TO. JOHN SABAS

Director of Council Services
Ken Fukuoka

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.co.maui.hi.us/council/

December 7, 2006

Mr. Thomas Whitten
PBR Hawaii
ASB Tower, Suite 650
Honolulu, HI 96813-3484

Dear Mr. Whitten:

SUBJECT: DRAFT EIS COMMENT PERIOD

My office has received numerous inquiries regarding the impending draft environmental impact statement for La'au Point, Molokai. It is my understanding that this draft statement will be completed and submitted by December 23, 2006 with a 45-day comment period to follow. I am requesting that the submittal of the draft EIS be delayed until the beginning of 2007.

My justification for this request is due to the holiday season all interested parties may have holiday plans and may not be able to review the EIS and comment on it in the time period allowed. I feel postponing the matter a couple of weeks or increasing the comment period by two weeks would allow maximum input by the community who has a vested interest.

In the interest of the welfare of our community and it's future I urge your full consideration. I thank you in advance for your attention to this matter. If you have any questions you can contact me at (808) 270-7678.

Respectfully,

DANNY A. MATEO
Council Member –Molokai District

DAM:aas
cc: Molokai Council Office
Peter Nicholas – Molokai Properties Limited
Stacy Crivello – Molokai Enterprise Community
Walter Ritte

MPL Molokai Properties Limited

January 19, 2007

Councilmember Danny Mateo
County of Maui Council
200 S High Street
Wailuku, Hawaii 96793

Aloha Councilman Mateo:

Subject: Lā'au Point Draft Environmental Impact Statement (DEIS) Public Comment Period

Thank you for your letter dated December 7, 2006, addressed to Thomas Witten of PBR Hawaii regarding the Lā'au Point Draft Environmental Impact Statement (DEIS). As the project applicant, we are responding to your letter.

The DEIS was submitted to the Office of Environmental Quality Control on December 13, 2006, and the public comment period for the DEIS started on December 23, 2006. By state law (Chapter 343, Hawaii Revised Statues) a 45-day public comment period is required. Following this requirement, the end of the public comment period would have been February 6, 2007.

However, in response to your concerns and the concerns of others, Molokai Properties Limited voluntarily extended the public comment period by over two weeks to end on February 23, 2007. The extension to February 23, 2007 provides for a public comment period of 63 days, 17 more days than what is required by law.

We appreciate your interest in the project and I look forward to working with you.

Sincerely,

John R. Sabas
General Manager of Community Affairs
Molokai Properties Limited

cc: Anthony Ching, State Land Use Commission
Genevieve Salmonson, Office of Environmental Quality Control

Molokai Properties Limited dba Molokai Ranch • 745 Fort Street Mall • Suite 600 • Honolulu, Hawaii 96813 •
Telephone 808.531.0158 • Facsimile 808.521.2279

COUNTY COUNCIL
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February 23, 2007

Peter Nicholas/Harold Edwards
Molokai Properties Limited
745 Fort Street Mall, Ste. 600
Honolulu, HI 96813

RE: COMMENTS & QUESTIONS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR LĀ`AU POINT (MOLOKA'I)

Dear Mr. Nicholas & Mr. Edwards:

After reviewing the voluminous Draft EIS, relevant laws of the State of Hawaii and County of Maui, pertinent USGS reports and the minutes of various community meetings on Moloka'i, I believe the Draft EIS fails to meet the legal standards required of a Draft EIS.

Specifically, the following comments and questions will focus on: (1) Lack of disclosure of potential environmental impacts of the proposed action; (2) Lack of full disclosure of all relevant and feasible consequences of the action; and, (3) Failure to provide the relevant data, necessary studies, and other information necessary "in order that the public can be fully informed and the agency can make a sound decision based upon the full range of responsible opinion on environmental effects." (*See*, HAR, Title 11, Chapter 200, § 11-200-16)

I. COMMENTS & QUESTIONS

USGS, in cooperation with the County of Maui Department of Water Supply, recently prepared a study entitled "Numerical Simulation of the Hydrologic Effects of Redistributed and Additional Ground-Water Withdrawal, Island of Molokai, Hawaii." (Report No. 2006-5177, by Delwyn Oki of USGS).

According to this study,

> "Because of increased demand for water associated with a growing population, projected increases in demand over the next few decades, and rising salinity of the water pumped from some existing wells, the County of Maui Department of Water Supply (DWS) is currently (2006) considering drilling additional wells to replace or supplement existing wells on the Island of Molokai, Hawaii. Redistributed and additional ground-water withdrawals will affect ground-water levels, discharge of

> ground water to the nearshore environment, and, possibly, salinity of the water pumped from existing wells." (Oki, pg. 1)

The Draft EIS fails to address a majority of the concerns raised by USGS and the County of Maui. Specifically, the following issues are inadequately addressed, or not addressed at all:

A. Lack of Pertinent Information to Address Island-wide Water Impacts

The Draft EIS fails to provide sufficient information to access the impacts of the proposed water withdrawal on water levels, water quality, coastal discharge, and surface water-ground water interactions in other aquifer systems.

1. Withdrawals from one aquifer system can impact other aquifer systems.

In a previous report prepared by the USGS ("Geohydrology and Numerical Simulation of the Ground-Water Flow System of Molokai, Hawaii," (Report No. 97-4176, by Delwyn S. Oki) it was stated that:

> "Given that withdrawals from one aquifer system can affect water levels, water quality, coastal discharge, and surface water-ground water interactions in other aquifer systems, a better understanding of the ground-water flow system of Molokai is needed for water-resource management purposes."

If, according to Oki, the Island of Moloka'i is a "one aquifer system" (or, essentially a "sole-source aquifer") where withdrawals from one system will affect water levels, water quality, coastal-discharge, salinity, etc. in other areas, then the Draft EIS is significantly lacking the information it needs to meet the legal standards that an EIS must contain to be accepted.

For instance, the Draft EIS, at page 80, refers to "an analysis of the Water Plan" prepared by Morihara Lau & Fong LLP that is provided as Appendix P of this EIS. This analysis (Appendix P, "Analysis of the Water Plan for the Community-Based Enterprise Community/Moloka`i Ranch Master Land Use Plan,") in relevant part, states:

> "A water use permit would be required before the Kakalahale Well can be put into production. While the current available yield of the Kamiloloa Aquifer can accommodate a withdrawal of 1 mgd from this well, the Water Commission will have to analyze whether pumpage of this amount at this location will adversely impact other existing wells, and whether it would jeopardize DHHL's ability in the future to access its reservation of 2.905 mgd from the Kualapu'u Aquifer." (*See*, Draft EIS, Appendix P, at 22-23) (emphasis added).

This Analysis of the Water Plan for Moloka'i Ranch further states, in relevant part:

> "4. Consistency with Rights of DHHL As discussed above, implementation of the Water Plan will require a finding by the Water Commission that the withdrawal of 1 mgd from the Kakalahale Well will not impact DHHL's existing wells in Kualapu'u, nor jeopardize DHHL's ability to access it's reservation in the Kualapu'u Aquifer." (Appendix P, at 23) (emphasis added).

Based on the reports prepared by Delwyn Oki of USGS and specific acknowledgements of unknown impacts contained in the Draft EIS, it would be irresponsible to accept an EIS without knowing (1) whether the proposed withdrawal of 1 mgd from the Kakalahale Well will not impact DHHL's existing wells in Kualapu'u and, (2) whether it will jeopardize DHHL's ability in the future to access its reservation of 2.905 mgd from the Kualapu'u Aquifer.

Such key findings should have been made and taken into account in the Draft EIS.

Please provide in detail all proposed alternatives and/or mitigation measures the applicant will take should the Water Commission find that the withdrawal of 1 mgd from the Kakalahale Well will impact DHHL's existing wells in Kualapu'u.

Please provide in detail all proposed alternatives and/or mitigation measures the applicant will take should the Water Commission find that the withdrawal of 1 mgd from the Kakalahale Well will jeopardize DHHL's ability in the future to access its reservation of 2.905 mgd from the Kualapu'u Aquifer.

As USGS has determined that withdrawals from one aquifer system can affect other aquifer systems on Moloka'i, please provide all relevant data, studies, and other information showing that applicant's proposed potable and non-potable use plans will not negatively impact water levels, water quality – including salinity levels, coastal discharge, and surface water-ground water interactions in other areas on Moloka'i.

2. The Comprehensive Modeling Analysis should be Completed Prior to Acceptance.

The applicant (MPL) has acknowledged that they are actively working with the DHHL, USGS, and the Department of Water Supply (DWS), on a comprehensive evaluation of Moloka'i's cumulative water demands and resources through a comprehensive modeling analysis. Specifically, the Draft EIS states that,

> "MPL is currently working with the DHHL, the County of Maui DWS, and the USGS to comprehensively evaluate Moloka'i's long-term water demands and resources. It is expected that many of Moloka'i's water issues will be addressed by a comprehensive modeling analysis." (Draft EIS, at pg. 127)

It has already been determined that an EIS cannot be accepted if it fails to take into account water issues under the premise that water issues "will be addressed by a comprehensive

modeling analysis" at some time in the future. As was determined by the Hawai'i Supreme Court in the Waiola case, an EIS cannot be accepted until after the USGS completes the comprehensive modeling analysis. The Draft EIS should take these findings into account.

Please provide a detailed explanation the "comprehensive modeling analysis" being referred to, including:

(a) The name of all participants and parties "currently working" on the "comprehensive modeling analysis".

(b) A time-line from start to projected completion date of the "comprehensive modeling analysis".

(c) Citation of all law, rules, regulations or other authority relied upon authorizing the use and reliance of the "comprehensive modeling analysis" to address Moloka'i's water issues instead of Maui County's Updated Water Use and Development Plan.

3. Whether sufficient water is available for DHHL and residents served by DWS.

The applicant asserts that they have publicly acknowledged that their water use would yield to DHHL's priority rights to water. Delwyn Oki, a US Geological Survey water expert, declared at a meeting in Kaunakakai in August 2006 that he doesn't believe Hawaiian Homes will be able to withdraw their reservation of 2.905 million gallons per day from Kualapu`u because he doesn't think that much water exists there.

Please address and provide all relevant data, studies, and other information showing that applicant's proposed potable and non-potable use plans will not negatively impact water prioritized for DHHL.

Please affirm or negate the accuracy of Delwyn Oki's statement that there may not be enough water for DHHL at the present time.

While stating that they would yield to DHHL's water needs first, the applicant has not acknowledged that the DWS's water system serves a significant portion of Moloka'i's residents and that it would yield to the department's water use demands.

Please affirm or deny that the applicant will yield to the water needs of Moloka'i's residents currently being served, and projected to be served, by DWS.

4. **Whether amounts of potable and non-potable water put forward by the applicant are accurate and will actually meet the needs of the proposed project.**

The Draft EIS fails to provide information to substantiate that the water-use as projected by the applicant will satisfy the actual potable and non-potable water demands of the development. The Draft EIS, at page 80 – 81, provides:

> **Safe Drinking (Potable) Water** – MPL plans to retain its current 1,500,000 gpd of safe drinking water: 1,018,000 gpd from Well 17 and 500,000 gpd from the Molokai Ranch Mountain System. Under the Water Plan, approximately 600,000 gpd of safe drinking water from Well 17 will be freed up from existing irrigation uses, leaving that amount available for safe drinking water needs associated with MPL's future developments of Lā'au Point and Kaluako'i. For Lā'au Point, safe drinking water demand is projected at 96,000 gpd at full build-out based on 600 gpd for 200 lots at 80 percent occupancy. An additional demand of 1,000 gpd of safe drinking is projected for the two parks within the project area.
> The existing distribution infrastructure at Kaluako'i will be extended to service Lā'au Point. When customer demand in Kaluako'i warrants, a looped connection from Maunaloa to Lā'au Point is proposed to be added which will then supply Lā'au Point and augment deliveries to Kaluako'i whose original infrastructure was undersized to support full build-out of the area. MPL has also offered to make the excess safe drinking water capacity available from Well 17 for the use of communities outside its property.
>
> **Non-Drinking (Non-potable) Water** – Initially, water for irrigation and fire protection will be provided from surplus mountain system water. In the long-term, MPL's water plan calls for drawing 1,000,000 gpd of brackish water from the Kākalahale Well for future non-drinking water needs. Of that amount, 340,000 gpd is for the proposed Lā'au development, 200,000 gpd is proposed for future expansion of Maunaloa and Kualapu'u, and the balance is needed to address (page 81) future demands from existing developed lots, the renovation of the Kaluako'i Hotel, and existing Ranch uses. The Kākalahale Well sits at elevation 980 feet, and was drilled in 1969 to provide drinking water to Kaluako'i. However, due to the brackish water quality, the well was never use as a production well.
>
> A storage tank or reservoir will be constructed above the project site to provide adequate pressure and to meet the storage requirements for fire protection. All lots will be metered. Fire flows are proposed to be provided from the non-drinking water system due the larger pipe and reservoir sizes that will be associated with this system. Fire hydrants will be installed along the road spaced at intervals between 450 to 500 feet. At full build-out, some 20 years hence, non-drinking (non-potable) water use is projected to be 300,000 gpd for the 200 Lā'au Point rural residential lots and associated common areas, plus 40,000 gpd for the two parks within the project area. Various alignments are under consideration with respect to bringing non-drinking (non-potable) water to the project site. A water use permit would be required before the Kākalahale Well can be put into production.
> When Kākalahale Well use is permitted, MPL will not transmit brackish water from the well to the West End by the MIS system. Instead, MPL has indicated that it will seek to use existing pipeline easements across DHHL's Ho'olehua lands for the transmission of Kākalahale water.

The Draft EIS fails to state where and how it came up with the amounts of potable and non-potable water necessary for the project. Two hundred high-end, luxury homes are proposed to be developed on the west end of Moloka'i, which is generally hot and dry year around. Luxury second homes in the Waialea area on Maui, similar in climate and topography to the La'au Point area, use between 1,500 and 2,000 gpd.

Please provide all relevant data, studies, and other information showing where and how applicant came up with the amounts of potable and non-potable water necessary for the project. Please provide figures based on full occupancy of total build-out, not no an assumption of 80% occupancy of lots.

What is "surplus mountain system water?" Please quantify how much surplus water will be utilized and for how long? How will this affect recharge of underlying aquifer?

Please provide all relevant data, studies, and other relevant information that substantiates whether the applicant's projected water-use demand is accurate and will satisfy the actual potable and non-potable water demands for the development. Such information should include, but not be limited to, actual potable and non-potable use in comparable developments in Maui County.

B. **Lack of Information Regarding Water Reporting Compliance**

The Hawaii State Water Code requires any person making a use of water in any area of the State shall file a declaration of the person's use with the commission. (*See*, HRS §174C-26). The declarations are required to include the quantity of water used, the purpose or manner of the use, the time of taking the water, and the point of withdrawal or diversion of the water.

> Each declaration is also required to contain a statement, signed and sworn to by the person required to file the declaration, or by some other person duly authorized in the person's behalf, to the effect that the contents thereof are true to the best of the person's knowledge and belief. HRS §174C-26 (c)

Similarly, the Maui County Code, § 2.90A.050 requires private water users to report their use of water to the director of the Department of Water Supply. Specifically, this section provides:

> A. Whenever a report of water use in the County of Maui is required to be submitted to the commission pursuant to section 13-168-7, Hawaii Administrative Rules, the same

report shall be simultaneously submitted to the department. The director shall transmit received reports on a monthly basis to the council and the mayor.

B. Where a well or stream diversion works is part of a battery of interconnected water sources or distribution system (such as part of a ditch system), each report of water use shall list the following for each period of record:

1. Total and average inflow to the system in million gallons per day;
2. Total and average metered usage for the system (including kuleana uses) in million gallons per day;
3. Total and average amounts delivered to each kuleana user, if any;
4. A description of each individual site and user (including kuleana uses) serviced by the system, including all crop types;
5. Acres in actual cultivation by each individual user at each individual site (including kuleana uses);
6. Total and average metered usage for each individual user and site (including kuleana uses) in million gallons per day;
7. Total and average system loss by type of loss (such as evaporation, leakage, seepage, and ditch overflows) in million gallons per day;
8. The capacity and levels of each storage facility (such as a tank or reservoir) at the beginning and end of the period of record in million gallons per day;
9. The location and status (active, inactive, or abandoned) of any and all gauges; and
10. The location and status (active, inactive, or abandoned) of any and all ground and surface water intakes.

At a January 24, 2007, Molokai Planning Commission meeting, a Moloka'i resident – Glenn Teves – testified that:

> "Their present water application before the Water Commission since 2001 is false because they're showing a large part of the water being used for the hotel, and the hotel was closed all this time. Their water application needs to reflect existing use, so they're in violation of their water application with the state."

Please provide detailed information showing that applicant is in full compliance and not in violation of the State Water Code and Maui County's water reporting laws, including, but not limited to any and all reports submitted to the State Water Commission as required by HRS §174C and the DWS as required by Maui County Code, § 2.90A.050.

C. Failure to Take into Account that the Moloka'i Water Use and Development Plan Needs to be Updated

The laws of the State of Hawaii and the County of Maui are clear regarding the adoption and updates to the Water Use and Development Plan (WUDP).

The Hawaii State Water Code requires each county to adopt a WUDP, and then update and modify its plan "as necessary to maintain consistency with its zoning and land use policies." (Hawaii Revised Statutes, § 174C-31(q)). Further, in revising each county's WUDP, it states: "each county and the commission shall incorporate the current and foreseeable development and use needs of the department of Hawaiian home lands for water as provided in section 221 of the Hawaiian Homes Commission Act." (HRS, § 174C-31(q)).

The Charter of the County of Maui mandates that the department of water supply shall prepare and annually update the county WUDP. Chapter 11 of the Charter provides, in relevant part:

> Section 8-11.2 (3) The department of water supply shall implement the county's general plan and community plans in the administration of its affairs. The department of water supply shall prepare and annually update a long-range capital improvement plan and an updated water use and development plan, which shall be subject to the approval of the council, as provided by law. (Amended 2002) (emphasis added)

The Charter also mandates that the "up-to-date" WUDP be reviewed by the board of water supply and enacted by the council by ordinance. It provides, in relevant part:

> Section 8-11.6 (2)(3) The director of the department of water supply shall:
>
> 2. Prepare long-range capital improvement plans and up-to-date water use and development plans for review by the board of water supply and enactment by the council by ordinance.
> 3. Implement enacted long-range capital improvement plans and water use and development plans. (emphasis added)

The Maui County Code, § 2.88A.040, provides:

> The plan shall serve as a guideline to the council, the board and all other agencies or departments of the County (a) in approving or recommending to other agencies the use or commitment of the water resources in the county and (b) in using public funds to develop water resources to meet existing or projected future demands on the public water system as set forth in the plan. (Ord. 1948 § 2, 1990)

Based on the pertinent provisions of the State Water Code, the County of Maui Charter, the Maui County Code, and the current stress on the water system due to increasing salinity the Draft EIS should not be accepted until the 1990 Maui County (Molokai) WUDP has been updated. It would be irresponsible to commit public water resources to a project of this size (200 multi-million dollar homes on at least two-acres each) before the Moloka'i WUDP can be updated and adopted by Council ordinance.

