that the main crop had been kalo.

27. His SUPPLEMENTAL DECLARATION attached to the form 8810-2 states:

"During the years 1928 to 1940 plus we used water for the taro patches. There was some problem with East Maui Irrigation Co. where my mother's water was not fully received...she claims she had 3" of water rights."

See Exhibit E -34 A-C. This refers to the lack of stream flow that we described above.

28. A few years later (1993) Tanaka Engineering sent a person to measure the stream flow in Hanehoi Stream. I met with the Tanaka staff person, Eric Yoshida, in November of 1993 and he took measurements of Hanehoi Stream from the bridge that crosses the stream near the Old Government Road.

29. Yoshida's measurements showed the stream was eight feet wide and one foot deep. Mr Yoshida did not measure the stream where it passed along our property. He did not measure the stream at any other time of the year, except November, when there had been recent rains. I was not given a copy of Mr. Yoshida's report to the Water Commission.

30. The portion of Hanehoi Stream that borders my family's three kuleana has been so dewatered by the diversions at EMI's New Haiku Ditch, Lowrie Ditch, New Hamakua Ditch and Wailoa Ditch that it rarely has flow unless there are large storm events. This was not reflected in the Tanaka Engineering measurements of Hanehoi Stream.

31. This lack of flow was not the case prior to the construction of the EMI ditch system. Our kupuna Naaeae (also spelled" Kaaeae", and later known as "Kaea") claimed these lands during the Great Mahele because they were already growing kalo there. My family's kuleana lands and those of other families all listed their LCA/ kuleana parcels as having kalo growing. The translated testimonies for my kuleana lands mention the lands being used for kalo.

These appear in Foreign Testimonies, Book 8 p. 104 and are summarized in Wai o Ola by Kumu Pono Associates, 2001 p.236 (Note: there is a typo in this table that lists the LCA as 5459 "H" instead of "A", and there is no LCA 5459 H in any records). The Kumu Pono report is presented as Exhibit E -3.

32. There are extensive stone walled kalo lo'i built all along Hanehoi Stream and auwai systems to serve them. All the other former kalo growing lands between Hana Highway and our kuleana lands are now owned by EMI. The 30 acres of land on both sides of Hanehoi Stream between Hana Highway and our land are also claimed by EMI. These sections of the stream are never cleaned or maintained and they are choked with alien weeds and trees. EMI has an obligation to care for the stream beds, but does not do so. This makes it impossible for my family's kuleana lands to receive the stream flows to which they are legally entitled. A map showing our lands along Hanehoi Stream in relationship to EMI's lands is presented as Exhibit E-31.

33. In 2008 the State Water Commission determined that 1.79 mgd of water should be returned to Hanehoi AND Puolua Streams at certain locations. According to the CWRM staff recommendation of September 24, 2008, which was adopted by the Commission, an Interim Instream Flow Standard (IIFS) was set for .41 mgd for Hanehoi Stream below Haiku Ditch. Page 26 of this Report is presented as Exhibit E -7.

34. This stream flow should have served to provide water for our kuleana lands: TMK (2) 2-9-0008:007 (1.04 ac. of kalo lo'i) and (2) 2-9-0008:035 (.31 ac. of kalo lo'i) both of which are a short distance downstream (makai) of the New Haiku Ditch where the flow was supposed to be restored. Our family saw no real return of water to the stream after this decision was made. We were not contacted to participate in any review of the monitoring of stream conditions that

was promised and required by the September 2008 CWRM IIFS decision, even though we had registered our uses with the Commission in 1989 and were the nearest kuleana parcels to the proposed IIFS release.

35. In 2009 I took a picture of the overgrown conditions of Hanehoi Stream and sent it with a letter to the Maui County Tax collection office. I asked the tax assessors to come to see the dry stream for themselves so they would understand why our family was unable to utilize the three parcels for active agriculture. A copy of my letter is presented as Exhibit E-35. This was one year after the stream restoration was announced. In spite of our kuleana water rights, there was no water for our land in the stream.

36. In 2011 I participated in a community watershed planning group convened in Huelo and invited the group to access Hanehoi Stream along my family's kuleana land. The community members all saw first hand that the section of Hanehoi Stream bordering our kuleana lands was completely dry, even though an IIFS had been set in 2008. Community members also observed that sections of the stream bed owned by EMI were overgrown and blocked by hau bush and invasive weeds and trees, and had not been maintained in any way to let the water flow through.

37. In 2011, family members expressed an interest in reopening the kalo lo'i on our kuleana lands. I tried to find out what happened to the information from our registration with the state and get a copy of the 1993 Tanaka Engineering report. I called Tanaka Engineering in late 2011 and they referred me to the Water Commission. I wrote to the Water Commission in January of 2012 to ask for a copy of this report and they provided me with a copy of the report. My letter to the CWRM is presented as Exhibit E -36.

38. In recent years our tax assessments on these three family kuleana parcels have been raised from a few hundred dollars a year to over a thousand dollars a year. This assessment is presented as Exhibit E-26.