Please provide citation of all law, rules, regulations or other authority relied upon that would allow the acceptance of the Draft EIS without taking into account an Updated County of Maui Water Use and Development Plan (Moloka'i) that would provide a comprehensive analysis of all current and future water needs for Moloka'i.

Please provide citation of all law, rules, regulations or other authority relied upon or authorizing the use and reliance of the "comprehensive modeling analysis" to address Moloka'i's water issues instead of Maui County's Updated Water Use and Development Plan.

D. Failure to Address and Account for the Cumulative Impacts of the Proposed Project on the Moloka'i Community, Environment, and Resources

1. Cumulative Impacts

It is well-established that an EIS should address, and the LUC should consider, the potential cumulative impacts of a proposal prior to agency approval. A "cumulative impact" has been defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (*See*, HAR §11-200-2). Moreover, HAR 11-200-17 requires that an EIS discuss "significant beneficial and adverse impacts (including cumulative impacts and secondary impacts)."

2. Increased Build-out

The resident population of the Island of Molokai, Hawaii, has grown by more than 20 percent from 1980 (population 6,049) to 2000 (population 7,404) (Hawaii Department of Business, Economic Development & Tourism, 2006).

The existing lots at Kaluakoi can now be subdivided with two houses per lot. According to testimony submitted, there is the potential for up to 784 lots with two structures on each lot (1,568 homes total) in the Kaluakoi area that will require a water source. At full occupancy, total water needed for these subdivided lots would be 2.4 mgd (3,000 gallons per household). (Source: Molokai Ranch LUC application Draft EIS, page 150)

How are the water needs for the homes in this area substantially different from the homes proposed at La'au Point, whose water use is projected to be 600 gpd?

The Draft EIS fails to paint a complete and thorough picture of what the applicant's past, present, and future development plans are. Instead, the Draft EIS appears to be parceling out the La'au Point project from the applicant's other past and

future projects in order to minimize the significant impacts to the community, environment, and infrastructure of Moloka'i, and could be considered segmentation. The growing demand for water is in direct correlation with the growing population, projected increases in demand over the next few decades, and rising salinity of the water pumped from some existing wells.

Therefore, please provide a detailed plan of what Moloka`i Properties Limited's plans are for the other lands it owns on Moloka`i', as well as any future additional water obligations for Kaluakoi Resort, including lots yet undeveloped.

E. Failure to Address and Account for the Increased Salinity of Existing Wells

According to 2006 USGS Report (Oki), redistributed and additional ground-water withdrawals will affect ground-water levels and may cause the salinity of water pumped from existing wells to increase. (2006 USGS Report, pg. 47). It is also settled that the County of Maui, DWS, is preparing data and planning to begin development of new wells on Moloka'i due to concerns of rising chloride levels. Possible new well sites that have been presented to the public for consideration include: Manawainui, Kawela I, Kamiloloa, Kawela II and Ualapue.

Molokai Ranch is applying for one million gallons per day of brackish water from the Kakalahale Well, which is located in the vicinity of the county's proposed Manawainui Well. Although the DWS has stated publicly that the affect of pumping one million gallons per day of brackish water from Molokai Ranch's Kakalahale Well is unknown, DWS Planning Program Manager Ellen Kraftsow has also stated that one of the reasons for adding the Manawainui Well and reducing the dependency on Kualapu'u is because of the perceived effect the heavy pumping on Kualapu'u was having on the current DHHL well, which is located relatively close by.

The Department of Hawaiian Homelands (DHHL) has announced its intentions to develop new residences on Moloka'i and begin using some of its reserved 2.905 million gallons per day.

At a public meeting on Moloka'i, (Aug. 9, 2006) a concerned resident asked: "How much time do we have before we're in a difficult situation?" Delwyn Oki, a hydrologist with the United States Geologic Survey (USGS) answered: "It appears, with Kawela, you're already there."

As Hawaiian Homes have priority use status, please provide a detailed analysis addressing the serious concerns of how the proposed additional pumping from the Kakalahale Well might impact the salinity levels of other wells (including water used by DHHL) on the island.

Please provide a detailed plan of alternatives, and proposed measures to be taken to avoid, minimize, rectify, or reduce adverse impacts relating to rising salinity levels, pursuant to HAR §11-200-14.

F. **Failure to Address and Account for the Impacts to the Nearshore Environment, including Fishponds**

The information provided in the Draft EIS fails to adequately substantiate that the pumping of water from the proposed well will not affect 'practicing traditional and customary native Hawaiian rights'. It is well-established that a substantial population of native Hawaiians on Moloka`i practice subsistence living by fishing, diving, hunting, and gathering land and marine flora and fauna as a sustainable food source for their families. Aside from the nutritional and affordable benefits, subsistence living is essential to maintaining native Hawaiians' religious and spiritual relationship to the land and nearshore environment.

The Draft EIS fails to adequately assess and analyze the potential adverse impacts to Native Hawaiian subsistence living.

The Draft EIS, while recognizing the Hawaiian Homes priority to water, fails to show that the proposed additional pumping of water will not impact DHHL wells.

According to the 2006 USGS Report (Oki), redistributed and additional ground-water withdrawals will affect discharge of fresh and brackish water to the nearshore environment.

Oki reminds us that,

> "Along the south coast, Native Hawaiians built dozens of fishponds in shallow coastal waters by constructing rock-wall enclosures extending from the shoreline. References to fishpond construction on Molokai date back to the 16th century, and the most recently constructed fishpond on the island was built about 1829 (Farber, 1997). Members of the community on Molokai have identified 31 fishponds that they would like to restore and maintain in a traditional manner for subsistence and small-business ventures (Farber, 1997)."

The 2006 USGS study states that, "discharge of fresh or brackish ground water to these fishponds may be a factor controlling productivity by providing nutrients for algae on which the fish feed (Farber, 1997)." It also states that, "additional ground-water withdrawal may affect fishpond productivity."

The Draft EIS fails to sufficiently address the serious concerns of how the proposed additional pumping from the Kakalahale Well might impact the fishponds that members of the Moloka'i community hope to restore and maintain in a traditional manner for subsistence and economic benefit.

HAR, Title 11, Chapter 200, § 11-200-17(g), provides, in relevant part:

> "The draft EIS shall include a description of the environmental setting, including a description of the environment in the vicinity of the action, as it exists before commencement of the action, from both a local and regional perspective. Special emphasis shall be placed on environmental resources that are rare or unique to the region and the project site (including natural or human-made resources of historic, archaeological, or aesthetic significance); specific reference to related projects, public and private, existent or planned in the region shall also be included for purposes of examining the possible overall cumulative impacts of such actions." (emphasis added)

Please affirm or deny the accuracy of the statement in the 2006 USGS Report (Oki) that: "redistributed and additional ground-water withdrawals will affect discharge of fresh and brackish water to the nearshore environment."

If denying the statement referred to immediately above, please provide a detailed explanation with all relevant data, studies, and other information that the applicant has relied upon for making this assertion.

Please affirm or deny the accuracy of the statement in the 2006 USGS Report (Oki) that the: (1) "Discharge of fresh or brackish ground water to these fishponds may be a factor controlling productivity by providing nutrients for algae on which the fish feed (Farber, 1997);" and, (2) "Additional ground-water withdrawal may affect fishpond productivity."

If denying the statement referred to immediately above, please provide a detailed explanation with all relevant data, studies, and other information that the applicant has relied upon for making this assertion.

Please provide all relevant data, studies, and other information that the applicant relied upon to address and account for the impacts that proposed water use (potable and non-potable) will have on the "practicing traditional and customary native Hawaiian rights, including, but not limited to:

i. **Impacts to fishing, diving, hunting, and gathering land and marine flora and fauna that Moloka'i residents use to provide food for their families;**

ii. **Impacts to the Moloka'i community's ability to maintain native Hawaiian religious and spiritual relationship to the land and nearshore environment;**

Please provide a detailed plan of alternatives, and proposed measures to be taken to avoid, minimize, rectify, or reduce these adverse impacts on these fishponds.

II. CONCLUSION:

HAR, Title 11, Chapter 200, § 11-200-14, provides, in relevant part:

"Consequently, the EIS process shall involve at a minimum: identifying environmental concerns, obtaining various, relevant data, conducting necessary studies, receiving public and agency input, evaluating alternatives, and proposing measures for avoiding, minimizing, rectifying or reducing adverse impacts. An EIS is meaningless without the conscientious application of the EIS process as a whole, and shall not be merely a self-serving recitation of benefits and a rationalization of the proposed action." (emphasis added)

The EIS document is a valuable tool for decision makers and should disclose all aspects of a proposal, its cumulative impacts and environmental consequences, in order to assist in making an informed decision. Thank you for your consideration of my comments.

Sincerely,

Michelle Anderson

MICHELLE ANDERSON
Councilmember

cc:

Anthony Ching
State Land Use Commission
P.O. Box 2359
Honolulu, HI 96804

Genevieve Salmonson
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Honolulu, HI 96813

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PBR Hawaii
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Honolulu, HI 96813

MPL Molokai Properties Limited

November 1, 2007

Michelle Anderson, Councilmember
County Council
County of Maui
200 South High Street
Wailuku, Hawai'i 96793

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. Anderson:

Thank you for your letter dated February 23, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS). We would like to respond to your comments.

Withdrawals from one aquifer system can impact other aquifer systems.

1. *Please provide in detail all proposed alternatives and/or mitigation measures the applicant will take should the Water Commission find that the withdrawal of 1 mgd from the Kakalahale Well will impact DHHL's existing wells in Kualapu'u.*

Response: It is highly unlikely that pumping 1 mgd from the Kākalahale Well will have any measurable impact on the existing DHHL and DWS wells in Kualapu'u for several reasons. First, the Kākalahale Well is down- and across-gradient from the DHHL and DWS wells. Second, the Kākalahale Well is approximately 12,200 feet (2.31 miles) away from the DHHL and DWS wells; at that distance, it is unlikely that pumping 1 mgd will create a measurable effect. Third, there are known subsurface intrusives between the Kākalahale and DHHL/DWS well sites, namely Pu'u Kākalahale and Pu'u Luahine, which are barriers to ground water flow.

The Kākalahale Well was developed in 1969 as a drinking water well for the Kaluako'i Resort. However, due to the brackish quality of the water, the well was never put into production. Relative to its distance inland, chlorides of the Kākalahale Well are anomalously high. This anomaly is explained, however, by the presence of upgradient subsurface intrusives, i.e., the subsurface "plumbing" of Pu'u Kākalahale, which function as barriers to normal mauka-to-makai flow of groundwater. The upgradient intrusives, which create the brackish result in the Kākalahale Well, also function to limit the effect of pumping the Kākalahale Well on other wells upgradient of the intrusives, such as the DHHL and DWS wells in Kualapu'u.

If the unlikely event occurs that DHHL and MPL must compete for the same water, MPL will recognize DHHL's priority rights to water and will seek alternative sources of water, including, but not limited to, desalinization of brackish or salt water. Desalinization is an alternative source of water that becomes increasingly viable with technological advances. The DEIS, on page 82, identified brackish water from the Prawn Farm and desalinization as alternative sources of non-potable water.

Molokai Properties Limited dba Molokai Ranch • 745 Fort Street Mall • Suite 600 • Honolulu, Hawaii 96813
• Telephone 808.531.0158 • Facsimile 808.521.2279

To ensure water availability to all, MPL, DHHL, and Maui County DWS are working cooperatively to coordinate future water development plans with the assistance of the USGS. It is anticipated that by proper placement of wells, the needs of DHHL, the County, and MPL for the foreseeable future can all be met at reasonable costs to the respective parties.

In response to your comments above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Additional Water Information and Analysis." See the section of the attachment titled: "Additional Information on the Kākalahale Well."

2. *Please provide in detail all proposed alternatives and/or mitigation measures the applicant will take should the Water Commission find that the withdrawal of 1 mgd from the Kakalahale Well will jeopardize DHHL's ability in the future to access its reservation of 2.905 mgd from the Kualapu'u Aquifer.*

Response: MPL has often reiterated its recognition of DHHL's priority rights to water, which is a priority established by law. For DHHL to develop its 2.905 mgd reservation in the Kualapu'u aquifer, new and appropriately spaced wells east of the existing DHHL/DWS well field will be required. All of these new wells will be upgradient of the known subsurface intrusives, Pu'u Kākalahale and Pu'u Luahine. These subsurface intrusives create a barrier to groundwater flow, benefiting wells that are upgradient of the intrusives and adversely impacting the wells downgradient of the intrusives. They also limit the impact that wells on one side of the intrusives have on wells on the other side of the intrusives.

The Kākalahale Well will be down- and across-gradient, and on the downstream side of known intervening intrusive structures, from any wells that DHHL is likely to develop to access any part of its 2.905 mgd reservation. Therefore, an adverse impact on future DHHL wells is highly unlikely.

As previously stated in #1 above, if the unlikely event occurs that DHHL and MPL must compete for the same water, MPL will recognize DHHL's priority rights to water and will seek alternative sources of water, including, but not limited to, desalinization of brackish or salt water. Desalinization is an alternative source of water that becomes increasingly viable with technological advances. The DEIS, on page 82, identified brackish water from the Prawn Farm and desalinization as alternative sources of non-potable water.

In response to your comments above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Additional Water Information and Analysis." See the section of the attachment titled: "Additional Information on the Kākalahale Well."

3. *As USGS has determined that withdrawals from one aquifer system can affect other aquifer systems on Moloka'i, please provide all relevant data, studies, and other information showing that applicant's proposed potable and non-potable use plans will not negatively impact water levels, water quality – including salinity levels, coastal discharge, and surface water-ground water interactions in other areas on Moloka'i.*

Response: The impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u and the impact of withdrawing 1 mgd from Kākalahale Well on DHHL reservation in Kualapuu Aquifer were previously answered in #1 and #2 above.

In response to your comments above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the sections of the attachment titled: "Explanation of Moloka'i Aquifer Systems Geology," "Prior Studies by USGS on the Capacity of the DHHL Wells," and "Additional Information on the Kākalahale Well."

The Comprehensive Modeling Analysis should be Completed Prior to Acceptance.

4. *Please provide a detailed explanation the "comprehensive modeling analysis" being referred to, including: (a) The name of all participants and parties "currently working" on the "comprehensive modeling analysis".*

Response: MPL has been working diligently with DHHL and the County of Maui Department of Water Supply (DWS) to find water solutions for Moloka'i's future needs.

Since September of 2006, MPL has attempted to join with DHHL and the DWS in having USGS perform a comprehensive model for the Moloka'i aquifers. USGS is now moving forward with a joint study, the terms of which are currently under discussion with all parties.

USGS recently undertook a two-dimensional modeling exercise of the Kualapu'u and adjacent aquifers for the Army Corps of Engineers. This study included modeling of the impact of the Kākalahale Well on the DHHL wells. The results, which were outlined in a briefing to all interested parties in late June, indicate that the pumping of 1.0 mgd from the Kākalahale Well would have a negligible effect on the DHHL wells and the Kualapu'u aquifer as a whole. This study is extremely conservative in nature.

In response to your comments above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the sections of the attachment titled: "USGS Modeling of Kualapu'u Aquifer."

5. *(b) A time-line from start to projected completion date of the "comprehensive modeling analysis".*

Response: Initial discussions indicate that the full project could take close to three years to complete.

6. *(c) Citation of all law, rules, regulations or other authority relied upon authorizing the use and reliance of the "comprehensive modeling analysis" to address Moloka'i's water issues instead of Maui County's Updated Water Use and Development Plan.*

Response: It is not anticipated that the comprehensive modeling analysis will conflict with the Maui County's Updated Water Use and Development Plan (WUDP). The participants in the

comprehensive modeling analysis are the primary stakeholders who will surely be consulted in preparing the updated WUDP. Thus, much of the inputs into the updated WUDP and the comprehensive modeling analysis should be the same. Moreover, the Maui County Department of Water Supply, which is responsible for producing the WUDP, is one of the main stakeholders involved in the comprehensive modeling effort. Based on other WUDPs that have been prepared, it is anticipated that the modeling analysis will involve greater detail than the WUDP, but not conflict with the WUDP.

Whether sufficient water is available for DHHL and residents served by DWS.

7. *Please address and provide all relevant data, studies, and other information showing that applicant's proposed potable and non-potable use plans will not negatively impact water prioritized for DHHL.*

Response: To meet its potable water needs, MPL has committed to using only existing sources in amounts that are already permitted. In other words, a determination has already been made that the use of 1.018 mgd from Well 17 and water collected in Molokai Ranch's Mountain Water System will not interfere with DHHL's existing permits and reservation.

The impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u and the impact of withdrawing 1 mgd from Kākalahale Well on DHHL reservation in Kualapuu Aquifer were previously answered in #1 and #2 above. Also, refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the sections of the attachment titled: "DHHL's Future Water Needs."

8. *Please affirm or negate the accuracy of Delwyn Oki's statement that there may not be enough water for DHHL at the present time.*

Response: MPL's understanding is that Mr. Oki's statement was made in reference to a ground water model simulation that he conducted in 2006. USGS simulated the withdrawal of 2.905 mgd from four arbitrarily sited wells within the Kualapu'u aquifer. These arbitrarily chosen sites were spaced relatively close together and not far distant from the existing Kualapu'u well field. Under that scenario, USGS concluded that DHHL could not develop the full amount of its reservation from the Kualapu'u aquifer.

MPL believes that for DHHL to develop its 2.905 mgd reservation in the Kualapu'u aquifer, new and appropriately spaced wells east of the existing DHHL/DWS well field will be required. All of these new wells will be upgradient of the known subsurface intrusives, Pu'u Kākalahale and Pu'u Luahine. These subsurface intrusives create a barrier to groundwater flow, benefiting wells that are upgradient of the intrusives and adversely impacting the wells downgradient of the intrusives. They also limit the impact that wells on one side of the intrusives have on wells on the other side of the intrusives.

The Kākalahale Well will be down- and across-gradient, and on the downstream side of known intervening intrusive structures, from any wells that DHHL is likely to develop to access any part of its 2.905 mgd reservation. Therefore, an adverse impact on future DHHL wells is highly unlikely.

Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Additional Information on the Kākalahale Well."

9. *Please affirm or deny that the applicant will yield to the water needs of Moloka'i's residents currently being served, and projected to be served, by DWS.*

Response: To meet its potable water needs, MPL has committed to using only existing sources in amounts that are already permitted. In other words, a determination has already been made that such uses will not interfere with DWS's existing permits.

The County of Maui does not have the priority rights to water that DHHL has. MPL acknowledges that DHHL has priority rights to water based upon statutory provisions. See Hawai'i Revised Statutes §174C-49(e) and §174C-101(a), and Hawaiian Homes Commission Act §221. Comparable statutory rights are not accorded to the counties. Moreover, it should be noted that Moloka'i Public Utilities and Waiola o Moloka'i are both regulated public utilities which, like the County's municipal water system, are obligated to serve a significant resident population of Moloka'i.

Whether amounts of potable and non-potable water put forward by the applicant are accurate and will actually meet the needs of the proposed project.

10. *Please provide all relevant data, studies, and other information showing where and how applicant came up with the amounts of potable and non-potable water necessary for the project. Please provide figures based on full occupancy of total build-out, not no an assumption of 80% occupancy of lots.*

Response: Potable water amounts are based on County of Maui standards.

To minimize water demands, MPL will use a number of different strategies. Conservation rates that provide financial incentives to customers to conserve water have already begun to be implemented and the effectiveness of these rates have already been manifested. Additionally, covenants on Lā'au Point lots will limit further subdivision of the lots, restrict disturbance of each lot to no more than 30 percent (approximately 1/2-acre), require catchment systems for each residence for irrigation use, and require drip irrigation systems, double flush toilets, and other water conservation devices.

Under the Water Plan, MPL will have approximately 1.5 mgd of potable water: 1.018 mgd from Well 17 plus 500,000 gpd from the Mountain water system.

Total anticipated long-term potable water needs amounts to 1,089,520 gpd. This includes 96,000 gpd for the Lā'au Point lots, which is based on 600 gpd for 200 lots at 80 percent occupancy.

If MPL were to increase the Lā'au Point potable allocation to 100 percent (i.e. all 200 homes used 600 gpd), the amount would be 120,000 gpd, an increase of 24,000 gpd. That would raise the total long-term potable water needs to 1,113.520 gpd, which can still be accommodated with the 1.5 mgd available.

The estimated use of 600 gpd for each Lā'au Point residence relates to potable water use only. This is the Maui County Department of Water Supply Water Demand Standard per residential unit.

Additional non-potable water is anticipated for irrigation uses.

Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Lā'au Project Issues."

11. What is "surplus mountain system water?" Please quantify how much surplus water will be utilized and for how long? How will this affect recharge of underlying aquifer?

Response: The term "surplus" is confusing and will be amended in the Final EIS Section 4.9.2 to "available" as shown below:

> **Non-Drinking (Non-potable) Water** – Initially, water for irrigation and fire protection will be provided from ~~surplus~~ available mountain system water.

In this context, MPL will have access to water that is not being used by users of the Mountain System for emergency (fire fighting) and irrigation on a temporary basis. MPL will endeavor to bring the Kākalahale Well system online as soon as possible so that it can begin use of this separate system. This will not affect the underlying aquifer as no more than the current allocation will be utilized.

12. Please provide all relevant data, studies, and other relevant information that substantiates whether the applicant's projected water-use demand is accurate and will satisfy the actual potable and non-potable water demands for the development. Such information should include, but not be limited to, actual potable and non-potable use in comparable developments in Maui County.

Response: The water use and demand were based on Maui County standards. No direct comparisons were done with projects on Maui as the design standards and requirements for the subdivision include substantial and unique water conservation methods. These include:

- Landscaping irrigation systems will be from re-use water from the wastewater treatment plant or collected in catchments systems; only drip irrigation systems will be permitted. Landscaping will be restricted to appropriate native and Polynesian species that are drought-tolerant and suitable for coastal locations; xeriscaping aims to reduce water use.
- All houses will be required to have at least a 5,000-gallon storage tank for water captured from roofs.
- Requirement of a dual-water system split into safe drinking and non-drinking water; safe drinking water will be limited to 500-600 gpd. Homes will be required to use double flush toilets and specially-designed showerheads for water conservation.
- Minimal lot impact with zero runoff.
- Increased rate structures.

Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Lā'au Project Issues."

B. Lack of Information Regarding Water Reporting Compliance

13. Please provide detailed information showing that applicant is in full compliance and not in violation of the State Water Code and Maui County's water reporting laws, including, but not limited to any and all reports submitted to the State Water Commission as required by HRS §174C and the DWS as required by Maui County Code, § 2.90A.050.

Response: This information is readily available at the appropriate agencies.

C. Failure to Take into Account that the Moloka'i Water Use and Development Plan Needs to be Updated

14. Please provide citation of all law, rules, regulations or other authority relied upon that would allow the acceptance of the Draft EIS without taking into account an Updated County of Maui Water Use and Development Plan (Moloka'i) that would provide a comprehensive analysis of all current and future water needs for Moloka'i.

Response: Maui County has not yet completed or adopted an Updated Water Use and Development Plan in accordance with HRS §174C-31 and the Statewide Framework For Updating the Hawai'i Water Plan. Nothing in the State Water Code (HRS Chapter 174C) or the Hawai'i EIS laws (HRS Chapter 343) imposes a moratorium on acceptance of environmental disclosure documents pending finalization of any water use and development plan.

15. Please provide citation of all law, rules, regulations or other authority relied upon or authorizing the use and reliance of the "comprehensive modeling analysis" to address Moloka'i's water issues instead of Maui County's Updated Water Use and Development Plan.

Response: DWS is a party to the modeling analysis, which will be used to update the Water Use and Development Plan.

D. Failure to Address and Account for the Cumulative Impacts of the Proposed Project on the Moloka'i Community, Environment, and Resources

1. Cumulative Impacts

16. It is well-established that an EIS should address, and the LUC should consider, the potential cumulative impacts of a proposal prior to agency approval. A "cumulative impact" has been defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (See, HAR §11-200-2). Moreover, HAR 11-200-17 requires that an EIS discuss "significant beneficial and adverse impacts (including cumulative impacts and secondary impacts)."

Response: We have made a good faith effort to prepare an EIS in compliance with Chapter 343 and the underlying regulations found in HAR §11-200-1 et. seq. We concur that the Draft EIS must address cumulative impacts, the secondary and non-physical effects of a proposal and the socio-economic consequences of a proposed action. We have done so to the greatest extent

possible in this EIS. Section 7.2 of the Draft EIS provides analysis of cumulative and secondary impacts.

Increased Build-out

17. How are the water needs for the homes in this area substantially different from the homes proposed at La'au Point, whose water use is projected to be 600 gpd?

Response: Analysis and discussion of cumulative impacts are restricted to those future actions that are reasonably foreseeable. The actual subdivision of every Kaluako'i lot cannot be said to be reasonably foreseeable since there are no definitive plans on the planning horizon that this will happen. Therefore, cumulative impacts of this scenario do not have to be analyzed for the purposes of this EIS.

Regardless, we could expect the Lā'au Point lots, which are two acres, will have some requirement for irrigation water. This is different than homes at Kaluako'i with little or no land.

18. The Draft EIS fails to paint a complete and thorough picture of what the applicant's past, present, and future development plans are. Instead, the Draft EIS appears to be parceling out the La'au Point project from the applicant's other past and future projects in order to minimize the significant impacts to the community, environment, and infrastructure of Moloka'i, and could be considered segmentation. The growing demand for water is in direct correlation with the growing population, projected increases in demand over the next few decades, and rising salinity of the water pumped from some existing wells. Therefore, please provide a detailed plan of what Molokai Properties Limited's plans are for the other lands it owns on Molokai, as well as any future additional water obligations for Kaluakoi Resort, including lots yet undeveloped.

Response: The principal development plans of MPL's management predecessors (under BIL ownership) involved a Highlands golf course at Nā'iwa, a series of agricultural "gentlemen's estates" on 25-acre lots on land south of Maunaloa (both parcels now being donated to the Land Trust under the *Community-Based Master Land Use Plan for Molokai Ranch*).

All of MPL's future development plans are outlined in the *Community-Based Master Land Use Plan for Molokai Ranch* (provided as Appendix A in the Draft EIS; hereafter referred to as "Master Plan"), and there are no other development plans.

MPL accepts the growing demand for water resources and believes its Water Plan (Chapter 6 of the Master Plan) for the future of its property is a responsible attempt to preserve water on the island for DHHL constituents who have priority water reservations. It also asserts that the rising salinity of some wells on the island has been proven to be caused by their location (close to the ocean) and (in the case of the Kualapu'u aquifer with the DWS's Well and DHHL's wells) by their close proximity to each other.

As far as the Kaluako'i entitled lots are concerned:

- As stated in the Master Plan, MPL has no plans to develop the entitled lots north of the Kaluako'i Hotel.
- However, as stated clearly in the Master Plan, some of those lands may be needed at some distant time in the future, for extending the Kaluako'i Hotel if demand requires

it; some land for a Cultural Center adjacent to the hotel; and some land for community housing for Kaluako'i Hotel staff. At this point there are no plans at all to do that, but MPL believes it should be up-front about this remote possibility. Also under its Water Plan, MPL has no water available for such a remote possibility.

- The Master Plan also states that if ever there is a demand for a second golf course on Moloka'i (and replacing the Moloka'i Community Plan-approved course below the Lodge at Maunaloa), then it should be sited in this area.
- These parcels are within the SMA zone and construction of any sort is subject to approval by the Moloka'i Planning Commission. Desalinated water would be needed in this case.

E. Failure to Address and Account for the Increased Salinity of Existing Wells

19. As Hawaiian Homes have priority use status, please provide a detailed analysis addressing the serious concerns of how the proposed additional pumping from the Kakalahale Well might impact the salinity levels of other wells (including water used by DHHL) on the island.

Response: The impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u and the impact of withdrawing 1 mgd from Kākalahale Well on DHHL reservation in Kualapu'u Aquifer were previously answered in #1 and #2 above. Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the sections of the attachment titled: "Additional Information on the Kākalahale Well" and "DHHL's Future Water Needs."

20. Please provide a detailed plan of alternatives, and proposed measures to be taken to avoid, minimize, rectify, or reduce adverse impacts relating to rising salinity levels, pursuant to HAR §11-200-14.

Response: The Water Commission, before it issues any pump installation permit, requires that a pump test be conducted to determine the impacts before long-term pumping is permitted. Depending on the results of the pump test, the size of the pump may be modified or other changes made. By conducting a pump test before a permanent pump is installed, most of the risk that the well will go salty can be avoided.

If, however, long-term pumping has a more adverse impact than anticipated on the aquifer or on other wells, adjustments to pumping, including, if necessary, shutting down the well, may be required.

By way of a standard condition imposed on all water use permits, the State Commission on Water Resource Management reserves the right to reduce the amount of water allocated for any of the following reasons:

- Protect the water sources (quantity or quality);
- Meet other legal obligations including correlative rights;
- Insure adequate conservation measures;
- Require efficiency of water uses;
- Reserve water for future uses;
- Meet legal obligations to DHHL;
- Carry out such other necessary and proper exercise of the Commission's powers.

In the unlikely event that MPL's identified water sources cannot meet its needs, brackish water from the Prawn Farm and desalinization have been identified as alternative sources of non-potable water.

F. Failure to Address and Account for the Impacts to the Nearshore Environment, including Fishponds

21. Please affirm or deny the accuracy of the statement in the 2006 USGS Report (Oki) that: "redistributed and additional ground-water withdrawals will affect discharge of fresh and brackish water to the nearshore environment." ¶If denying the statement referred to immediately above, please provide a detailed explanation with all relevant data, studies, and other information that the applicant has relied upon for making this assertion.

Response: MPL does not dispute the accuracy of the above-quoted statement. Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Additional Information on the Kākalahale Well."

22. Please affirm or deny the accuracy of the statement in the 2006 USGS Report (Oki) that the: (1) "Discharge of fresh or brackish ground water to these fishponds may be a factor controlling productivity by providing nutrients for algae on which the fish feed (Farber, 1997);" and, (2) "Additional ground-water withdrawal may affect fishpond productivity." ¶If denying the statement referred to immediately above, please provide a detailed explanation with all relevant data, studies, and other information that the applicant has relied upon for making this assertion.

Response: The effect of pumping 1 mgd from Kākalahale on ground water discharge along shoreline was previously discussed in #3 above. Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Additional Information on the Kākalahale Well."

23. Please provide all relevant data, studies, and other information that the applicant relied upon to address and account for the impacts that proposed water use (potable and non-potable) will have on the "practicing traditional and customary native Hawaiian rights, including, but not limited to: i. Impacts to fishing, diving, hunting, and gathering land and marine flora and fauna that Moloka'i residents use to provide food for their families; ii. Impacts to the Moloka'i community's ability to maintain native Hawaiian religious and spiritual relationship to the land and nearshore environment; Please provide a detailed plan of alternatives, and proposed measures to be taken to avoid, minimize, rectify, or reduce these adverse impacts on these fishponds.

Response: In granting the water use permit for withdrawal of 1.018 mgd from Well 17, the State Commission on Water Resource Management determined that the allocation does not abridge or deny traditional and customary rights of native Hawaiians.

Native Hawaiians gather limu and other marine resources all along the southern and eastern coastline of Molokai, including the shoreline area downgradient of the Kākalahale well site. The shoreline area of the Kamiloloa aquifer, however, is not a prime habitat for edible limu. Limu may occur in quantities sufficient for personal use, but the edible species are not abundant.

Edible limu is salinity tolerant, i.e., can tolerate wide ranges of salinity. However, limu is more productive in brackish water than in pure seawater, probably because of the nutrients contained in groundwater and surface water discharges. There is a variability in the nutrient concentration of groundwater along the south coast of Moloka'i, varying as much as 18-fold between Kawela and Kamiloloa. Human activities, primarily agriculture, probably subsidize the groundwater with nitrates. Assuming that these human subsidies remain unchanged, the effect of groundwater pumpage on nutrient loading to the ocean becomes insignificant. Thus, the reduction of groundwater discharge from the pumping of 1 mgd from the Kākalahale well is unlikely to have a significant impact on limu production.

Downgradient from the Kākalahale Well site are two fishponds, Kalokoeli and Ali'i, which are slated for restoration, but are, to the best of our knowledge, not currently in use. Fishponds were often built around coastal springs and discharge points for streams for the brackish environments that are important for juvenile fish. However, it is unknown whether springs or seeps contribute to the environment of the Kaloko'eli or Ali'i fishponds.

The effect of pumping 1 mgd from Kākalahale on ground water discharge along shoreline was previously discussed in #3 above. Given the unlikely impact on fishponds and the associated marine environment, we do not believe the proposed water use will have any impact on "practicing traditional and customary native Hawaiian rights."

Also, please refer to the attachment titled, "Additional Water Information and Analysis." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled: "Additional Information on the Kākalahale Well."

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Attachment: Additional Water Information and Analysis

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

January 22, 2007

County of Maui – Planning Department
Attn: Ms. Nancy McPherson, Staff Planner
250 South High Street
Wailuku, Hawaii 96793

Dear Ms. McPherson,

Subject: La'au Point – Draft Environmental Impact Statement (DEIS)
West Molokai, Hawaii
TMK: (2) 5-1-02:30: 5-1-06:157; 5-1-08:04, 03, 06, 07, 13, 14, 15, 21, & 25

Thank you for allowing us to comment on the (DEIS) and it's appendices for the subject project.

In reviewing our records and the information received, Maui Electric Company (MECO) would like to clarify statements made within pages 9 and 86 of the DEIS under "Electrical and Communication Systems" and page 6 of Appendix N. MECO has not formally analyzed an electrical line extension from the existing underground system on Kaluakoi Road within Papohaku Subdivision. Previous preliminary plans observed a line extension from the existing overhead line which is located East-northeast of the project's location.

Since the addition of this project's anticipated electrical load demand will have a substantial impact to our electrical system, we highly encourage the customer's electrical consultant to submit electrical drawings and a project time schedule as soon as practical so that service can be provided on a timely basis. Upon receipt of the electrical demand, we could study the impacts to the existing system for an extension from Kaluakoi Road or from the overhead line.

To reiterate previous response comments, access and electrical easements for our facilities to serve the subject project site will be required. Other substantial upgrades may also be necessary to accommodate this project.

Should you have any questions or concerns, please call Ray Okazaki at 871-2340.

Sincerely,

Neal Shinyama
Manager, Engineering

NS:ro

c: PBR Hawaii – Thomas Witten
Molokai Properties Limited – Peter Nicholas and John Sabas
State Land Use Commission – Anthony Ching
Office of Environmental Quality Control

Molokai Properties Limited

November 1, 2007

Neal Shinyama
Maui Electric Company, Ltd.
210 West Kamehameha Avenue
P.O. Box 398
Kahului, Hawai'i 96733-6898

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Shinyama:

Thank you for your letter dated January 22, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS).

We acknowledge that MECO has not formally analyzed an electrical line extension from the existing underground system on Kaluako'i Road within the Pāpōhaku Subdivision.

Once there is more certainty to the project, MPL's electrical consultant will meet with MECO so the electrical service can be provided on a timely basis. MPL acknowledges that, in addition to an electrical line extension, other substantial upgrades may be necessary.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

O:\JOB17\1733.10 Molokai Ranch-Laau Pt EIS\EIS\DEIS\Comment letters\Responses\Private Orgs & Elected Office\Final\MECO.doc

Molokai Properties Limited dba Molokai Ranch • 745 Fort Street Mall • Suite 600 • Honolulu, Hawaii 96813 •
Telephone 808.531.0158 • Facsimile 808.521.2279

Kākoʻo ʻŌiwi

"Malia paha he iki ʻunu, paʻa ka pōhaku nui ʻaʻole e kaʻa."
"Perhaps it is the small stone that can keep the big rock from rolling down."