39. This is because we do not have enough water to qualify for dedicated agricultural use tax rates for kalo growing and other crops. Our family would like avoid the hardship of paying this higher rate of taxation and return our lands to general agricultural use, growing kalo, and bringing livestock back on the land, but without sufficient waters from Hanehoi Stream this is impossible.

40. In summary, I have been communicating with the State Water Commission for a number of years regarding lack of stream flow for my kuleana lands. My family registered traditional use of the stream water with the Commission in 1987 and a desire to have water to use again for kalo. I have three parcels that either border Hanehoi Stream or have the stream running through them, all with traditional use for kalo growing and other crops. The State and Territory leases public lands mauka of my land to EMI to harvest stream and spring water subject to the needs of kuleana land owners downstream being undisturbed. I ask that the Commission restore the waters to Hanehoi and Puolua Streams that are due to kuleana, riparian and appurtenant users under HRS § 7-1. I also request to be contacted as part of any of the proposed ongoing monitoring of stream conditions in Hanehoi Stream.

41. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water I demand is supplied to me for reasons including but not limited to the following: (1) my water rights are superior to theirs and must be satisfied first; (2) these within watershed needs for water must be satisfied before out-of-watershed needs can be satisfied and they have not been satisfied under the current IIFS set in September 2008; (3) it would violate

the public trust doctrine not to satisfy my water rights first; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

42. Our family is the possessor of three parcels of kuleana land which we desire to use for traditional kalo cultivation and other agricultural crops. Since our kuleana lands have kuleana, riparian and appurtenant rights, we are entitled to the full flow of Hanehoi Stream through our kuleana, according to the law in the State of Hawaii. The Lowrie Ditch diversion works and the New Haiku ditch diversion works on Hanehoi Stream must be modified to allow the full flow of Hanehoi Stream through our kuleana and to allow the amount of water to flow to our kuleana lands that is necessary to grow healthy taro on three acres of land.

I declare under penalty of law that the foregoing is true and correct.

Executed this 30th day of Dec, 2014.

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF ERNEST SCHUPP ON BEHALF OF TARO

DIRECT WRITTEN TESTIMONY OF ERNEST SCHUPP ON BEHALF OF TARO

1. My name is Ernest Schupp. I am a resident of the County of Maui and the State of Hawaii.

2. I am competent to testify about the matters herein, unless otherwise stated.

3. I am a founding member and acting president of Teaching and Restoring Opportunity ("TARO") Hawaii. TARO is a Hawaii non-profit organization founded in February of 2005, whose mission is to reestablish the knowledge of the history, culture and importance of Taro ("kalo") to the Hawaiian culture and way of life. Proof of our incorporation as a federally recognized 501 (c) 3 organization and an attachment to our IRS 1023 form, explaining our mission and activities is presented as Exhibit E-13.

4. This goal will be accomplished through creating one or more taro growing areas in East Maui and offering educational activities to students and providing education and information to community volunteers and visitors.

5. Between 2009 and 2011 TARO volunteers partnered with Maui Tomorrow Foundation ("Maui Tomorrow") on the "Malama Hamakua Action Project" which sponsored a variety of activities and efforts to better understand and manage the watershed areas surrounding Hanehoi, Huelo and Puolua Streams, in Huelo. This project, which was supported by grants from several local foundations, convened scores of community members for educational watershed planning meetings; collection of oral histories; reconnaissance field visits with botanists, stream biologists and cultural practitioners; and mapping of biological and cultural resources.

6. In April 2011 Maui Tomorrow requested and was granted a Right of Entry by the State Land Agent for Maui County for land belonging to the State of Hawaii, TMK No. (II) 2-9-06:08, ("the state parcel"). This Right of Entry is presented as Exhibit E - 14.

7. Under that Right of Entry Maui Tomorrow partnered with TARO to reopen the access road on the state parcel and remove the extremely invasive African tulip trees that were just beginning to colonize the area. The Right of Entry was extended for several months which allowed Maui Tomorrow and TARO representatives to remove alien plants and map numerous pre-contact kalo lo'i along Puolua stream just mauka of Hana Highway. These extensive lo'i systems are located on land belonging to the State of Hawaii, TMK No. (II) 2-9-06:08, 5.79 acres and the Ernstberg family, TMK No. (II) 2-9-06:09, 5.81 acres (being LCA 5459-Y, LCA 5392-B:1 and Grant 2630 in Puolua). A map showing these properties on TMK No. (II) 2-9-06 is presented as Exhibit E -15. The Ernstberg family heirs also gave verbal permission for TARO and Maui Tomorrow volunteers and contractors to access and care for their lands along Puolua stream.

8. As a TARO board member, I helped plan and guide the educational activities for the Malama Hamakua Action watershed project and worked as part of a team to clear and map the kalo lo'i and other cultural resources along the Puolua Stream on land belonging to the State of Hawaii, TMK No. (II) 2-9-06:08 and the Ernstberg family, TMK No. (II) 2-9-06:09.