PBR Hawaii
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, HI 96813
Attention: Thomas Witten
Telephone: (808) 521-5631
Fax: (808) 523-1402

February 23, 2007

Aloha kakou:

Kākoʻo ʻŌiwi is a non-profit organization dedicated to the perpetuation and protection of Native Hawaiian cultural practices. In reviewing the DEIS and hearing concerns from the community, we are particularly concerned as to the inadequate discussion of Native Hawaiian burial sites located at Lāʻau Point. There are many iwi and moepū buried at Lāʻau Point according to families from Molokaʻi. It is a sacred site and should not be disturbed. For these reasons, we are adamantly opposed to this development. Further, in consideration of Lāʻau Point as a sacred site, MPL has made no assurances that iwi or moepū discovered at Lāʻau Point will be left undisturbed. They absolutely should not be removed from their original site of discovery. And it appears that this development will fully disregard and destroy any sacred sites within the construction path.

The master plan promises to protect sacred places. What about protecting the sacred place of Lāʻau Point?

Respectfully submitted,

Jonathan K. Osorio, PhD
President, Board of Directors

PO Box 62092
Honolulu, Hawaiʻi 96839

www.nativehawaii.org

MPL Molokai Properties Limited

November 1, 2007

Jonathan K. Osorio
Kākoʻo ʻŌiwi
P.O. Box 62092
Honolulu, Hawaiʻi 96839

SUBJECT: LĀʻAU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Osorio:

Thank you for your letter dated February 23, 2007 regarding the Lāʻau Point Draft Environmental Impact Statement (EIS). We would like to respond to your comments.

The burial treatment plan for Lāʻau Point was included in Appendix E of the Draft EIS. The archaeological inventory survey found 9 burial sites and 21 possible burial sites around the project area. As stated in the burial treatment plan, construction will be planned to avoid any burials or suspected burials recorded in previous studies and during the supplemental road corridor survey. Therefore, it is very unlikely that any burials will be disturbed. Should it prove extremely difficult to plan around a possible burial, then (as a last resort) that feature may be tested to determine its actual function. If it is in fact a human burial, then it will be covered, and preserved in place. Human remains encountered during such a test will not be removed, photographed, or collected.

If testing does not encounter human remains, the feature will be subject to data recovery according to the procedures and standards described in the Data Recovery Plan (also located in Appendix E of the Draft EIS). If, during the course of the project, human burials are inadvertently discovered, work in the vicinity will be halted while the archaeologist determines if they are likely to have been in place for more than 50 years. If not, the matter comes under the jurisdiction of local police, who will be notified. If so, the SHPD Burials Program will be consulted. The preferred treatment will be to leave any burials in the location they were found, and avoid any further disturbance.

The plans recognize known and possible burials, including an area identified by kumu hula and historian John Kaimikaua as a burial place for the chiefs of Kamāka'ipō; it also addresses patterns (such as use of sand dunes and settlement peripheries) that help us identify and avoid impacts in likely burial areas. As written, the Burial Treatment Plan proposes protection in place as the preferred treatment for any newly discovered burials, but does not rule out reinterment entirely, since the Burial Councils and descendants sometimes request that treatment.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

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Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

LIFE OF THE LAND

Ua Mau Ke Ea o Ka `Aina i Ka Pono

The Life of the Land is Perpetuated in Righteousness

76 North King Street, #203, Honolulu, Hawai`i 96817

(808) 533-3454 * henry@lifeoftheland.net

February 5, 2007

Anthony Ching
State Land Use Commission
P.O. Box 2359, Honolulu, HI 96804

Thomas S. Witten
PBR Hawai'i, ASB Tower
1001 Bishop St., Ste. 650
Honolulu, HI 96813

Office of Environmental Quality Control
235 S. Beretania St., Suite 702
Honolulu, Hawaii 96813

re: Moloka'i Ranch's La'au Point DEIS

Aloha Mr. Whitten,

My name is Henry Curtis and I am Executive Director of Life of the Land, Hawai`i's own environmental and community action group advocating for the people and the `aina since 1970. Our mission is to preserve and protect the life of the land through sustainable land use and energy policies and by promoting open government through research, education, advocacy, and litigation.

Hawai`i is facing an acute housing shortage for its working population. Many developers are proposing high-end apartment, condo, hotel and residential units. Few are proposing units for the working class. What percentage of your units will be for people earning (a)60%, (b) 80%, (c) 100%, and (d) 140% of the median income for Moloka`i and for the State of Hawai`i?

With each new high end development, it is often argued that we are raising the economic base to provide for additional working class residential units. (a) How many units has your company built in the last ten years? (b) What percentage were affordable? (c) How could that percentage be increased?

With the release of the IPCC 4th Assessment, current and future climate variability is making headlines. How will your project impact climate change? Specifically (a) what percentage of your electrical load will be provided by renewable energy? (b) What specific energy efficiency policies will you employ? (c) What is the increase in (1) air travel and (2) marine travel you anticipate during the building and during the use of your project? (d) What percentage of your commercial and residential units will be built at three feet above mean sea level or less?

Will your project lead to a decrease in isolated areas?

How will your project affect (a) traffic congestion; (b) the loss of open space; (c) diverse agriculture (d) urban sprawl and (e) infrastructure?

The term sustainability is in vogue at the State Capitol this year. (a) How do you define sustainability? (b) Will your project lead to greater sustainability? (c) Can sustainability occur during periods of rapid economic and population growth? (d) Will you market your development to locals, on the mainland, and/or elsewhere? Please elaborate.

Mahalo,

Henry Curtis
Executive Director

Molokai Properties Limited

November 1, 2007

Henry Curtis
Life of the Land
76 North King Street, #203
Honolulu, Hawai'i 96817

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Curtis:

Thank you for your letter dated February 5, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS). We would like to respond to your comments.

1. *What percentage of your units will be for people earning (a) 60%, (b) 80%, (c) 100%, and (d) 140% of the median income for Moloka'i and for the State of Hawai'i?*

Response: None of the 200 lots within the project area are designated for affordable housing. As discussed in Section 4.8.2 of the Draft EIS, in order to satisfy affordable housing requirements for Maui County, MPL is designating land in Maunaloa, Kualapu'u, and Kaunakakai to be developed by the Molokai Community Development Corporation (CDC), and providing the necessary funding from a net 5 percent of lot sale revenue from the Lā'au development (estimated to initially be $10 million). The number of units per percentage of median income will be determined by the CDC and/or Maui County criteria.

2. *(a) How many units has your company built in the last ten years? (b) What percentage were affordable? (c) How could that percentage be increased?*

Response: MPL built the Nani Maunaloa 70-unit affordable housing rental project in the 90s. However, regrettably, more than 20 of these rental units continue to remain vacant because of the parlous financial situation of the West End.

In recent months, we have confirmed a 10-unit affordable housing project for Maunaloa that will be under construction before the end of calendar 2007.

We sincerely hope regulators will approve the *Community-Based Master Land Use Plan for Molokai Ranch* (Master Plan) and this project so MPL is able to partner with the CDC in further community homes projects.

3. *How will your project impact climate change? Specifically (a) what percentage of your electrical load will be provided by renewable energy? (b) What specific energy efficiency policies will you employ? (c) What is the increase in (1) air travel and (2) marine travel you anticipate during the building and during the use of your project? (d) What percentage of your commercial and residential units will be built at three feet above mean sea level or less?*

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Response: Energy-efficient practices and technologies have been incorporated into the Lā'au Point Covenants, Codes, and Restrictions (CC&Rs), as discussed in Section 2.3.6 of the Draft EIS. Nothing will be built at three feet above mean sea level or less.

4. *Will your project lead to a decrease in isolated areas?*

Response: Yes.

5. *How will your project affect (a) traffic congestion; (b) the loss of open space; (c) diverse agriculture (d) urban sprawl and (e) infrastructure?*

Response: (a) The TIAR states no significant impact to traffic; this was discussed in Section 4.4 of the Draft EIS; (b) As shown on Figure 1 of the Draft EIS, the project will utilize 460 acres for residential lots, roadways, and infrastructure. However, the project, and the Master Plan which it is a part of, will place over 50,000 acres into permanent open space. In addition, only 30 percent of the residential lots will be buildable area. (c) As discussed in Section 3.4 of the Draft EIS, the project will not take land out of agriculture. The implementation of the Master Plan will add agricultural easements; (d) Section 4.9 of the Draft EIS discussed infrastructure.

6. *(a) How do you define sustainability? (b) Will your project lead to greater sustainability? (c) Can sustainability occur during periods of rapid economic and population growth? (d) Will you market your development to locals, on the mainland, and/or elsewhere?*

Response: (a) In this case, sustainability is defined as being sustainable ecologically, environmentally, economically, socially, and culturally. The project is envisioned as having minimal impact on water, energy use, the environment, and the society and culture of Moloka'i; (b) We believe so in that it creates a sustainable economic future for Moloka'i through the re-opening of the Kaluako'i Hotel, the creation of jobs from the Hotel, the creation of jobs from the development, and the job certainty for MPL's 140 employees; (c) This question is unrelated to the project specifics; (d) Yes we would like lots to be purchased by residents from all of the Hawaiian islands.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

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NATIVE HAWAIIAN LEGAL CORPORATION
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February 1, 2007

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Thomas Witten
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Anthony Ching
State Land Use Commission
P.O. Box 2359
Honolulu, HI 96804

Genevieve Salmonson
OEQC
235 S. Beretania St. #702
Honolulu, HI 96813

Re: COMMENTS ON DEIS FOR LĀ`AU POINT

Dear Messrs. Nicholas, Edwards, Witten, Ching and Ms. Salmonson:

The Native Hawaiian Legal Corporation submits these comments on behalf of our clients, the Moloka`i Homestead Farmers Alliance and Wayde Lee.

The DEIS does not come close to meeting the legal standards that an EIS must meet.

The LUC has a responsibility pursuant to HRS chapter 343, the public trust doctrine, and Native Hawaiian rights to ensure that the EIS thoroughly and completely assesses the impacts of a project requiring its approval. HRS § 343-5(c) provides that the "authority to accept a final statement shall rest with the agency receiving the request for approval"; it is not the applicant's

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decision as to whether the FEIS is sufficiently detailed and complete. The fact that the agency has to make an independent decision is re-enforced by decisions of the Hawai`i Supreme Court: *Ka Pa`akai O Ka`aina v. Land Use Commission*, 94 Hawai`i 31, 51, (2000) and *Kelly v. 1250 Oceanside Ptnrs*, 111 Haw. 205 (2006).

> The public trust doctrine requires that the LUC
>
> take the initiative in considering, protecting, and advancing public rights in the resource at every stage of the planning and decision-making process. Thus, the state may compromise public rights in the resource pursuant only to a decision made with a level of openness, diligence, and foresight commensurate with the high priority these rights command under the laws of our state. Such a duty requires DOH [and the LUC] to not only issue permits after prescribed measures appear to be in compliance with state regulation, but also to ensure that the prescribed measures are actually being implemented after a thorough assessment of the possible adverse impacts the development would have on the State's natural resources.

Kelly v. 1250 Oceanside Ptnrs, 111 Haw. 205, 231 (2006) (internal citations and marks omitted).

The applicant likewise has important duties. It must adhere to the EIS rules. These rules provide that an "EIS is meaningless without the conscientious application of the EIS process as a whole, and shall not be merely a self-serving recitation of benefits and a rationalization of the proposed action." HAR § 11-200-14. It is clear that the applicant has not taken its responsibilities seriously. The applicant has ignored many of the questions and concerns raised by the Moloka`i Homestead Farmers Alliance, Glenn Teves, Steve Morgan and DeGray Vanderbilt. What purpose is consultation if these questions are going to be ignored?

These comments specifically incorporate herein the comments made by the Moloka`i Homestead Farmers Alliance, Glenn Teves, Steve Morgan and DeGray Vanderbilt on the EISPN.

IMPACTS FROM PROPOSED WATER PUMPING AND USE

In his response to the comments our office submitted on behalf of the Moloka`i Homestead Farmers Alliance, Thomas Witten writes, "potential impacts of the proposed use of the Kākalahale Well will be addressed in the permitting process for this well. . . "

The EIS cannot ignore, and the Land Use Commission may not disregard, water issues under the premise that the Water Commission will consider the issue at some future date. In *Maui Tomorrow v. BLNR*, 110 Haw. 234, 245 (2006), the Hawai`i Supreme Court recognized that the BLNR could not make a decision that could adversely affect Native Hawaiian rights subject to a future CWRM decision. The LUC, like the BLNR, is under the duty to protect Native Hawaiian rights and public trust resources.

No EIS can be accepted until after USGS completes the comprehensive modeling analysis that is currently being done. During the Waiola contested case hearing, there was much contention over MPL's failure to provide timely information on its modeling, last minute "re-calibration"; and the untimely production of data upon which conclusions were drawn. The LUC's decisionmaking process on this application will be facilitated if all this information is provided up-front.

The main body of the EIS should disclose the impacts that were projected to occur to the Kualapu`u aquifer from the Waiola Well application. Some of these issues are summarized on pages 126-132 of the cultural impact assessment. This issue should not be minimized, or buried in an appendix. The EIS should explain why there would be any less impact to the aquifer in pumping brackish water instead of potable water.

Some of these impacts are discussed in the materials that are attached to this letter: September 26, 1997 letter from William Meyer to Darrell Yagodich; April 1, 1997 letter from William Meyer to Wayne Nishiki; Direct Witness Statements of Darrell Yagodich, Delwyn Oki, Clyde Satoshi Tamaru, Dan Polhemus, Brendan Harley and Wayde Lee; and the transcripts from the testimony of Wayde Lee and Clyde Tamaru. This information should be provided in the EIS.

The failure to discuss timeframes by which uses of potable water would shift to nonpotable creates significant problems for decisionmakers as well as the resources that will likely be affected by overpumping. Does the applicant promise to <u>not</u> pump any water from the Kākalahale well until after all necessary infrastructure is in place to allow current non-potable uses (such as the golf course and landscape irrigation) to use the non-potable water? And does the applicant promise to not sell any lots until after all this infrastructure is in place?

It is unfortunate that the EIS misleads the LUC and the public by using a false baseline. It asserts that the proposal does not require any more drinking water than what is currently <u>proposed</u> for allocation in the Community-Based Master Land Use Plan for Molokai Ranch (p. 8). The baseline should be either (1) current uses or (2) authorized uses – <u>not</u> proposed uses in a plan that no government agency has ever approved.

The EIS should address whether the covenants preventing MPL from ever seeking further potable water permits apply to MPL's successors, assignees etc..

The EIS should disclose the nature and location of the easements that MPL claims it possesses to cross DHHL land for the transmission of Kākalahale water.

Who is the author of the "Analysis of the Water Plan for the Community-Based Enterprise Community/Moloka`i Ranch Master Land Use Plan found at Appendix P?

DESALINIZATION

The DEIS too cavalierly rejects desalinization as too expensive. It ignores the fact that water costs are passed down to the consumer – a position that the applicant took in the *Waiola* contested case. The figures on page 82 suggest that drinking desalinated water will cost less than triple the cost of groundwater. This price difference is not significant given (1) the small percentage of a household budget spent on water (compared to mortgage, insurance, property tax, homeowner association fees, electricity, sewage bills etc.); (2) the wealth of the people who will buy lots at Lā`au; and (3) the impact that groundwater withdrawals will have on future DHHL activities and Native Hawaiian practices dependent on freshwater flows near the ocean. In addition, the EIS should compare the capital costs of these ventures and consider how using the power of the sun can lower the kwh costs of desalinization.

An independent water purveyor providing desalinated water to Lā`au homeowners would receive PUC approval to charge an appropriate rate that surely these homeowners could afford. Off-island investors will easily absorb island electricity prices that are more than double what they pay at home. Similarly, they can also pay for desalinated water prices that are triple what they may pay at home.

CUMULATIVE IMPACTS

In another case challenging development the west end of Moloka`i and use of water, the Hawai`i Supreme Court held that Chapter 343 "definitely contemplates a consideration of the secondary and non-physical effects of a proposal prior to a governmental approval thereof. And the effects to be studies include the socio-economic consequences of a proposed action, as well as its direct physical impact." *Molokai Homesteaders Cooperative Assn v. Cobb*, 63 Haw. 453, 466 (1981).

The Hawai`i Supreme Court has also ruled that a group of actions must be treated as a single action when:

1) the single action is part of a larger project;
2) the single action is a necessary precedent for the larger action; or
3) the single action has no independent utility

Kahana Sunset Owners v. County of Maui, 86 Hawai`i 66, 74 (1997). *See also*, HAR § 11-200-7. Furthermore, HAR §11-200-2 provides:

> "Cumulative impact" means the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Finally, HAR 11-200-17 requires that an EIS discuss "significant beneficial and adverse impacts (including cumulative impacts and secondary impacts)."

Page 4 of the DEIS notes that "the Lā`au Point project is crucial to the economic viability of the Plan. Proceeds from the sale of Lā`au Point lots will fund renovations and upgrading of the now-closed Kaluako`i Hotel and Golf Course." *See also* page 1 of Social Impact Assessment. Thus, the EIS must address not only the impacts caused by the Lā`au development itself, but also increasing tourism from existing levels. If the Lā`au development will fund the re-opening of the Kaluako`i hotel, then the EIS must address the impacts of the equivalent of 56,000 visitor-nights worth of tourists (p. 75). This analysis would include a review of not only the economic benefits, but also environmental, infrastructure and social impacts. As such, it would be useful to examine the study the state produced (through the UH Department of Urban and Regional Planning) on the impacts of tourism growth.

In our letter commenting on the EISPN, we specifically asked that the DEIS disclose what Moloka`i Properties Limited's plans are for the other lands it owns near Hale o Lono Harbor.

CC&Rs

In *Hui Alaloa v. Planning Commission*, 68 Haw. 135 (1985), the Hawai`i Supreme Court held that the government could not delegate its duties to a private party. In that case, which also involved development on the west end of Moloka`i, the planning commission had attempted to condition the approval of an SMA permit on the preparation of an archaeological protection plan

by the developer's archaeologist. The developer's plan would protect those sites that the developer's archaeologist decided were significant. The court noted that the commission could not have made appropriate findings given the delegation of the duty to protect historic sites to the developer. The court emphasized that findings must first be made before approval can be granted, and that an agency cannot delegate to a developer the duty to ensure that resources are protected. *Id.* at 137.

Similarly, in *Ka Pa`akai O Ka`aina v. Land Use Commission*, 94 Hawai`i 31, 51 (2000), the Hawai`i Supreme Court held that the LUC could not approve a project conditioned on the developer's future development of a resource management plan.