9. In March of 2011, TARO submitted an Application and Qualification Questionnaire to the Maui State land agent proposing to lease the state land along the east and west banks of Puolua stream, TMK No. (II) 2-9-06:08 and 07 for an educational kalo growing and native plant restoration project This application is presented as Exhibit E - 16 . This state land, lying between Hana Highway and the EMI Lowrie Diversion ditch, had been leased for cattle grazing for many years, but the leases had expired.

10. The Ernstberg family members also indicated to me that they were willing to work with TARO towards restoration of family kalo lands along Puolua stream they had only heard about in stories from their grandparents. The Ernstberg lands, TMK No. (II) 2-9-06:09 are comprised of LCA 5459-Y (Keahi), LCA 5392-B:1 (Kawahine) and Grant 2630 (Keahi) in Puolua. According to Native testimony in the Mahele Award Book, all these kuleana parcels were used for wetland and dryland kalo and, likely, other traditional crops. They lie along Puolua stream between the two state parcels The stream and the lo'i walls occur on both the state parcels and the Ernstberg land.

11. During the Mahele, LCA 5459-Y was described by witness Kailiwale: "I have seen his parcel of land at Puulahakole, in the Ahupuaa of Puolua. It is a kalo and kula land, gotten from Kaiewe in 1844... The boundary on the Wailuku side is the Kahawai of Puolua." Witness Kolea described LCA 5392-B:1: " Parcel 1, kalo land at Kaiwa;There is a Poalima in Parcel 1.." Grant 2630 was

described as "2 lo'i" in the Book of Royal Patents and there was a reference to the traditional fibre plant, olana, being grown on LCA 5459-Y. These Native Testimonies are translated in Wai O Ola-He Wahi Mo'olelo no Maui Hikina by Kumu Pono Associates, 2001, and are found on pp. 123, 201, 206, 207 and 329 of Exhibit E-3.

12. The TARO Lease Application proposed to repair the fences around the two state parcels to exclude cattle and pigs, remove alien species, restore native species, such as olana, and re-open and re-plant kalo in the wetland kalo lo'i that lined the stream. A budget of anticipated costs for these activities was submitted along with the Application and Qualification Questionnaire to the State and is shown in Exhibit E-16.

13. TARO has not moved forward to finalize the lease request with the state, because there is not sufficient water in the Puolua stream to support this educational project that would improve the watershed lands. The educational project and lease request is still pending and could be activated, if water is available.

14. The maps of cultural features along Puoloa stream made by myself after the Malama Hamakua Action project participants had cleared away overgrowth, showed around half of the lo'i kalo features and associated auwai along this five-acre section of the Puolua stream between Hana Highway and the EMI Lowrie ditch diversion works. These maps are presented as Exhibit E -8.

15. The clearing work also discovered several well built poalima lo'i (taro lo'i used to grow crops for the exclusive use of the Konokiki or Ali'i.) These poalima were also indicated in Mahele records for the LCA where it was located, as presented in Exhibit E-3, p. 207

16. Along the stream banks TARO volunteers found evidence of habitation areas on state parcels TMK No. (II) 2-9-06:08 such as a hala tree grove and remains of a

traditional house site, and on TMK No. (II) 2-9-06:07, a grove of ulu trees and an unrecorded well-built stone enclosure that local kupuna told TARO volunteers was a heiau, located in a grove of guava trees. In June of 2011, I created a preliminary map of this site. This preliminary map is presented as Exhibit E -17.

17. TARO, through Maui Tomorrow, contacted a local archaeologist with UHMC, who visited the sites with me and concurred that they were more than likely of the protohistoric period (A.D. 1650-1775); with some lo'i dating earlier to the Expansion Period (AD 1100-1650.)

18. The evidence of extensive lo'i in this area of Puolua stream, including a potential ceremonial site, a poalima, and Mahele era claims for kalo cultivation indicate that Puolua stream had robust flows before it was dewatered by EMI diversions.

19. A few of these sites along or near Puolua stream are presented in the photographs of Exhibit E-18 A-G.

20. Large well-built lo'is also line the Puolua and Hanehoi Stream beds makai of Hana Highway as well as mauka of the Lowrie ditch diversion. This area is a good fit for an educational restoration project to promote understanding of traditional kalo cultivation and its connection to Hawaiian culture, in keeping with the mission of TARO.

21. The Ernstberg ohana, descendants of the original Mahele claimant Keahi, would like to grow kalo and olana again on their kuleana land as part of the overall TARO project. The historical record shows both crops having been grown here in the past. The TARO organization is willing to work with this local family to plant and grow kalo in the kuleana lo'i, olana along the stream banks, and improve the overall watershed

area on both the state land and Ernstberg family lands along Puolua Stream with native plantings appropriate to the area.