MPL is proposing to do just what the developers in the *Hui Alaloa* and *Ka Pa`akai* cases proposed. The DEIS repeatedly claims that impacts will be addressed through the CC&Rs, which will be developed by the applicant. For example, the DEIS asserts that "to minimize visual impacts caused by the Lā`au Point project, all homes will be subject to stringent CC&Rs." (p. 7)(p.67). "CC&Rs and design standards for Lā`au Point will encourage energy-efficient building design and site development practices to reduce electrical demand." (p. 9) (p. 86). A shoreline access management plan will be included in the CC&Rs and homeowner orientation and education materials. (p. 63). "The strict CC&Rs attached to Lā`au Point ensure that new residents will have to adhere to values consistent with the Moloka`i community." (p.74 ) "Strict CC&Rs for Lā`au Point will restrict the use of hazardous materials, such as fertilizers and termite treatment." (December 13, 2006 letter from Thomas Witten to NHLC, p.3)

The precise content of these CC&Rs, however, has not been provided to the LUC or the public. If MPL wishes to claim that the CC&Rs will mitigate many of the impacts raised in the EIS, then it must include the exact wording of the CC&Rs.

Furthermore, enforcement of the CC&Rs cannot rest only with the homeowners and the Moloka`i Land Trust. It must also rest with government agencies as well. The public trust doctrine requires that the LUC "ensure that the prescribed measures are actually being implemented." *Kelly v. 1250 Oceanside Ptnrs*, 111 Haw. 205, 231 (2006) (internal citations and marks omitted).

Similarly, the shoreline access management plan must be included in the EIS.

AGRICULTURAL EASEMENT

The DEIS reveals that 14,390 "protected" acres that MPL will continue to own will be available for the construction of farm dwellings. The definition of a farm dwelling has been the subject of much controversy and litigation. *See e.g., In the Matter of the Petition for a Declaratory Order of the Sierra Club and David Kimo Frankel,* DR00-23 COL 14 (Land Use Commission, filed October 25, 2000); *Kelly v. Oceanside*, Civ. No. 00-1-0192K (Hokulia). In one instance, a developer labeled a three story dwelling consisting of four bedrooms, six baths, five dressing room areas, two enclosed lanais, a kitchen, a dining room, a living room, and a house keeper room as a "farm dwelling." *In the Matter of the Petition of John Godfrey*, DR94-17 (Land Use Commission, filed December 6, 1994). How is MPL proposing to define farm dwellings for purposes of the agricultural easement? How big can these farm dwellings be? How many can there be? Where will the water come from for farms on these lands?

HOTEL

It is unclear what kind of guarantee, other than a non-binding statement, that proceeds from the sale of Lā`au Point lots will be spent on the Kaluako`i Hotel.

Given that 72,099 tourists visited Moloka`i in 2004 and that the Kaluako`i Hotel is now closed, how realistic is it that the Kaluako`i hotel can generate 56,000 visitor nights per year?

If the hotel cannot obtain sufficient traffic to break even, will MPL propose more development to subsidize its operations?

What will be the impact generated from this increase in tourist arrivals?

SCENIC IMPACTS

Unfortunately, the DEIS does not include a simulation of what Lā`au Point will look like after it is developed. The EIS needs to.

The DEIS misleads the public into thinking that the scenic impact is negligible because so much of the land is left in open space. It is irrelevant that each lot is "relatively large" at two acres given their shape. Some lots fronting the ocean appear to be less than 200 feet wide. The open space will not, for the most part, lie between the houses, but will rather stretch mauka and makai of the houses. Given the shape of the lots (long and narrow facing the ocean), the effect (looking from the ocean) will be a row of houses.

The DEIS fails to include any specific information about the maximum size of the houses.

The maximum height is 25 feet, and, apparently, based on responses to DeGray Vanderbilt, from finished grade. This is quite tall. Couldn't these houses be limited to 15 feet in height?

ENDANGERED SPECIES

The discussion regarding the endangered monk seal is completely inadequate. Phillip Bruner's field survey is a survey – not an impact analysis. The suggestion that people call NMFS when a monk seal is observed reveals the inadequacy of the EIS.

The reason that monk seals frequent this area is that there are no houses and few people. It is unusual for monk seals to frequent beaches that front subdivisions. The impact of this development is not simply that there will be more interaction between humans and the endangered monk seals. Humans will adversely impact monk seal habitat. How will that affect the health of monk seals and their population? The EIS must assess what impact the development of this area will have on monk seals. The EIS must include an analysis by a monk seal biologist.

The suggestion that people on Moloka`i call the National Marine Fisheries Service when a monk seal is encountered is absurd. What kind of presence does NMFS have on Moloka`i? How many NMFS staff members live and work on Moloka`i? And what kind of mitigation is this????

Finally, a biologist with experience locating hawksbill nesting sites should study whether the area is currently used by the endangered hawksbill. The cultural impact assessment reports that the West End is home to many turtles – although it does not identify the species.

MARINE ENVIRONMENT

The water quality analysis failed to examine nutrients in a thorough manner. No analysis of nutrient levels was provided in dry conditions as a baseline. Impacts to the marine environment must examine not only sediments, but also nutrients and hydrocarbons. Sources of nutrients include natural fertilizers, wastewater and pets. Hydrocarbons come from cars. What impact will adding these nutrients and hydrocarbons to the land – and thereby into coastal waters from runoff or percolation – have on coastal water quality and marine life?

The EIS should study the amount of nonpoint source water pollution associated with similar developments and discuss the degradation of coral reefs and coastal water quality caused by similar projects.

The EIS should apply the HSPF model to project post-development total phosphorus load, total phosphorus concentration, total nitrogen load, total nitrogen concentration, nitrate concentration, ammonia concentration, metals concentrations and a pathogen count.

What precisely are the best management practices that will be implemented to control erosion?

Because an EIS is a full disclosure document and because there is no meaningful opportunity for public participation in the approval of erosion control plans, please provide a copy of the erosion control plan and best management practices in the EIS.

The DEIS discloses on page 30 that water quality will be continuously monitored. It fails to discuss what happens if the monitoring detects a problem. What is supposed to take place – and pursuant to what authority – if the water quality monitoring detects a problem?

The drainage maps (exhibit 5 and 6 in Appendix O) are too small to comprehend. Where will the drainage retention and erosion abatement structures be built, and what will they look like?

ACCESS TO BEACHES

Will the public be given an opportunity to review the shoreline access management plan before the EIS process is completed?

Will parking be free?

Will parking be closed at night?

Is the amount of parking adequate?

How will Lā`au homeowners located inland (not adjacent to the conservation district) get to the shoreline? Will they travel all the way to the public shoreline access points at the southern and western ends, or will they be able to cut across land within the development to get to the beach?

Has the old traditional trail been located on the ground and mapped (p. 60)? This information should be in the EIS. The EIS should include the 1886 and 1897 maps that show the trail.

Why are the toilets at the two proposed parks not linked to the wastewater system? Wouldn't coastal resources be better protected if the bathrooms were connected to the developer's wastewater system? Why is the electrical system from the project connecting all the way to Hale O Lono, but the sewage system not linked to the parks?

WILDERNESS

The applicant is to be commended for acknowledging that:

- "development of the area will destroy the special quality of Lā`au as a special place of spiritual mana and power. The overall spiritual quality of the Lā`au area as a wahi pana and wahi kapu cannot be quantified and deserves recognition and respect. The Lā`au Point project will have an impact upon the solitude and spiritual resources now existing." (p. 60)
- the area is an "isolated, pristine and spiritual area" (p. 56)
- "A large part of the significance of the Lā`au Pont area is that it is raw and untouched. . . Lā`au Point has become an icon of what Moloka`i represents – a rural stronghold and reserve of Native Hawaiian culture, a cultural kipuka. If Moloka`i is 'The last Hawaiian Island' then Lā`au is one of the last untouched Hawaiian places on 'The Last Hawaiian Island."

The EIS should identify how many people currently use this stretch of coastline on any given day. How much more use will there be after the 200 houses are built? The character of the area is dramatically affected by the inevitable use by residents of the 200 houses. The EIS should discuss how use by these new residents will affect natural resources in the area, cultural practices and the wilderness experience.

The EIS should discuss the loss of this "unspoiled coastal environment," the impact of this loss to native Hawaiians, the visitor experience, and the affect on visitors return to the islands.

People visit Hawai`i because of the *natural* environment. A VISITOR'S VIEW OF PARADISE: A REPORT ON MAUI'S VISITORS . . . WHY THEY COME, WHAT THEY ENJOY, WHY THEY RETURN) concluded that:

- The most memorable part of visitors' trip was "excursions into Nature."
- The feature that most visitors said that they would like to see more of was "natural coastlines"
- 91% reported that the preservation of natural areas was very important in their decision to return to visit.

MUNITIONS DUMP

The EIS should include a thorough discussion of the former target range, and in particular the munitions dump that the road corridor passes. Has the munitions dump been cleaned up? Are there any plans to clean it up?

ALTERNATIVES ANALYSIS

MPL raises the dire prospect of it selling of its holdings of 101 lots, which could then be subdivided into 1500 lots. How many of these lots have water already available to make them (1) marketable and (2) developable? Does the subdivision code allow lots to be subdivided if no source of water is identified and no drinking water infrastructure provided?

MPL rejects various alternatives in which it sells off some of its holdings. But isn't it true that MPL may still proceed with some of the alternatives it rejected after this project is approved?

What are the entitlements on lands that MPL acquired at Kaluako`i?

FINANCIAL DATA

MPL has put the issue of its finances on the table (*see, e.g.*, page 64 of the Social Impact Assessment). And HAR § 15-15-50(c)(8) makes this information pertinent as well. MPL cannot, after claiming significant revenue loss, refuse to answer questions that challenge the veracity of such claims.

Steve Morgan raises interesting financial data regarding recent profits from sales at Kaluako`i. His data indicates that MPL is not being candid. DeGray Vanderbilt similarly points to a BIL report that Molokai Properties managed to remain cash positive in the 2004/05 financial year. Is MPL really bleeding?

The economic impact analysis absurdly assumes that the cost to government to provide services (per person) will remain the same through the year 2023. The modeling also makes no sense since many additional government services are fixed costs regardless of whether the services are provided to ten new residents or 325 new residents.

SOCIAL IMPACT

The social impact assessment should have devoted less time to surveys and more time to analysis of social impacts. What will be the affect on crime rates, suicides and other indicators of social disruption that were found on Lana`i? The "assessment" reads more like a rationalization than a real assessment of the impacts of social stratification.

ARCHAEOLOGICAL IMPACTS

The EIS must include a map that shows where all the archaeological sites that have been identified are located – particularly with respect to where the houses are proposed.

As OHA commented, view planes between heiau and other cultural sites must be preserved.

Thomas Witten's reply to OHA's letter suggests that buffers around heiau will be nine meters. A nine meter buffer around a heiau and burials is incredibly small.

APPLICANT'S TRACK RECORD

The success of any mitigation measures is dependent on the track-record of the applicant. Furthermore, decisionmakers operating under HRS Chapter 205 are supposed to consider the representations and commitments made by the petitioner in securing a boundary. It therefore is absolutely essential for the EIS to discuss problems the developer may have had in the past in fulfilling commitments and representations.

The EIS should fully disclose the nature of all litigation that relates to promises or representations made, the claims that were made and the final disposition of all such cases. The discussion should be even-handed and not rely on self-serving statements.

To what degree have promises in other EAs and EISes, or applications for government approvals for projects that Moloka`i Ranch been kept? Have all the mitigation measures

mentioned in these documents been implemented? Have there been any violations of the law, citations or warnings issued by government agencies to Moloka`i Ranch?

MITIGATION MEASURES

The Hawai`i Supreme Court has held that the public trust doctrine allows government agencies to issue permits only if the agencies must "ensure that the prescribed measures are actually being implemented." *Kelly v. 1250 Oceanside Ptnrs*, 111 Haw. 205, 231 (2006) (internal citations and marks omitted). This duty cannot be met if agencies' monitoring and enforcement programs are understaffed. Please fully discuss how the public can be assured that any proposed mitigation measures will be performed and will be effective. Please describe the county and state government's monitoring and enforcement programs so that we can be assured that promises made will be kept. How much staff do the State Health Department, County Public Works Department and County Planning Department have to ensure that promises are kept? How often can they be expected to visit the site?

The applicant should identify all proposed mitigation measures in a consolidated list. These measures should be written in plain language that is easily enforceable when incorporated into a permit.

OTHER ISSUES

Who is building the houses: MPL or lot-owners? In other words, is MPL selling lots, or lots with houses?

The EIS should disclose the current electrical capacity on the island and whether this development will necessitate an expansion.

It should disclose whether an indirect impact will be an increase in electrical rates. It should disclose who pays for the extension of electric lines to the site.

When the applicant states that "a net 5 percent of the sale revenue" will go to the CDC, what exactly does that mean? Who determines the net? What factors go into determining the net? If no profit is generated from this project, does the CDC get any money?

The issue of how the CDC will be funded is important because MPL keeps raising the funding of the CDC as a benefit of the project. The EIS cannot, on the one hand, promote the

benefits of the project without, on the other hand, describing the mechanism by which these benefits will accrue. If the sale of a LLC rather than land effectively allows the conveyance of land without the collection of the promised money to the CDC, some of the EIS promised benefits are illusory.

Despite Mr. Witten's assurances, there is no guarantee – and no explanation of any mechanism to ensure – that profits from this development will be used for hotel revitalization.

The EIS should discuss any risks posed by earth slippage that Lā`au homeowners would face. The EIS should include a discussion of the soil type and slope and whether development has taken place in similar types of environments in this state. Attached to this letter is a map showing that vertisols are located at Lā`au. Vertisols are clay-rich soils that shrink and swell with changes in moisture content. During dry periods, the soil volume shrinks, and deep wide cracks form. The soil volume then expands as it wets up. This shrink/swell action creates serious engineering problems and can damage buildings and roads

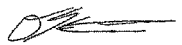
Will the applicant make any commitment to keeping all inadvertently discovered burials in place? Place answer this question: yes or no.

RESPONSE TO COMMENTS

As the Hawai`i Supreme Court has observed, the "applicant must respond in writing and address all concerns and questions before proceeding with the development of the EIS. Once this phase of the process is complete, the applicant then begins preparation of the EIS." *Sierra Club v. Office of Planning*, 109 Haw. 411, 415 (2006)(emphasis added). *See also*, HAR §§ 11-200-15(D), -22(C) and -23.

The applicant ignored or discounted many of the questions asked. These questions must be answered prior to the acceptance of the EIS. These questions include all the questions asked in this letter, our previous letter, as well as others' letters (including the specific financial questions of Steve Morgan and DeGray Vanderbilt).

Sincerely,



David Kimo Frankel
Staff Attorney

Documents attached

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

IN REPLY REFER TO:

September 26, 1997

Mr. Darrell Yagodich
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawaii 96805

Dear Mr. Yagodich:

The purpose of this letter is to summarize the general results of our cooperative investigation on the geohydrology of Molokai that has resulted in the reports: "Geohydrology and Numerical Simulation of the Ground-Water Flow System of Molokai, Hawaii" by Delwyn Oki, and "Water Budget for the Island of Molokai, Hawaii" by Patricia Shade.

As you are aware, pineapple was cultivated on Molokai from 1923 to 1988. During this era, there was a higher rate of ground-water recharge and a lower rate of pumpage than there is today. This is true for the island as a whole and also specifically for the area near Kualapuu. The higher rate of recharge resulted from the fact that evapotranspiration from un-irrigated pineapple is less than evapotranspiration from natural vegetation. The increase in ground-water recharge above that for natural vegetation was about 12.7 mgd (million gallons per day) for the island as a whole, with about half of the increase occurring near Kualapuu. Average ground-water withdrawal for the island during the 1950's era of pineapple cultivation was estimated to be 0.731 mgd. Average withdrawal for the area near Kualapuu was 0.421 mgd for the time period 1954-61. The average withdrawal of ground-water for the time period 1992-96 was 6.225 mgd (including 1.822 mgd from the Molokai Irrigation System tunnel) for the island as a whole. The average rate of ground-water withdrawal near Kualapuu for this time period was 2.263 mgd.

During the 1950's and 1960's, measured water levels in the Kualapuu area were about 10 to 12 feet above sea level. Ground-water levels in the area near Kualapuu are currently declining due to this reduction in recharge and the increase in pumpage. The USGS model predicts that ground-water levels will stabilize at about 8 feet above sea level in the vicinity of the existing DHHL wells in the Kualapuu area if the distribution and rates of pumpage that existed from 1992-96 continue unchanged.

Whether or not the existing rate of pumpage can be maintained without the chloride content of the water rising to unacceptable levels at the DHHL wells is unknown. Available data do not allow this question to be completely addressed. In order to address this question with some confidence,

one would need to known the depth to and thickness of the transition zone between freshwater and saltwater in the vicinity of the wells. It would also be necessary to understand how these two factors are changing with time.

One can estimate the depth to the midpoint of the transition zone using the well known Ghyben-Herzberg principle which predicts that, for an abrupt interface between freshwater and saltwater, every foot of freshwater above sea level must be balanced by 40 feet of freshwater below sea level. Because the transition from freshwater to saltwater is not abrupt, the 40 to 1 ratio is used to estimate the depth to the midpoint of the transition zone. This point is commonly referred to as the "interface." Utilization of this relationship for a water level of 8 feet above sea level results in a calculated depth to the interface of 320 feet below sea level. The two DHHL wells extend to a depth of about 90 feet below sea level. Thus, the distance between the bottom of the wells and the theoretical position of the interface would be 230 feet.

Analysis of data from monitor wells on the islands of Oahu, Maui, and Hawaii indicates that the thickness of the transition zone above the interface is about 80 feet in North Kohala on the Big Island (Underwood, Meyer, and Souza, 1995), about 130 to 150 feet in the Iao aquifer on Maui, and about 150 to 325 feet on Oahu (Souza and Meyer, 1995). Using these values as an approximate guide to the thickness of the transition zone above the interface at the DHHL wells on Molokai, it is clear that an 8-foot water level could potentially result in the DHHL wells being intruded by saltwater. Based on this same data, however, it is possible to argue that the transition zone may not reach the wells.

Some indication that the transition zone may be above the bottom of the wells is indicated by the fact that the average chloride content of the water from DHHL well #1 increased by about 25 mg/L in 1991 and the average chloride content of water from DHHL well #2 increased by just over 10 mg/L at the same time. This increase corresponds to the initiation of pumping at the Department of Water Supply well in the Kualapuu aquifer system. The increase is relatively small and the cause is open to argument, but it does suggest that the top of the transition zone may be near the bottom of the DHHL wells. The average chloride content in DHHL wells #1 and #2 over the last six years is about 100 and 80 mg/L respectively.

In summary, the USGS work on Molokai to date indicates that it is currently unclear if the existing pumpage of 2.2 mgd in the Kualapuu area can continue indefinitely without causing saltwater intrusion that would raise the chloride content of the DHHL well water to unacceptable levels.