22. This educational project area is located a short walk from Hana Hwy and could be accessible for participation to the residents of the Huelo area as well as visiting groups of students and cultural practitioners. The TARO educational and restoration would only be possible if the Commission would follow the law and return adequate waters to Puolua Stream. Sufficient flow is needed to provide for the re-establishment phase of native plantings on the stream banks and to irrigate at least 3 acres of wetland kalo and adjacent olana.

23. Without restoration of adequate flows from the Lowrie Diversion works, Puolua stream will remain overgrown with alien weeds. This condition will impede stream flows to kalo lo'i below that are legally required to adequate stream waters to maintain the proper temperature for kalo growing. Without adequate flows of Puolua stream below Lowrie Ditch the Ernstberg 'ohana will be prevented from exercising their legal right to use their kuleana lands for traditional and customary cultural purposes, such as cultivation of kalo and olona.

24. All the kuleana parcels described above, have kuleana water rights, pursuant to HRS § 7-1, and the state parcels have riparian water rights and appurtenant water rights. The kuleana are not located in a water management area.

25. HRS § 7-1 provides that the owners of kuleanas are entitled to running water.

26. The kuleanas and state lands all abut Puolua Stream and therefore possess riparian water rights. See documentation for the foregoing presented as Exhibit E-14. The

full flow of Puolua Stream must therefore pass by these kuleanas and state lands to allow TARO to complete its lease with the state for native plant restoration and TARO volunteers and the Ernstberg family to cultivate kalo and other traditional crops on these lands .

27. Kalo has been grown on these kuleanas in the 20th century as well as in the 19th century according to local kupuna who participated in the Malalama Hamakua Watershed Project.

28. Puolua Stream is diverted at least two times by EMI diversion works, once upstream of the proposed TARO Educational Project area and once below. Puolua Stream is almost totally dewatered by the Lowrie Ditch diversion works above the proposed TARO project. The full flow of the Puolua Stream flows from above the Lowrie Ditch downstream towards the Lowrie Ditch. There are two four inch (4") pipes in the Lowrie Ditch diversion works which are thereafter joined to a short length of eight inch (8") pipe to allow some water to flow downstream of the Lowrie Ditch. While the 8" pipe has a much greater capacity than the two 4" pipes (about 50% more), this greater capacity is useless because the amount of water that is allowed to pass through the Lowrie Ditch diversion works is limited by the capacity of the two 4" pipes. The only streamflow below the Lowrie Ditch diversion works until the next diversion works is what passes through these two 4' pipes and runoff from the land and roads, except during extreme storm events.

29. TARO volunteers during their work removing alien African Tulip trees in 2011 also found that Puolua stream immediately below the Lowrie Diversion works had been choked with debris of tree logs and branches. These appeared to have been cut with

saws, perhaps as part of the maintenance of the EMI ditch road along the Lowrie ditch. The cleared debris was disposed of by being allowed to drop off the steep edge of the EMI road and into the Puolua stream bed on lands belonging to EMI and also lands belonging to the Ernstberg family. This debris also impeded any flows the 8" pipe was able to deliver from the upper to lower portion of the stream. The extent of this debris blockage is presented in Exhibit E-12 photographs A-E.

30. Below the Lowrie Ditch diversion works on Puolua Stream are the New Haiku Ditch diversion works. The Puolua Stream is almost totally dewatered by the New Haiku Ditch diversion works, impacting my kalo loi on the land I lease below the diversion.

31. In September 2008 the State Water Commission set an instream flow standard of .57 mgd to be available below the New Haiku Ditch Diversion on Puolua stream to serve the needs of the approximately 1 acre of kalo lo'i on TMK No. (II) 2-9-08:14. This is kuleana land that I personally lease.

32. There has not been regular monitoring of the Puolua stream flow under various conditions by the Commission staff since 2009, and the monitoring that has been done showed that the .57 mgd flow was not achieved, as is shown in Exhibit E-10 pp. 36 and 46.

33. There is not regularly enough water in Puolua Stream at the point of my auwai available to divert into my auwai system to supply to my taro lo'i to grow healthy taro and return needed water to Puolua stream. Restoration of sufficient water from the Lowrie Diversion works for the proposed TARO educational project above the Hana Hwy and New Haiku Ditch would improve flows available to meet the Commission's .57

mgd flow required to be present for my kalo loi immediately below the Haiku ditch. This is the way the natural stream system operated in traditional times. This would permit adequate flows to grow healthy taro on my leased kuleana along Puolua Stream and these lo'i could be incorporated into the TARO education project.

34. The organization TARO is being harmed by the present stream diversions, in summary, because restricted flows in Puolua Stream above Hana Highway do not allow owners of kuleana lands along the stream, who wish to partner with TARO to restore kalo cultivation and provide educational opportunities to promote traditional Hawaiian cultural knowledge, to move forward with a state lease and begin the project.

35. The project will not be possible so long as there is not enough water in Puolua Stream. Also, the lack of adequate continuous flows in Puolua stream affect downstream kuleana lands, such as the ones I personally lease on TMK No. (II) 2-9-08:14, that could also be a part of the TARO educational project.

36. To grow healthy taro on one acre of land, requires 300,000 gallons per day of water available on a regular basis to be diverted from the stream, into an auwai and into the kalo lo'i in order to have water temperature cool enough for healthy kalo.

37. A portion of water diverted from Puolua Stream after it passes through the kalo lo'i, would then be returned back into Puolua Stream, enhancing the overall stream ecology. However, sufficient water from Lowrie ditch diversion needs to be released to support both the kalo lo'i and other protected instream uses such as traditional gathering, recreation and domestic users downstream on Puolua and Hanehoi stream.

38. Neither EMI nor those entities or persons who rely upon EMI for water will be harmed if the water TARO would require for the proposed Puolua Educational

Project is supplied for reasons including but not limited to the following: (1) the kuleana water rights of the proposed project area are superior to theirs and must be satisfied first; (2) these within watershed needs for water must be satisfied before out-of-watershed needs can be satisfied; (3) it would violate the public trust doctrine not to satisfy the water rights of the Ernstberg family, partners in the proposed TARO project first; (4) EMI can satisfy its irrigation needs from alternative water sources nearer to their agricultural fields, without having to depend as much on natural stream water; (5) EMI diverts, according to its own reports, on average, 160 mgd from East Maui Streams to satisfy out-of-watershed desires; given the limited nature of NHLC and MT interim demands, compared to the total diversions, they are reasonable and must be met; (6) any right to divert by EMI is already subject to downstream riparian and appurtenant water rights of others, so that no harm needs to be demonstrated; and (7) other reasons to be demonstrated during the contested case or are true as a matter of law.

39. As a non-profit educational organization whose mission is to restore kalo lo'i and offer hands-on opportunities for the public to learn about traditional Hawaiian kalo growing TARO seeks to partner with the state and the Ernstberg family to utilize, for educational purposes, lands that possess kuleana. riparian and appurtenant rights. TARO is entitled to the full flow of Puolua Stream through the state and kuleana lands named above, according to the law in the State of Hawaii. The Lowrie Ditch diversion works on Puolua Stream must be modified to allow the full flow of Puolua Stream through these public and kuleana lands and to allow the amount of water to flow to the kuleana lands that is necessary to grow healthy taro on three acres of land.

I declare under penalty of law that the foregoing is true and correct.

Executed this 15 day of December 2014.

Emmit Schnapp

Name

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

In re Petitions to Amend Interim Instream Flow Standards for Honopou, Huelo (Puolua), Hanehoi, Waikamoi, Alo, Wahinepe'e, Puohokamoa, Haipua'ena, Punalau/Kōlea, Honomanu, Nu'ailua, Pi`ina`au, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani, Wailuanui, West Wailuaiki, East Wailuaiki, Kopili'ula, Puaka`a, Waiohue, Pa`akea, Waiaka`a, Kapa`ula, Hanawī and Makapipi streams.	Case No. CCH-MA13-01 DECLARATION OF IRENE BOWIE

DECLARATION OF IRENE BOWIE

1. My name is Irene Bowie; I am a resident of the County of Maui, State of Hawaii.

2. This Declaration is based upon my personal knowledge, except where otherwise stated.

3. I am the executive director of Maui Tomorrow Foundation.

4. Maui Tomorrow and its supporters are parties to this case.

5. Maui Tomorrow's mission is the preservation of natural and cultural resources.

Topic: Alternatives to Reduce Stream Diversions in East Maui

A. Alternative 1. Water Re-use

6. Maui Tomorrow has long advocated for increased recycled water use from Maui County's three wastewater treatment plants and is a member of the DIRE (Don't Inject, Redirect) Coalition, a diverse group of citizens and organizations concerned about the County of Maui's water management policies.

7. DIRE specifically advocates for the phasing out of county injection wells as a way to improve the health of our nearshore waters.

8. I also served, in my capacity as executive director of Maui Tomorrow, on the 2010 Wastewater Community Working Group put together by the Tavares administration to find solutions and alternatives to continued and growing use of county injection wells.

9. Both the Lahaina and Kihei wastewater treatment plants currently have R-1 lines and users for recycled water but the Kahului plant does not. Central Maui currently injects 4 million gallons a day (mgd) of treated wastewater via injection wells into Kahului Bay, contributing to algae blooms and the degradation of our near shore waters. There are also health concerns regarding an increase in staph and MRSA infections in ocean recreation users at Kahului Bay.

10. The County of Maui's December 2010 Central Maui Recycled Water Verification Study prepared by the County's Department of Environmental Management and Department of Water Supply for the Maui County Council was created to consider how Maui County could move towards increased use of recycled water. A portion of the 2010 Central Maui Recycled Water Verification Study, pp. 2, 6 is presented as Exhibit E-88. The study states that wastewater flows to the Kahului Wastewater Reclamation Facility will increase over time as more development takes place in Central Maui. Maui Tomorrow understands that funds in the County budget have been set aside for an R-1 upgrade and transmission lines at the Kahului plant. What remains to be decided is where these lines would be placed.