The USGS model also indicates that pumping an additional 0.8 mgd (above the existing 2.263 mgd) in the vicinity of the Kukui or DHHL wells will cause water levels to decline to about 7 feet above sea level in the vicinity of these wells. Because, as discussed above, it is questionable if an 8-foot water level will allow existing pumpage to continue without saltwater intrusion of the wells, a 7-foot water level simply increases the potential for failure.

The above results indicate that DHHL will probably have to construct new wells in the Kualapuu aquifer system in order to obtain all or at least part of their 2.9 mgd reservation from this aquifer

system. In order to minimize the effects of any additional pumpage on existing wells, DHHL would have to locate their wells as far away from existing wells as possible. A logical direction for DHHL to explore for additional water would be toward Kamiloloa. This consideration is a major factor in determining the potential effect of proposed pumpage in the Kamiloloa aquifer system on DHHL's ability to obtain their reserve.

The effect of the proposed pumpage resulting from the Wai'ola O Molokai and Molokai Ranch application for a water-use permit in the Kamiloloa aquifer system was evaluated with the USGS model and this evaluation indicated that the addition of this pumpage to the existing pumpage will result in water-level declines in the Kualapuu aquifer system ranging from about 0.1 to 1.0 feet, with the greatest declines occurring near the line between the Kualapuu and Kamiloloa aquifer systems. The water-level decline at the existing DHHL wells would be about 0.2 feet. Although this decline is small, it is not inconsequential. If the additional pumpage of 0.8 mgd at the Kukui or the DHHL wells discussed previously results in a decline of about one foot, it is fair to say that a decline of 0.2 feet at the DHHL wells could represent a loss of about 160,000 gpd (gallons per day) production at these wells. Of potentially more importance, however, are the greater drawdowns induced by the proposed pumpage as one proceeds from the existing DHHL wells toward Kamiloloa. Drawdown in the Kualapuu aquifer system caused by the proposed pumpage in the Kamiloloa aquifer system reduces the potential yield from the Kualapuu aquifer system. Because drawdowns from the proposed pumpage increase in the direction that DHHL would most likely explore for additional water, the possibility of DHHL obtaining their reserve may be undermined.

If you have any questions, please feel free to contact either myself or Delwyn Oki at 522-8290.

Sincerely,

William Meyer
District Chief

Attachment

READING FILE

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

April 1, 1997

Mr. Wayne K. Nishiki, Councilmember
Maui County Council
200 S. High Street
Wailuku, HI 96793

Dear Mr. Nishiki:

Subject: Proposed Maunaloa Town Center on Molokai

The following comments are offered in response to your memo to me of March 27, 1997. With regard to your first question which was as follows:

1. Is it your understanding that the Kamiloloa aquifer and Kualapuu aquifer on Molokai are not separate and distinct from each other; that pumpage of the Kamiloloa aquifer could potentially affect the yield of the Kualapuu aquifer, and vice versa?

The U.S. Geological Survey's (USGS) view of the two aquifers is that they are not separate and distinct from each other. Pumpage from the Kamiloloa aquifer would be expected to affect the yield of the Kualapuu aquifer and vice versa. This fact is stated in a letter from me addressed to Mr. Keoni K. Agard of the Department of Hawaiian Home Lands dated May 7, 1996, copy of which is enclosed. I have also enclosed a copy of a letter from me to Ms. Loretta Barsamian of the U.S. Environmental Protection Agency (USEPA). The main thought in the letter is that the USGS regards the Island of Molokai as being underlain by a single aquifer. The discussion in the letter is the justification of this thought.

2. Is it your understanding that the designation of Molokai as a sole source aquifer means that the USEPA considers Molokai to have only one aquifer?

In a telephone discussion between Mr. Stephen Anthony of my staff and Ms. Wendy Melgin of the USEPA, that was initiated to address this question, I have the following comments. It is our (USGS) understanding that, in general, the designation of an area by the USEPA as a sole source aquifer does not, in and of itself, mean that the area is underlain by a single aquifer. In the case of Molokai, a technical review of the geohydrologic situation on the island by the USEPA resulted in their designation being based, at least in part, on the fact that they do regard the island as being underlain by a single aquifer.

EXHIBIT B-1

3. If your responses to the above questions are in the affirmative, what types of studies need to be done in order to establish whether or not pumpage of the Kamiloloa aquifer could adversely affect the Kualapuu aquifer's ability to provide water to Hawaiian Home Lands? How long would these studies take to complete?

In one sense, the USGS has addressed the broader implications of this question several times. A copy of pages 30 and 31 from USGS Report #95-4180 is enclosed in partial response to this question. A copy of the report itself is being sent to you under separate cover. This discussion on data needs in this report really deals with the additional type of information necessary to quantify ground-water availability on the island as a whole. It does not deal with the amount of new data, time required to collect it, or the cost of the entire effort. Similar work in other parts of Hawaii has cost up to several millions of dollars when test wells are included. The time required to complete test drilling and other analyses is generally several years also. It is clear from data presently available, however, that pumpage from the Kamiloloa aquifer could reduce the ultimate yield from the Kualapuu aquifer, which in turn could affect the aquifer's ability to provide water to Hawaiian Home Lands. With regard to this specific question, no additional work or studies are required.

If you have any questions, please feel free to contact me at (808) 522-8290 or by Fax at (808) 522-8298.

Sincerely,

William Meyer
District Chief

Enclosures

DIRECT WITNESS STATEMENT OF DARRELL YAGODICH

Q: Please state your name and occupation.

A: Darrell Yagodich. I have been employed with the Department of Hawaiian Home Lands (DHHL) for 17 years and am currently the Planning Office Administrator.

Q: What are your general duties and responsibilities?

A: The Planning Office conducts research and planning studies required for the development of policies, plans, and programs to benefit native Hawaiians; provides for the periodic review and update of the DHHL General Plan; produces master plans for the development of planned communities and subdivisions; develops and recommends the approval of programs and administers approved pilot projects. Our office is also responsible for water licenses, permit applications filed with the CWRM, and reservation requests.

Q: Are you familiar with Waiola O Molokai and Molokai Ranch's Water Use, Well Construction, and Pump Installation Permit Applications to withdraw approximately 1.3 mgd of groundwater from the Kamiloloa aquifer?

A: Yes.

Q: What are some of the main concerns regarding the Waiola application?

A: We oppose the Waiola application because we believe it will threaten the ability of the State and the Hawaiian Homes Commission to implement their trust obligations towards native Hawaiians.

Q: What are your trust obligations?

A: As I understand it, our trust responsibilities are stated in the case of Ahuna v. Department of Hawaiian Home Lands, decided in 1982 by the Hawaii Supreme Court.

Q: Can you summarize your trust obligations?

A: As trustees, it is the duty of commissioners to: (1) act exclusively in the interest of the beneficiaries under the Act; (2) hold and protect the trust property for beneficiaries under the Act; (3) exercise such care and skill as a person of ordinary prudence would exercise in dealing with one's own property in the management of Hawaiian home lands; and (4) adhere to the terms of the trust as set forth in the Hawaiian Homes Commission Act.

Public policy articulated in the Hawaii Admission Act, Hawaii State Constitution, Hawaiian Homes Commission Act, and Water Code authorizes the DHHL and other public agencies to undertake a range of activities for the benefit of native Hawaiians.

The Hawaiian Home Lands program was created by the United States Congress via provisions of the Hawaiian Homes Commission Act (HHCA), 1920, as amended, which set aside over 200,000 acres of land for the benefit of Native Hawaiians.

The HHCA §220(d) provides for a mandatory reservation of water for construction of irrigation projects on Hawaiian home lands which states in part, "Sufficient water shall be reserved for current and foreseeable domestic, stock water, aquaculture, and irrigation activities on tracts leased to native Hawaiians."

In the Admissions Act of 1959, as a condition of Statehood, the people of Hawaii adopted the HHCA as part of its State Constitution and accepted an obligation to manage and administer the Hawaiian Home Lands program.

Q: How will the Waiola application threaten the Hawaiian Homes Commission's ability to implement their trust obligations?

A: We are concerned that the proposed well site will harm our wells with saltwater intrusion and limit our ability to secure our water reservation. The DHHL contracted with the USGS to establish a groundwater model to estimate the interaction between wells on Molokai. This study entitled, "Geohydrology and Numerical Simulation of the Groundwater Flow System of Molokai, Hawaii" (Exhibit D-1) was a product of our cooperative agreement with the USGS. The groundwater model strongly suggests that the Kualapuu aquifer is overdrawn just with the current authorized uses. The model predicts that our well levels will drop from the current 11 feet to about 8 feet at equilibrium. This could raise the chloride concentration in our wells. Chlorides have been increasing in our wells for the last 10 years. For example, chlorides have increased by about 20 mg/L in DHHL well 1 (0801-01) and 10 mg/L in DHHL well 2 (0801-02). This suggests that the bottom of our wells are near the top of the transition zone. If well levels are decreasing and chlorides are increasing then our ability to draw on our reservation is also severely reduced. The aquifer may not have the capacity to sustain increased withdrawals. Since the aquifer appears to be overdrawn, the Waiola application does not meet the "reasonable-beneficial" requirement as defined in §174C-3.

Q: Are you familiar with the water system on Molokai?

A: Yes.

Q: Can you describe how DHHL supplies potable water to its beneficiaries?

A: We have two wells in Kalae, 0801-01 and 02 (Exhibit D-2). These two wells supply about 0.5 mgd of potable water to our Hoolehua and Kalamaula Homestead area. There are 40 miles of transmission and distribution main lines throughout these areas. The system also includes several storage tanks, pumps, pressure relief valve stations, main valves, the control and monitoring of water quality, and approximately 425 water meters.

Q: Can you describe the Molokai Irrigation System?

A: The MIS was completed in 1962 with surface water being captured and dispersed from the Waikolu Valley via the 0.5 mile tunnel to the MIS. Water is used by diversified agriculture by farmers on DLNR, Molokai Ranch, and Hoolehua homestead lands.

Q: Does DHHL also maintain a dual water system for beneficiary use?

A: There are two systems with agricultural water provided from the MIS under the jurisdiction of the Department of Agriculture to Hoolehua but not in Kalamaula. Domestic water is provided for homesteaders and non-homesteaders in Hoolehua and Kalamaula under the jurisdiction of DHHL. The range of agricultural water use in Hoolehua is 2,700 - 4,000 gpd per acre. The average domestic water use in Hoolehua and Kalamaula is 1000 - 1500 gpd, respectively.

Q: Are there other subdivisions planned for these two areas?

A: Yes. Design and construction projects in progress include about 425 more homestead lots in Hoolehua and Kalamaula to meet the needs of awardees and the 1615 applicants on the waiting list for homestead lots on Molokai. Leases will include agricultural, pastoral, and residential lots, and industrial and commercial leases.

Q: Does DHHL also support the water needs of other users?

A: Yes. We supply water to the Molokai Intermediate School, Kualapuu Elementary School, Airport, Maui County, Meyer Subdivision in Kalae, Maui Electric Co., the Seventh Day Adventist Church, and many others.

Q: Can you summarize your water use?

A: We have a permit to use 0.367 mgd of water which is supplied by our two wells in Kualapuu, 0801-01 and 02. The two wells supply water to Hawaiian Home Lands and other lessees in Hoolehua and Kalamaula and is the sole source of drinking water for our beneficiaries. We have a 2.9 mgd reservation in the Kualapuu aquifer. We have a 0.9 mgd water use permit application on file with the CWRM to further service our beneficiaries in Hoolehua and Kalamaula. Future water use would come from our reservation.

Q: Who will be providing expert witness testimony for the Department of Hawaiian Home Lands regarding the groundwater study?

A: Delwyn Oki of the USGS will discuss the methods used in the study. His curriculum vitae is attached (Exhibit D-3). Bill Meyer of the USGS will discuss the model findings and its implications. His curriculum vitae is attached (Exhibit D-4). Bill Meyer also reviewed the groundwater model submitted by Waiola and will provide testimony on this (Exhibit D-5). His testimony will include a discussion on the State's guidelines for groundwater model reports (Exhibit D-6).

Q: Does DHHL have a reservation of water on Molokai?

A: Yes. Pursuant to HAR §13-171-63, the DHHL has a reservation of 2.905 mgd of water in the Kualapuu aquifer system. It is our understanding that decisions of the CWRM shall protect reserves of water for current and foreseeable development and use of Hawaiian Home Lands, HRS §174C-101(a), as set forth in HHCA §221. Conditions for a permit will not interfere with the rights of the DHHL, HRS §174C-49(a)(7). All permits issued by the CWRM shall be subject to the rights of the DHHL, HRS §174C-(49)(e).

Q: Can you summarize your trust activities on Molokai?

A: The DHHL has 25,383 acres of land on Molokai in Hoolehua, Kalamaula, Kalaupapa, Kamiloloa, Kapaakea, Makakupaia, and Ualapue. As of August, 1996, there were 812 homestead leases on Molokai and 1,615 applicants on the waiting list. Construction and design projects in progress include almost 300 homestead lots in Hoolehua and Kalamaula to meet the needs for homestead lots on Molokai. Leases will include industrial and commercial leases, agricultural, pastoral, and residential lots. Water requirements for the new uses will be about 0.9 mgd. A water use permit application, first submitted in November 1996, is on file with the CWRM.

Q: Are you concerned with the effects on the utility and capacity of infrastructure improvements paid for with public and trust funds which provide water to the Molokai Irrigation System, Airport, High School, and Kualapuu Elementary?

A: Yes. The DHHL derives trust revenues from water licenses and other leases. The DHHL has over 25,000 acres under lease or license, including 12,599 acres considered revenue producing. Some of these leases and licenses contain provisions for water use.

Approximately $400,000 is generated annually and is expected to increase with over 1600 applicants on the waiting list and as other lands become developed. This revenue is placed back into our trust operating budget. We supply water to the Airport, Kualapuu Elementary and Molokai High, and Hawaiian Research, Ltd., among others. It is our understanding that decisions of the CWRM shall not diminish or extinguish trust revenues derived from existing water licenses unless compensation is made, HRS §174C-101(b).

Q: Are there concerns that the withdrawal of water from the Kamiloloa aquifer may adversely impact the Alii Fishpond located within Kamililoa?

A: Yes. The USGS model predicts freshwater discharge will be reduced in coastal springs. Model results indicate that 95 percent of the coastal discharge reduction will occur over a 13-mile stretch of southern coastline. Coastal discharge is reduced by 3 percent within this 13-mile stretch of coastline. Waiola must demonstrate that this reduction is springflow will not interfere with the springs feeding the fishponds, spawning grounds, and limu grounds along the Kamiloloa shoreline.

Q: Are you concerned that the Waiola well site will interfere with DHHL's water reservation?

A: Yes. Waiola submitted a Nance-McNulty groundwater model which concludes that well levels will fall to 5 feet with current authorized uses. This does not include utilizing our reservation. This is in general agreement with the USGS study. As such, we don't believe the aquifer has the capacity to support further pumping. We believe the CWRM should deny Waiola their permit on this basis.

The USGS questions whether an 8-foot well level will allow existing withdrawals to continue without saltwater intrusion. The Nance-McNulty model shows a 5-foot well level. As a result, the DHHL would probably have to construct new wells in Kualapuu in order to obtain all or part of our reservation. We would probably have to site our new well as far from existing wells as possible. A logical direction would be to explore for additional water near the Kamiloloa boundary. The 2-5 foot drawdown from the proposed Waiola site, as shown in the Nance-McNulty model, would have a considerable effect on our ability to secure our reservation.

Q: Any other concerns regarding the Nance-McNulty groundwater model?

A: Waiola has not provided enough information regarding the Kamiloloa aquifer's ability to supply their requested amount, its effect on Kualapuu, or on the coastal springs along the southern shore. They have not supplied the necessary documentation per the state's guidelines to support their application for water use (Exhibit D-6). We believe the CWRM should deny the Waiola application on this basis.

Q: Are there other concerns regarding the USGS groundwater model?

A: Yes. The model concluded that we need more information to advance decision making. Such information would require the placement of a monitoring well or well field to accurately describe the transition zone which we know very little about. We believe the CWRM should defer decision making on the Waiola application until a monitoring well is in place and results permit additional withdrawals.

Q: Are there other concerns regarding current withdrawals in Kualapuu?

A: Yes. We understand that the Kualapuu aquifer is overdrawn and that permit holders are withdrawing more than their authorized amount. We have requested the CWRM to investigate and take corrective action if necessary.

Q: Does the DHHL claim appurtenant or riparian rights in the area?

A: Yes. The DHHL claims appurtenant and riparian rights to spring water flowing into the fishponds and nearshore waters along the southern portion of Molokai pursuant to §174C-101. Native Hawaiians practice aquaculture and limuculture in the Alii Fishpond area. Groundwater pumping may have a one-to-one affect on spring flow along the southern shore of Molokai where the DHHL has property. Spring flow may be reduced in the ponds which may affect the quality of the nearshore fisheries habitat.

Q: Any other concerns regarding the Waiola application?

A: We are concerned with the submittal of three permits at one time. We don't believe this to be prudent in a water management area. We believe separate applications should be filed with the public comment period preserved. We feel this would be in the public's best interest as well as our own as defined in the statement of policy objective in §174C-2(c).

Q: Can you summarize why DHHL opposes the Waiola application?

A: We believe the proposed use of water does not meet the criteria for the issuance of a water use permit as provided in HRS §174C-50(b) for the following reasons: (1) it will threaten the ability of the State and the Hawaiian Homes Commission to implement their trust obligations towards native Hawaiians. The Waiola application would harm our wells, our sole source of drinking water for our beneficiaries, with increased chlorides; (2)

it would harm our ability to secure our water reservation; (3) reduce revenues from current and future water leases; (4) diminish our riparian and appurtenant rights as seen by reduced aquaculture yields; (5) the USGS and the Nance-McNulty model both conclude that the Kualapuu aquifer is hydrologically connected to the adjoining Kamiloloa aquifer and is overdrawn; (6) the Nance-McNulty model does not meet the state's guidelines for documentation of groundwater model reports, is therefore incomplete, and otherwise does not support Waiola's contention that water is available for withdrawal; (7) the Water Use, Well Construction, and Pump Installation Permit Applications should be submitted in an orderly fashion with the public comment period preserved.

In the event the CWRM does not deny the Waiola application, we request the CWRM to defer action on the Waiola application until a monitoring well is drilled and the transition zone is better understood.

DIRECT WITNESS STATEMENT OF DELWYN OKI

Q: Please state your name and occupation.