11. I am including below some pertinent verbatim quotations from the 2010 Central Maui Recycled Water Verification Study:

Chapter 1-Introduction: p. 2

> *Provided, that prior to expending funds the Department of Environmental Management shall work with the Department of Water Supply and private entities on a new verification study that provides the Council with future alternatives for the transmission and optimization of R-1 recycled water from the Kahului Wastewater Reclamation Facility (WWRF) in order to provide a source of irrigation water for existing and planned future projects, and to provide alternatives to the use of injection wells.*

It further states, in Chapter 1, Background, on p. 2 that:

> *the Hawaii Department of Health has approved the use of R-2 water for sugar cane irrigation but* ***HC&S has indicated their preference for R-1 water due to its user flexibility and concerns about workers coming in direct contact with the recycled water.***

Chapter 2 – Kahului WWRF R-1 Water Upgrade on p. 6:

> *While an R-1 upgrade would not be required if the recycled water was distributed to HC&S for irrigation of sugar cane or other crops, it would still be desirable since it would significantly increase the reliability of recycled water service as well as provide HC&S with more flexibility when utilizing the recycled water. With R-`1 water, no buffer zones would be required and workers would be more at ease when coming in direct contact with this highly treated recycled water. In addition, HC&S has stated that the most desirable location to use the recycled water would be in the vicinity of Maui Lani towards Maalaea where seed cane is cultivated. The recycled water distribution system could be designed and constructed so that it provides R-1 water to commercial properties for landscape irrigation and then provides whatever excess R-1 water is left over to HC&S where it could be used for seed cane irrigation.*

12. **In 2012, the Commission on Water Resource Management prepared a** "2013 Update of the Hawaii Water Reuse Survey and Report." Portions of this Report, pp. vii, 3-40, 4-5, 5-9 are presented as Exhibit E-89. This Report, prepared for DLNR/CWRM, is an update from a 2004 report and finds that the volume of recycled water used in Hawaii has not increased in the 10 years since the original study even though beneficial uses, in particular for agricultural irrigation, are very clear. It describes how and where R-1 lines could be put in place at the Central Maui treatment plant but finds that the County of Maui has been slow in moving forward on this due to available and affordable brackish ground water and stream water.

13. I am including below some pertinent verbatim quotations from the above-referenced 2013 Update of the Hawaii Water Reuse Survey and Report.

Executive Summary, on p. vii:

There are numerous benefits associated with water reuse including preservation of water supplies and the reduction of wastewater effluent disposal practices that may be detrimental to the environment. Despite these benefits, ***the annual volume of recycled water beneficially reused in Hawaii has not substantially increased since 2004****, When the original Water Reuse Survey and Report was developed.*

Agricultural irrigation with recycled water is ongoing but limited; however, this application has great potential for expansion, since large volumes of water are needed to irrigate crops. In order to boost Hawaii's self-sufficiency by locally growing more produce, the State legislature has committed funding for U.S. Dept. of Agriculture projects.

3.3.1.3 Water Reuse in Central Maui, on pp. 3-40

Kanaha Cultural Park previously utilized R-2 recycled water from the County's Wailuku-Kahului WWRF to help establish native plants and coconut trees; however, R-2 water use was discontinued in 2008 after it was discovered that the drip irrigation lines were being vandalized. A consultant for the County is currently preparing a feasibility study that will examine future water reuse opportunities in central Maui.

4.1.1.3 Potential Central Maui System Expansion, on pp. 4-5

Up to this point, the **MWWRD** (County of Maui, Wastewater Reclamation Division) ***has not developed a recycled water distribution system in central Maui mainly because of available and affordable brackish groundwater and stream water****. MWWRD is now planning for an R-1 and distribution system upgrade. The project will be designed in 2016 and constructed in 2018. Funding approval of these capital improvement projects must be obtained from the County administration and County Council.*

5.1.1.3 Agriculture, on pp. 5-9

There is great potential for the use of recycled water at agricultural projects throughout Hawaii, as large volumes of water are necessary for irrigating crops. ***Should the agriculture industry accept the use of R-1 water as a viable and safe irrigation source, demand could easily outpace supply****.*

14. MTF supports the CWRM decision making in the East Maui contested case to include practical strategies such as replacement of up to 3

mgd of East Maui stream water by available R-1 water from Kahului WWRF. Option 2 of the Central Maui Recycled Water Verification Study proposes a distribution system from the Kahului WWRF to Kanaha Beach Park and Kahului Airport that could be extended to HC&S fields north of the airport. Funding could come jointly from Hawaii Department of Transportation, Airports Division, HC&S and others.

15. This option should be considered in conjunction with the Verification Study's Option 3A: Develop a Dedicated Distribution System to HC&S. This option would need only enough R-1 pipe line along Kaahumanu Avenue to reach existing ML&P pipe lines. R-1 water would be pumped from the Kahului WWRF directly to the HC&S reservoir and once the reservoir was full, the pumps would shut down. Recycled water from this line could be used to irrigate seed cane in HC&S fields near Maui Lani.

16. Developing these recycled water use options would help to serve HC&S's agricultural irrigation needs while requiring less water to be taken from Maui's streams. It would also prevent the current 4 million gallons per day (mgd) of treated wastewater from entering Kahului Bay and with after the upgrade the plant's capacity would increase to 6 mgd. The addition of a third ultra violet channel could increase the R-1 capacity to 7.9 mgd. Maui County wastewater will increase as the island's population grows. We can turn this into a resource for agricultural irrigation rather than "wasted" water which causes harm to our marine environment. Maui County needs to direct recycled water resources where they can serve multiple purposes, rather than "waste" valuable water that negatively impacts our marine environment.

17. Plants, wildlife, and fish depend on sufficient water flows to their habitats to live and reproduce. The lack of adequate flow in Maui's streams, as a result of diversions for agricultural purposes, has caused deterioration of Maui's stream and aquifer water quality and ecosystem health. Recycled R-1 water can supplement agricultural demands by providing a reliable source of irrigation water that is less dependent on seasonal weather

variations than stream water. Over time, investment in R-1 water delivery systems could allow considerable amounts of stream water to remain in our watersheds, supporting increased stream flows and vital ecosystem functions like aquifer recharge.

18. Further, at the May 25, 2010 meeting of CWRM, Chair Thielen and Water Director Eng discussed recycling Central Maui's wastewater as an alternative to the amount of stream flow diverted by HC&S for irrigation. These comments are found in the May 25, 2010 CWRM Meeting Minutes, pp. 38-39 that are presented as Exhibit E-60.

Paragraph 2, p. 38 - Chair Thielen:

> *There was some testimony about injection wells and instead using reclaimed water for agricultural purposes. Since Maui DWS gets a percentage out of the EMI ditch system, would the County be interested in working with HC&S on coordinating some alternative water being used for irrigation in exchange for increase in the percentage of stream water that goes to the County vs. for irrigation purposes in the fields? Are these things something the County would be interested in pursuing and if so, how can the Commission assist that with some guidance.*

Paragraph 3, p. 38:

> *Director Eng said that they would like to partner with anyone they possibly can who can help develop alternative services.*

Paragraph 4, p. 38:

> *Director Eng commented on reclaimed water opportunities, stating that the County has no wastewater treatment facilities in Upcountry since most people are on cesspools and septic tanks so they don't have that reclaimed water opportunity. Chair Thielen state that since Maui DWS takes a percentage of the water from the EMI system, they could increase that percentage taken from the EMI system by working HC&S to provide alternative irrigation in central Maui. Director Eng agreed.*

Paragraph 2, p.39:

> *Mayor Tavares states that not too long ago the County empowered a task force to look at uses for the reclaimed from the three wastewater treatment plants on Maui and that committee is meeting together and there's been a lot of focus on the injection wells since millions are spent to treat the water,*

21. In the County's 1990 Water Use and Development Plan (WUDP) A&B Inc described a total acreage of 35,800 in cultivation, with a water need of approximately 130 billion gallons a year (approximately 356.2 mgd.) These irrigation needs were met "55% by surface water and 45% by ground water." The 1990 WUDP, p.R-2 is presented as a Exhibit E-83.

22. This balance of ground water use to supplement stream water in drier times appears to have shifted in 2002. (See the Third Amendment to MOU 1996 that is presented as Exhibit E-110). The December 2009 Assessments note that: "From 2002 to 2004, HC&S received 71 percent of its surface water supply from EMI, while the remaining 29 percent was supplemental ground water." (See the Waikamoi December 2009 Assessment, pp.133-34, which is presented as Exhibit E-48).

23. HC&S has put a further burden on the public trust water resources of East Maui streams by their decison to increase their profits by selling more electrictrity to MECO, insted of using it to pump their agricultural wells as had been the more prudent practice. Since the East Maui Irrigation (EMI) system was designed to take full advantage of the gravity flow of water from higher to lower elevations and the overall cost of delivering the stream water has been artificially cheap ($.0026/ 1,000 gallons) this has become the preferred method of irrigation, without consideration of the overall impacts to public trust resources.

24. This increase, from 55% to 71%, was cited by HC&S employees as the cause of temporary layoffs due to lack of water for crop operations in a December 2008 newspaper article. The head of the Maui Division of the ILWU Local 142 spokesman, Willie Kennison, noted that HC&S was not properly pumping their wells (which once provided 45% of their irrigation water) to relieve the irrigation water deficit brought on by drought, and thereby failed to avoid employee layoffs. "Instead of utilizing their pumps to properly irrigate their fields, they are selling too much electricity to Maui Electric." A true copy of this article is attached hereto. See the December 13, 2008 Star Bulletin newspaper article that is presented as Exhibit E-111.