A: My name is Delwyn Oki and I am a hydrologist with the U.S. Geological Survey.

Q: Please describe your relevant education and background.

A: I have a Ph.D. in Geology and Geophysics from the University of Hawaii. My dissertation was on modeling the effects of pumping, barometric pressure, and ocean tides on ground-water levels in northern Oahu. I also have a Bachelor of Science and Master of Science degree in Civil Engineering from the University of Hawaii. I have published articles in peer-reviewed journals on various topics related to ground-water hydrology in Hawaii.

Q: Have you participated in or conducted any studies related to the ground-water flow system on Molokai?

A: Yes.

Q: Were you the author of the U.S. Geological Survey report "Geohydrology and Numerical Simulation of the Ground-Water Flow System of Molokai, Hawaii?"

A: Yes.

Q: Was the report peer-reviewed?

A: Yes.

Q: As part of your study, did you develop a numerical ground-water flow model for the entire island of Molokai?

A: Yes.

Q: Is the model the best available tool for estimating the long-term effects of current and additional withdrawals on ground-water levels on Molokai.

A: Yes.

Q: What numerical code did you use for your model?

A: The code used was AQUIFEM-SALT, which is a U.S. Geological Survey code written by Clifford I. Voss (Water-Resources Investigations Report 84-4263). The code has been used for studies on Oahu, Hawaii, and now Molokai, where freshwater lenses exist.

Q: Does your model account for aquifer system boundaries as used by the State Commission on Water Resource Management?

A: The aquifer system boundaries used by the Commission on Water Resource Management were drawn primarily on the basis of topographic considerations which may not be relevant from a ground-water flow standpoint. Thus, the aquifer system boundaries were not used in the model.

Q: Does your model account for any geohydrologic barrier along the line separating the Kamiloloa and Kualapuu aquifer systems?

A: No. Although there are volcanic vents in the area, there is no evidence for a barrier running along the line separating the Kamiloloa and Kualapuu aquifer systems.

Q: Does your model account for the different geological settings on Molokai?

A: Yes. Zones were created in the model to account for different geological settings. For instance, separate zones were created for the dike-complex areas and dike-free areas to account for differences in permeability. Dike-complex areas generally have a lower overall permeability than dike-free areas.

Q: What was the basis for defining the geometry of the zones?

A: The model zones were defined on the basis of published information.

Q: What does your model simulate?

A: Within the modeled area, the numerical model simulates ground-water flow and the

distribution of freshwater heads, commonly represented by water levels, for steady-state conditions. The model also simulates discharge to the ocean, streams, and wells.

Q: What is meant by steady-state?

A: Steady-state means that conditions do not change with time. For steady-state conditions to exist in a ground-water flow system, recharge, discharge, and water levels must not change with time. Steady-state conditions generally do not exist in hydrologic systems because of changes in rainfall or withdrawal rates. When viewed over long time periods, however, some hydrologic systems do approach steady-state conditions.

Q: Why does your model simulate steady-state conditions?

A: We do not have enough data to predict the daily, seasonal, or interannual variations in pumping rates or recharge rates. In any event, we were mainly interested in studying the long-term hydrologic effects of pumping at a given rate. Steady-state simulations allow us to estimate the ultimate distribution of water levels and coastal discharge for given withdrawal and recharge rates.

Q: How do you test whether the model is properly representing the system?

A: The model must be able to reproduce a set of measured conditions. For the Molokai model, I attempted to represent conditions for the period 1954-61. During this period, withdrawals, water levels, and rainfall were relatively steady. I varied the distribution of hydraulic characteristics in the model until model-calculated and measured water levels were in general agreement, and model-calculated and estimated spring discharge were in general agreement.

Q: What was the average reported pumpage during the period 1954-61?

A: Total reported pumpage during 1954-61 averaged about 0.7 million gallons per day.

Q: What was the ground-water recharge for the period 1954-61 that was assumed to contribute to the modeled ground-water system?

A: Total recharge used in the model for the period 1954-61 was 200.0 million gallons per day.

Q: How was the recharge estimated?

A: Recharge was estimated by a monthly water-budget model that accounts for spatially varying rainfall, runoff, evapotranspiration, soil moisture storage, and recharge.

Q: Does the water-budget model account for the effects of evapotranspiration suppression by pineapple plants?

A: Yes.

Q: What were the measured water levels in the Kualapuu area during the period 1954-61.

A: About 10 to 12 feet above sea level.

Q: Did the model represent the water level in the Kualapuu area properly?

A: Yes, the model simulated a water level of about 11 feet above mean sea level in the Kualapuu area.

Q: Did you then simulate the long-term effects of pumping at the average 1992-96 withdrawal rates?

A: Yes, I simulated a base-case scenario in which withdrawals were assumed to be at the average 1992-96 rates.

Q: What was the average reported withdrawal rate during the period 1992-96?

A: Total withdrawals during 1992-96 averaged about 6.2 million gallons per day, which includes about 1.8 million gallons per day of gravity flow to the Molokai Irrigation System tunnel. Reported ground-water pumpage data were obtained from the Commission on Water Resource Management.

Q: What was the recharge you used for this base-case scenario to estimate the long-term effects of pumping at the average 1992-96 withdrawal rates?

A: Total recharge used in the model for this simulation was 187.3 million gallons per day. Recharge was estimated for natural vegetation conditions and is documented by Patricia J. Shade in a separate U.S. Geological Survey report (U.S. Geological Survey Water Resources Investigations Report 97-4155). Recharge for natural vegetation is less than estimated for the period 1954-61 because of the loss of pineapple cultivation. Results of the water-budget model indicate that pineapple cultivation on Molokai increased ground-water recharge, relative to natural vegetation conditions, by about 13 million gallons per day.

Q: What was the long-term model-calculated water level in the vicinity of the existing DHHL wells near Kualapuu in the base-case scenario?

A: About 8 feet above sea level.

Q: Is there any evidence that chloride concentrations in pumped water from wells near Kualapuu have been increasing in the past 10 years?

A: Yes. Since 1991, chloride concentrations in pumped water from DHHL well 1 (0801-01) have increased by about 20 mg/L (milligrams per liter). Since about 1990, chloride concentrations in pumped water from DHHL well 2 (0801-02) have increased by about 10 mg/L. The chloride concentrations in pumped water from both DHHL wells, however, have remained below 250 mg/L, which is the maximum contaminant level established by the U.S. Environmental Protection Agency under the secondary drinking-water standards.

Q: Did you also simulate the hydrologic effects of additional withdrawals beyond the average 1992-96 rates?

A: Yes, I simulated three additional scenarios.

Q: Can you describe scenario 1?

A: In scenario 1, I simulated about 0.3 million gallons per day additional withdrawal at the site of the proposed Waiola well. All other conditions were the same as in the base-case scenario.

Q: Can you describe the effects on water levels caused by pumping the additional 0.3 million gallons per day?

A: Model-calculated water-level drawdown was greatest in the vicinity of the proposed well, and decreased with distance from the well. Model-calculated water-level drawdown within 0.5 mile from the proposed well is greater than 0.2 feet. Model-calculated drawdown in the vicinity of the existing DHHL wells near Kualapuu is greater than 0.05 feet and less than 0.1 feet. Model results indicate that drawdown of 0.01 feet or more extends as much as 6 miles northwest of the proposed well site. At the coast, model-calculated drawdown is less than 0.01 feet, and within a mile of the coast, model-calculated drawdown is less than 0.05 feet.

Q: Can you describe the effects on coastal discharge caused by pumping the additional 0.3 million gallons per day?

A: For steady-state conditions, natural ground-water discharge will be reduced by an amount equal to the human-induced ground-water withdrawals. Thus, the model-calculated natural ground-water discharge was reduced by 0.3 million gallons per day. Model results indicate that 95 percent of the coastal discharge reduction will occur over a 13-mile stretch of southern coastline. Relative to the base-case scenario, coastal discharge is reduced by 0.8 percent within this 13-mile stretch of coastline. The largest effects will occur in areas nearest the well. The effects diminish with distance from the well.

Q: Can you describe scenario 2?

A: In scenario 2, I simulated 1.3 million gallons per day additional withdrawal at the site of the proposed Waiola well. All other conditions were the same as in the base-case scenario.

Q: Can you describe the effects on water levels caused by pumping the additional 1.3 million gallons per day?

A: Model-calculated water-level drawdown within 0.5 mile from the proposed well is greater than 0.5 feet. Model-calculated drawdown in the vicinity of the existing DHHL wells near Kualapuu is greater than 0.1 feet and less than 0.5 feet. Model results indicate that drawdown of 0.01 feet or more extends as much as 9 miles northwest of the proposed well site. At the coast, model-calculated drawdown may exceed 0.01 feet but is less than 0.05 feet. Near Kaunakakai, model-calculated drawdown within a half mile of the coast is about 0.1 feet.

Q: Can you describe the effects on coastal discharge caused by pumping the additional 1.3 million gallons per day?

A: The model-calculated natural ground-water discharge was reduced by 1.3 million gallons per day. As in scenario 1, model results indicate that 95 percent of the coastal discharge reduction will occur over a 13-mile stretch of southern coastline. Relative to the base-case scenario, coastal discharge is reduced by 3 percent within this 13-mile stretch of coastline.

Q: Can you describe scenario 3?

A: In scenario 3, I simulated 0.8 million gallons per day additional withdrawal at the site of the existing Kukui well 0901-01. All other conditions were the same as in the base-case scenario.

Q: Can you describe the effects on water levels caused by pumping the additional 0.8 million gallons per day?

A: Model-calculated drawdown in the vicinity of the existing DHHL wells near Kualapuu is about 1 foot. Model results indicate that drawdown of 0.01 feet or more extends as much as 8 miles northwest of the proposed well site.

Q: Can you describe the effects on coastal discharge caused by pumping the additional 0.8 million gallons per day?

A: The model-calculated natural ground-water discharge was reduced by a total of 0.8 million gallons per day. Along a 6-mile stretch of northern coastline, discharge is reduced by 0.1 million gallons per day, which represents a reduction of about 3 percent relative to the base-case scenario. Discharge is reduced by about 0.7 million gallons per day along the southern coast, over a stretch of coastline that is at least 10 miles long.

Q: In the report, do you describe the limitations of the model?

A: Yes.

Q: What are some of the model limitations?

A: Water-level data are not available for many areas of Molokai. Because of the limited spatial distribution of measured water levels, the model is unverified in places. In addition, the model developed is not unique. That is, different distributions of hydraulic characteristics could conceivably produce equally acceptable model-calculated water levels. Additional data are needed to better estimate the hydraulic-conductivity distribution on the island. Another important limitation is that the model cannot predict salinity changes, either at the regional- or local-scale.

Q: What would help to address these limitations?

A: More data are needed to address the limitations. Drilling of additional monitoring wells would help to better define the spatial distribution of water levels on Molokai. Deep

monitoring wells that are drilled through the transition zone between freshwater and saltwater would help to estimate the availability of fresh ground water. Aquifer tests should be conducted to obtain independent estimates of hydraulic conductivity throughout the island.

Q: If the model is not unique, how can it be used to simulate the effects of current and additional withdrawals on ground-water levels on Molokai?

A: Although it is possible that different distributions of hydraulic characteristics could conceivably produce equally acceptable model-calculated water levels, the values for the hydraulic characteristics estimated in the model represent the actual values as closely as available data will reasonably allow.

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BEFORE THE COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I

In the Matter of the Contested Case Hearing on Water Use, Well Construction, and Pump Installation Permit Applications Filed by Wai'ola O Molokai and Molokai Ranch Ltd.	)	CCH-MO 96-1 INTERVENORS MARTIN KAHAE, ET ALS.' DIRECT WITNESS STATEMENT OF CLYDE SATOSHI TAMARU

DIRECT WITNESS STATEMENT OF CLYDE SATOSHI TAMARU

Q. What is your name?

A. Clyde Satoshi Tamaru

Q. Where are you employed?

A. I am an Aquaculture specialist for state DLNR (Aquaculture Development Program). I also am on the faculty at UH Hawaii Sea Grant Extension Service. I started in the joint position in 1995.

Q. Where were you employed previously?

A. Between 1981-93, I worked at the Oceanic Institute as principal investigator and program manager, working in aquaculture. From 1993-95, I was a consultant, working throughout Southeast Asia on fisheries and aquaculture projects.

Q. What is your educational background?

A. I earned my Ph.D in agriculture from University of Tokyo in 1981. My degree is from the Department of Fisheries in Faculty of Agriculture at the University of Tokyo. Rest of world sees aquaculture as agriculture. I have provided a curriculum vitae which summarizes my background and publications. I've marked it at Exhibit B-22.

Q. Given this training and background can you offer a professional opinion on the role of fresh water in the life cycle of the fish you studied?

A. Yes, I believe my academic and professional background qualifies me to render an opinion based on my training and education in the field of aquaculture.

Q. Is the life cycle of fish like mullet and aholehole tied to the inflow of fresh water from the land into coastal areas?

A. In order to understand any answer to that question, you have to appreciate the pattern fish follow in their life cycle. When mullet or ama'ama are fry, up to one month old, they are predators, eating zooplankton in the open ocean. Then they move to nearshore areas where they switch to an omnivore diet, and feed on diatoms, a benthic plant usually found on the bottom of estuaries where brackish water and sunlight mix to allow for their growth. They stay on this diet for the rest of their lives, feeding in estuaries and stream mouth areas which are conducive to this plant. Fishermen often know these locations in their areas.

The aholehole will follow a similar pattern. However, they are planktivores, feeding on small shrimp, crustaceans and baby fish. Thus, aholehole rely on nearshore areas for their nurseries.

Brackish water environments also support the fries of the ulua and moi indirectly which provide their fry, in the summer months when they spawn, a place to grow. These fry, the papio and moili'i, stay in shallows to feed and for protection from predators. They rely on food sources like opae, and other fry or pua (of awa and ama'ama). In turn, the opae eat diatoms, which are on the bottom part of the food chain. Brackish water brings in nutrients on which phytoplanktons and diatoms feed. This food pyramid is depicted in Exhibit B-23.

Q. What is the significance of understanding this relationship?

A. These fish depend on this natural food web or chain, of which fresh water is an integral part. If you disturb the base of this chain or web, everything is disrupted above the pyramid. Furthermore, this disturbance is not proportional. For a disturbance in any lower level of this pyramid, the effects above are exponential - e.g., if you decrease populations in the bottom by half, the impact on higher level populations is ten-fold, where the fish is situated.

Q. So how do you protect fish stocks that have been depleted?

A. You need to protect estuaries, which are critical to restoring fisheries, especially for the fish species I've mentioned, long depleted by this lack of understanding. We can artificially stock fry in the ocean, but without healthy ecologies in estuaries, it's pointless, they'll all die off without this natural habitat. For example, if you restock O'ahu areas like Punalu'u with mullet fry, where there is limited brackish environments and nurseries, the fry will not stay around, migrating to Kahana Bay where there are fresh water inflows. In contrast, in Hilo, the populations stay in the area, where estuaries are less disturbed, allowing for recovery of the species and habitats. The principle would be the same in any fishery where you have fresh water input. The biggest reason for decline in a whole variety of fish populations is the disruption of the life cycle I've described by both habitat destruction and overfishing. Without fresh water, you interrupt this life cycle.

Q. Is fresh water the only reason for the decline of fish in many parts of Hawaii?

A. Overfishing and other contributions to habitat destruction are definitely other factors in

this decline. It's true that we suffer from a lack of extensive study on the exact relationship between fresh water and fish stocks. However, in my opinion and based on my experience, fresh water is a significant factor in the decline of the fish, like those I have mentioned, that many people, especially Hawaiians, gather. And the decline is clear. Between 1948-96 catch of mullet has plummeted.

With flood control project or artificial stream diversions changing or disrupting fresh water sources, the mullet, aholehole, shrimp (opae) and many of the fish that rely on opae and crustaceans are all adversely affected. In fact, the whole food chain changes.

Q. Is there any other reason you believe that the contribution of fresh water is important to the health of fish populations?

A. Hawaiians understood this relationship, and built fishponds in areas fries normally came along shorelines with estuaries. Loko kuapa, or fishponds, were built around coastal springs and discharge points for streams because of this understanding. Local fisherman from Windward O'ahu told me that when the Waiahole water came back in recent months, so did the fish populations. This result told me that fresh water was an important factor in restoring fisheries.

BEFORE THE COMMISSION ON WATER RESOURCE MANAGEMENT

OF THE STATE OF HAWAI'I

In the Matter of the Contested Case Hearing on Water Use, Well Construction, and Pump Installation Permit Applications Filed by Waiola O Moloka'i and Moloka'i Ranch, Limited	)	Case No.: CCH-MO96-1

REBUTTAL TESTIMONY OF DAN POLHEMUS

1. My name is Dan Polhemus. I am currently a research entomologist working in the Department of Entomology at the Smithsonian Institution in Washington, D.C. Prior to this I was employed from 1990 to 1996 as a research entomologist at the Bishop Museum in Honolulu. I received my Ph.D. in biology from the University of Utah in 1984, and my B.S. in entomology from Colorado State University in 1980. From 1992 through 1996 in was involved in statewide conservation status surveys of native damselflies throughout Hawaii under funding from the U.S. Fish and Wildlife Service ("FWS"). A copy of my curriculum vitae is attached as Exhibit C-9.

Introduction

2. The Orangeblack Hawaiian Damselfly, *Megalagrion xanthomelas*, formerly occurred throughout lowland aquatic habitats on all the high Hawaiian islands. Photographs of *Megalagrion xanthomelas*, as well as a diagram of Hawaiian damselfly habitat, is attached as Exhibit C-10. Although common at the turn of the century, the species began to experience a progressive decline after World War II, and by the early 1990s had not been seen on O'ahu for over twenty years. This fact, coupled with the extensive

alteration of lowland habitats in which the species formerly bred, led Polhemus (1993) to conclude that the species was probably extirpated on O'ahu when he reviewed the conservation status of *Megalagrion* species for the FWS. Based on this assessment, plus the apparent extirpation of the species on Kaua'i and Maui as well, FWS (1994) proposed that *M. xanthomelas* be listed as a Threatened species and given protection under the Endangered Species Act. Due to political considerations this listing has been temporarily delayed, but the species retains a C1 status on the Federal Register, meaning that its listing is imminent.