25. All this may now be changing due to the State of Hawaii approving power sales contracts with third parties that use a fixed price, rather than an avoided cost formula. Such a change could adversely affect power revenue for the company. Alexander & Baldwin's (A&B) 2013 Annual Report states that the power sales contract could be replaced or renegotiated to less favorable terms and says that A&B may consider decreasing or eliminating power sales on Maui in the future and instead use the power for field irrigation. See a true copy of pertinent portions of Alexander & Baldwin's 2013 Annual Report, p. 29 that is presented as Exhibit E-112).

26. I recently attended meetings held by Maui Electric Company (MECO) to discuss their Power Supply Improvement Plan prepared for submittal to the Public Utilities Commission. Graphs in the power-point presentation of the plan show the power supply contract with HC&S ending in 2018. If this is so, certainly more ground water pumping is warranted and would provide additional waters for irrigation and relieve growing pressures on the severely dewatered East Maui streams that are the subject of this contested case. A true copy of pertinent portions of the Maui Electric

Company's External Stakeholders Meeting PSIP 070214, p.12 is presented as Exhibit E-90).

C. Alternative 3. Green Harvesting and Trash Blanketing of HC&S Fields

27. In 2013 Maui Tomorrow reached out to Canegrowers, the association which represents 80% of Queensland, Australia's sugar cane growers, to learn about their move to more sustainable farming practices. The Australian sugar industry is one of the world's most efficient and innovative producers and exporters of sugar according to a large-scale audit published in June, 2013. Queensland's cane growers advocate an active, forward-looking policy on the environment that does not reduce productivity of efficiency.

28. One of the biggest cultural changes in cane growing in Australia has been the replacement of pre-harvest burning by the adoption of green cane harvesting and trash blanketing. The volume of cane harvested green has increased by over 200% in the past 10 years. Trash blanketing is the spreading of leaves and other plant residue in a thick layer of mulch over the ground. Because trash blankets help prevent evaporation of water from the soil surface and allow better water infiltration, the practice reduces irrigation requirements and produces higher cane yields in drier areas.

29. HC&S currently green harvests between 4 to 6% of their fields; they have publicly stated they could increase that amount to possibly 20%. Maui Tomorrow advocates for that increase, especially near residential areas such as Paia and North Kihei. Green harvesting would not only improve field irrigation efficiencies and lower overall water demand, but would lead to better air quality from less field burning and a decrease in fugitive dust due to increased soil moisture from trash blanketing. See a true copy of pertinent portions of Canegrowers Best Practices, http://www.canegrowers.com.au/page/Industry_Centre/advocacy/environment-reports/ :Exhibit E-91).

Summary

Maui Tomorrow believes that utilization of R-1 recycled water, greater ground water pumping, and increased green harvesting and trash blanketing of HC&S fields should be part of an overall strategy to practice 21 century sustainable farming on Maui. These best management practices would greatly reduce the amount of diversion of public trust stream resources needed to irrigate HC&S fields while improving the company's productivity, efficiency and sustainability. We feel that embracing these methods could allow HC&S to continue obtaining high crop yields while setting a goal of using at least 20 mgd less than is currently used from East Maui stream water. This shift would allow hundreds of East Maui residents with Constitutionally protected rights to healthy, flowing, ecologically intact streams in their communities, a chance to have their rights upheld under our laws.

We hold the same position for East Maui's streams as we held in the Na Wai Eha hearings: that Maui's streams should have connectivity and flow mauka to makai. Maui Tomorrow asks that the Q90 formula of 64% of base streamflow be used, at a minimum, as the basis to restore annual flows, to as many East Maui streams as possible. On top of that, we ask that the appurtenant, riparian, and domestic uses be considered and added to the amount returned to the 27 named streams in East Maui.

In addition, certain stream systems, which serve our rural communities, such as Honopou-Huelo, Ke'anae-Wailua-nui and Nahiku, should be fully and completely restored to pre-diversion mauka-makai flows. We estimate that this type of restoration could provide, on average, an additional eighteen to twenty million gallons a day being returned to up to eighteen East Maui streams. This amount is very similar to the stream volumes recently determined for the Na Wai Eha contested case settlement.

We also ask the Commission to consider that HC&S may be overstating its ongoing water use needs. For example, in the 2008 IIFS hearings, Maui Land and Pine put forth water needs of 4.5 mgd, and represented these as being supplied through the EMI system. Maui Land and Pine is not currently engaged in agricultural activities and their successor, Hailiimaile Pineapple Co., is farming a much reduced area. This should result in reduced water demands from East Maui streams by several millions of gallons. The Commission now has an opportunity to get the most current information and determine the best balance, giving those with kuleana, appurtenant, riparian, and domestic uses the streamflow that has been denied to them for over a hundred years.

I declare under penalty of law that the foregoing is true and correct.

Executed this 29th day of December, 2014.

Irene Bowie

Irene Bowie
Executive Director of Maui Tomorrow
Foundation, Inc.