Taxonomy and historic distribution of *Megalagrion xanthomelas*

3. *Megalagrion xanthomelas* was described by Selys-Longchamps (1876) based on specimens collected by G. F. Matthew of the Royal Navy, and labelled "Sandwich Islands", with no specific island within the group noted on the labels. The location of Selys-Longchamps' types is not currently known, although it is suspected that they may be in the Koninklijk Belgisch Instituut voor Natuurwetenschappen, in Brussels. The species has not been confused with others since its original description, thus its taxonomic history is relatively simple and devoid of synonyms. The original distribution of *M. xanthomelas* within the Hawaiian islands is a matter of some speculation. It seems unlikely that the species ever inhabited the small, dry island of Kaho'olawe, and its presence on Kaua'i is open to question. Perkins (1899) stated that *M. xanthomelas* "Probably occurs all over the islands", although he lacked any collections from Kaua'i and Lāna'i. Kennedy (1917) followed Perkins' opinion and listed *M. xanthomelas* from O'ahu, Moloka'i, Maui, Hawai'i, Kaua'i and Lāna'i, although once again there were apparently no specimens at hand supporting the latter two records. It was only in 1993 that specimens were finally captured on Lāna'i (Polhemus, 1993), and to date the species has never been taken on Kaua'i, although a specimen is present from nearby Ni'ihau.

4. The ecology of *M. xanthomelas* was discussed anecdotally by Williams (1936), who also illustrated the immatures. They appear to have formerly bred in imponded sections of lowland streams, and in both natural and artificial ponds. The ability of this species to exploit artificial habitats was noted by Perkins, who observed that *M. xanthomelas* was "a common insect in Honolulu gardens and in lowland districts generally, not usually partial to the mountains, though in the Kona district of Hawai'i it is common about stagnant pools up to an elevation of about 3000 feet. It is very numerous under conditions changed from the natural; perhaps it now finds more numerous breeding places, and a more abundant prey in the numerous insects that have been introduced by man in the region it frequents." Williams (1936) also noted that *xanthomelas* bred abundantly in sugar plantation reservoirs at Wai'anae. Zimmerman (1948), by contrast, remarked that the introduction of Gambusia topminnows "has changed the lowland situation considerably in recent years, however, and the species is much less abundant than formerly."

5. The decline in populations of *M. xanthomelas* noted by Zimmerman in the years after World War II has continued to the present day. The species is now apparently extirpated on Maui, with no records from that island for the last hundred years, and on O'ahu has been reduced to a single known population (at Tripler Army Medical Center). Moloka'i is known to support four known populations, and the species is abundant in artificial golf course ponds on Lāna'i, although elsewhere on that island it retains only a tenuous foothold in small remnants of its former natural habitat. Only on Hawai'i island is

the species still truly widespread, being commonly found in the coastal wetlands of the Puna, Ka'ū and Kona districts.

Current Status of *Megalagrion xanthomelas*

6. The most common habitats in which this species occurs are coastal wetlands fed by basal springs, as seen in the Puna, Ka'ū and North Kona districts of Hawai'i, at Pālā'au on Moloka'i, and formerly at Pearl Harbor on O'ahu. This species also occasionally breeds along the terminal and lower midreaches of perennial streams, as illustrated by the populations at Pelekunu and Waikolu streams on Moloka'i, and at Onomea Bay on Hawai'i island. Given the absence of introduced aquatic biota, *M. xanthomelas* can also breed in reservoirs and ornamental ponds, as recorded previously by Williams (1936), and currently documented at the Kō'ele Lodge on Lāna'i. The species will also opportunistically exploit temporary habitats, as shown by its occupation of ephemeral side pools bordering flashy streams on Hawai'i island, and pipeline seepages on Lāna'i.

7. Despite its broad range of ecological tolerances, *M. xanthomelas* is becoming increasingly rare in Hawai'i, having apparently been extirpated from two islands, Kaua'i and Maui, on which it previously occurred, while being perilously close to extirpation on O'ahu. Based on our current understanding of the species' biology, this loss of *M. xanthomelas* populations is linked more to the introduction of alien aquatic biota than to outright habitat alteration or destruction. On the one hand this is a source of optimism, since this pattern of decline can perhaps be stabilized through protection of remaining natural habitats or construction of suitable refugia. On the other hand, it is also a source of

pessimism, since the continuing onslaught of alien aquatic species in Hawaii shows no signs of abatement.

Population at Pala'au Wetland, Moloka'i

8. An extensive basal spring wetland is present at Pālā'au, 2 miles east of Kaunakakai on the southern coast of central Moloka'i. At least six individual spring outflows of varying sizes are present in this area, many being marked by stands of bulrushes (*Schoenoplectus* sp.), bordered peripherally by expanses of pickleweed *(Batis maritima)*, and others emerging along the margins of shallow coastal basins to form large, horizontally stratified mixohaline ponds, most notably the Kaluaapuhi Pond. Most of the larger springs that emerge above sea level have been boxed, although their outflows still reach the ponds, and water from others is being used to supply an expanding series of aquaculture projects, and for cooling and steam generation at the local power plant. The vegetation of the area is highly altered from its original state, being a kiawe *(Prosopis pallida)* savannah along the inland margins, and bearing a thick band of mangroves seaward, the latter having become established after World War II. A more complete vegetative description of this ecosystem type may be found in Wagner et al., 1990.

9. *Megalagrion xanthomelas* was present here during surveys in 1995, occurring along the along the inland margins of the wetland in company with two introduced damselfly species, *Ischnura ramburi* and *Ischnura posita*, and two larger dragonfly species, *Anax junius* and *Orthemis ferruginea*. Individuals of *M. xanthomelas* were observed along the back edge of Kaluaapuhi Pond, in the nearby mangroves along a flooded trail, and emerging as tenerals from small water pockets at the base of an isolated *Schoenoplectus*

clump. Measured salinities in Kaluaapuhi Pond varied from 2 ppt at a small spring inflow to 3 ppt in the middle of the pond away from this inlet. Stearns and Macdonald (1947) noted that the entire basal lens underlying west and central Moloka'i is brackish, thus all basal springs in this area are saline to some degree. The fact that *M. xanthomelas* is breeding in the Pālā'au wetland, which is supplied by such brackish springs, clearly indicates that the species can tolerate salt concentrations of at least 2 ppt.

10. This conclusion was reinforced by the discovery of *M. xanthomelas* at a small pond adjacent to the Moloka'i Sea Farms aquaculture facility at western end of the Pālā'au wetland complex. This pond occupied an elongate, steep sided basin bordered by pickleweed and other introduced weeds. The waters of the pond were heavily covered with a layer of duckweed *(Lemna aequinoctialis)*, which was maintained by the aquaculture farm as a means of deterring algal growth. The steep sides and elongate form of the basin suggest that it is an artificial modification of a former spring outflow.

11. *Megalagrion xanthomelas* was present at this small pond, in association with the same damselfly and dragonfly species seen at Kaluaapuhi pond, but did not occur at the adjacent aquaculture ponds, which lacked floating or marginal vegetation. Individual males were seen perching on sticks and weeds that projected over the water, and a tandem pair was observed ovipositing on the thick duckweed mat. The salinity of the water in this pond was taken and found to be 2 ppt., the same as that of the springs at Kaluaapuhi Pond. This once again clearly demonstrates that *M. xanthomelas* can breed in mildly saline waters.

Impact of Proposed Water Use

12. As noted above, recent surveys indicate that *M. xanthomelas* can breed in waters with salinities of up to 8 ppt (Polhemus, 1996). (A copy of Polhemus, 1996 is attached as Exhibit C-11.) This is important in horizontally stratified wetlands such as Pālā'au and other leeward Moloka'i fishponds, since it means that *M. xanthomelas* can persist in the narrow zone of basal spring inflow along the inland margins of such wetlands. Any pumpage from upslope wells that significantly diminished such limnetic inflow, however, would eventually produce a change in the salinity regime across the system, raising the salt concentration along the inland margins and thereby eliminating the zone of breeding habitat upon which *M. xanthomelas* depends. The critical level of salinity is not exactly known, but would appear to be in the range of 9-10 ppt., since no *M. xanthomelas* populations have been found in wetlands with such salinities.

13. Based on information supplied by the U. S. Geological Survey, the proposed well at Kualapu'u could produce reduced basal spring outflows in the Pālā'au area. As such, this well appears to constitute a potential threat to the populations of *M. xanthomelas* occurring in this wetland system.

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DIRECT WITNESS STATEMENT OF BRENDAN M. HARLEY

Q: Please state your name, occupation, and educational background.

A: Brendan M. Harley. I am currently a Senior Vice President with Camp Dresser & McKee International, Inc., usually referred to as CDM, based in Cambridge, Massachusetts. I have a doctorate in Water Resources from the Massachusetts Institute of Technology. My curriculum vitae is attached.

Q: What is CDM?

A: CDM is a worldwide environmental engineering consulting firm. It has approximately 2,300 employees, and operates out of 80 offices in the U.S., and another 12 located around the world. CDM is a world leader in the development and application of advanced modelling and assessment techniques for the evaluation of groundwater management projects. At CDM, I lead the group that develops and applies groundwater modelling techniques to projects around the world.

Q: Are you familiar with Wai`ola O Molokai and Molokai Ranch's application for a water use permit?

A: Yes. When this became a contested case, I was contacted by Molokai Ranch's lawyers to evaluate the hydrological impact of drilling a well at the location proposed and withdrawing 1.25 mgd of water.

Q: Please summarize your conclusions.

A: Pumping 1.25 mgd from the proposed well site will have minimal impact on the Kamiloloa aquifer outside the immediate vicinity of the well. The four existing wells located near Kaunakakai are sufficiently distant from Molokai Ranch's proposed well that they will not be impacted.

I also assessed the impact of the proposed well on the well sites in the Kualapuu aquifer, since those wells currently supply most of the drinking water for the island. Under a worst case scenario, pumping 1.25 mgd from Molokai Ranch's proposed well would lower the head level in the Kualapuu aquifer by less than a foot. Such an impact would not affect the ability to continue pumping from these wells even at increased extraction rates.

Finally, I looked at what impact the proposed pumping would have on stream flows. My conclusion is that there will be no impact.

Q: Let's explore how you arrived at these conclusions. First of all, please briefly describe the Kamiloloa aquifer.

A: The Kamiloloa aquifer unit covers an area of about 17 square miles with an annual average rainfall of 33 inches/year. The groundwater system is essentially an unconfined basaltic aquifer having a relatively thin fresh water lens overlying salt water.

At some of the higher altitudes on the island, there are many igneous dikes which are relatively impermeable and "trap" freshwater. These dikes can significantly influence local groundwater levels, raising heads above what would otherwise be expected. Head levels in the northern sector of the Kualapuu aquifer appear to be supported by the dike intrusions

running along the southern boundary of the Kalaupapa peninsula. However, there does not appear to be any dike influences in the vicinity of the proposed Molokai Ranch well.

Q: On what do you base your conclusion that pumping 1.25 mgd at the proposed well site will not impact pumping on the 4 existing wells in the Kamiloloa aquifer, which are located near the town of Kaunakakai?

A: My conclusion is based on three foundations: (1) my review of all of the literature that I could find on the hydrology and hydrogeology of Molokai; (2) my knowledge and years of experience with groundwater systems all over the world; and (3) my review of the results of the modeling that was done for this case.

Given what we know about the geology of this section of the island and data that we have on head levels in this aquifer, we expect that pumping 1.25 mgd will have only a localized effect. The wells near Kaunakakai town are about 3 miles away from this proposed well. That is sufficiently distant so that the existing wells will not experience any impact from pumping 1.25 mgd from the new well.

Q: Did CDM do a groundwater model for this project?

A: No. Prior to my involvement in this case, Tom Nance and Tony McNulty had already begun a groundwater model for this project. I reviewed the approach used by what I'll refer to as the "McNulty Model". Based on my experience with freshwater/saltwater aquifers and the literature that I had read on Molokai's hydrology, I believed the McNulty Model estimates to be reasonable and of sufficient accuracy for permitting purposes. Thus, producing another model done by CDM would not have been cost-effective.

Q: You indicated that you also evaluated the proposed well's impact on the wells in the Kualapuu aquifer. Are the Kualapuu and Kamiloloa aquifers hydrologically connected?

A: At the present time, there is insufficient field data to determine the extent to which these two aquifers are or are not connected.

Q: If you don't know what the hydrological connection is, how can you conclude that pumping in Kamiloloa will not impact the wells in Kualapuu?

A: That's one of the values of groundwater modeling. When field data is sparse, a modeler can conduct simulations in which aquifer conditions are varied, and, thereby assess the range of probable impacts.

Because we don't have a lot of field data about the hydrogeological conditions in the Kamiloloa and Kualapuu aquifers, a model is used to simulate a range of possible aquifer conditions, in particular, the anisotropy of the aquifers. You conduct a range of simulations with and without this anistropy and evaluate the potential impact of the proposed pumping by Molokai Ranch.

Over the range of simulations that were conducted in this case, the relative impact of the proposed pumping on State wells 0801 and 0901 in Kualapuu is less than a foot, and usually only about four-tenths of a foot (less than 5 inches). Such an impact is effectively negligible. It will not affect the ability of other users to withdraw water from the Kualapuu aquifer.

Q: Did the McNulty Model simulate the entire range of assumptions that should be considered?

A: To be of any usefulness as a predictive tool a model has to be able to reasonably represent actual conditions. Otherwise, a modeler could simulate an infinite number of variations of aquifer conditions which would be of no practical use to anyone. To test whether a model is reasonably accurate, a modeler will run simulations to see whether he can get results which replicate, or at least reasonably approximate, whatever field data is available. If the model cannot do that, it means that the model does not accurately represent hydrologic or geologic conditions. Or, it could mean that there's some mistake in the data or data input.

The McNulty Model is calibrated to the overall groundwater characteristics in the region and can reasonable represent the water levels in the various aquifer units using reasonable estimates on rainfall/infiltration and aquifer properties.

Within these parameters, the range of simulations that were conducted by Tony McNulty is appropriate for evaluating the impact on the Kualapuu wells of pumping from the proposed well site in Kamiloloa.

Q: One of the concerns that has been raised is the impact of pumping in reducing groundwater discharge into the ocean and the effect that may have on stream flows and the coastal habitat. Would you comment on that?

A: Pumping 1.25 mgd from the Kamiloloa aquifer would reduce the amount of groundwater discharged into the ocean. Pumping 1.25 mgd of groundwater will not change the amount of surface runoff that enters the ocean, which is about 20 mgd. That's an annual average; in actuality, on most days there is very little surface runoff, but there is significant surface runoff during storm events.

Rainfall in this area averages 33 inches per year and there is a total inflow of about 26.6 mgd on average. Of this 26.6 mgd, about 6 mgd likely infiltrates and becomes groundwater. The remaining 20 mgd is direct runoff. Since there are no perennial streams which reach the ocean within the Kamiloloa aquifer, however, we can deduce that the runoff occurs intermittently and that the gulches in the area are actually conduits for storm runoff. Pumping groundwater has no impact on wet weather flows in the gulches at all. Thus, surface water flows will not be affected by pumping groundwater.

As to what effect the change in groundwater discharge will have on the coastal habitat, I'm not an expert on that. You'll have to address that question to someone else.

Q: Does that complete your testimony?

A: Yes.

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BEFORE THE COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I

In the Matter of the Contested Case Hearing on Water Use, Well Construction, and Pump Installation Permit Applications Filed by Wai'ola O Molokai and Molokai Ranch Ltd.	CCH-MO 96-1 INTERVENORS MARTIN KAHAE, ET ALS.' DIRECT WITNESS STATEMENT OF WAYDE H. LEE

DIRECT WITNESS STATEMENT OF WAYDE H. LEE

Q: Please state your full name and address.

A: My name is Wayde Hoapili Lee. I'm an offspring of Wilford Lee who is an offspring of Mary Lee who's an offspring of Kapo, Mary who is the offspring of Elizabeth Kekahuna. On my mother's side is Jane Pahula Lee, who is an offspring of Pahula, Mary who is Halawa and Kaunakakai resident 1800s. I wanted to state that fact so you know my genealogy in this area of ahupua'a of Kamiloloa.

Q: Where were you born?

A: On O'ahu.

Q: Where did you grow up?

A: When I was a year old, my family moved back to Moloka'i. I have lived there my whole life.

Q: What are your ties with Moloka'i?

A: My father and grandfather lived on Moloka'i all their lives. I stayed with my grandfather.

Q: Where do you live now?

A: I reside in Pu'u Hauoli.

Q: How far is that from Kaunakakai Town?

A: About a five minute walk or maybe 10.

Q: Are you a native Hawaiian?

A: Yes, I am. I am a successor to Hawaiian homestead lot 154, which is currently under lease to my wife, Adele Lee.

Q: Is that in Ho'olehua?

A: Yes. I am in the process of building a house there.

Q: In terms of your residence do you use a stream nearby your residence for any particular purpose?

A: Yes, I use a stream that goes right up to the Wai'ola site, a connecting stream. This stream runs all year round, but it flows down to our area only with the overflow. It disappears in the aquifer on top of that where Wai'ola wants to drill its well. It runs all year round. Hawaiian stilt also depend on these waters.

Q: What is the name of that river or stream?

A: It's the Kaunakakai River. It's right between the boundary of Kaunakakai and Pu'u Hauoli.

Q: How often does that stream run throughout the year?

A: Well, that stream runs all the way to the ocean about half of the year during the wintertime. It runs all year round, and it comes half way down and disappears on the rocks and feeds the aquifer. So there is a spring that runs all year round right next to the Wai'ola site where they are thinking of digging their well.

Q: What happens right next to the spot where they have their current well? Are you saying it disappears into the ground there?

A: Yes. The river runs, but if there is insufficient flow, it disappears into the rocks and bubbles up down in the ocean.

Q: Does this happen half of the time during a year?

A: No. Half of the year the water runs all the way continuously above the ground to the ocean, but it flows underground all year. The spring runs and goes in the rocks to feed the aquifer and also flows into the ocean.

Q: If you follow the stream further up to the current Molokai Ranch well, how close does it get to the proposed well site in this proceeding?

A: Right on it. The proposed well may be even closer than Kaunakakai.

Q: Why do you use this particular stream?

A: My grandmother, Mary Lee, was a practitioner and an expert of limu. I was the hiapo living with her. She took me to gather these limu. She taught me the water cycle and how important it is to the shoreline and to the mountains. Also, my wife's family resides on a homestead known as Kapa'akea, which is in the ahupua'a of Kamiloloa. I also go with them to harvest and show their children how to harvest. Water is a big factor in this relationship.

My grandmother harvested the limu. She was so good in harvesting the limu as a practitioner that not even the University of Hawai'i people knew some of the limu she knew. She named a limu called o'olu, which is a limu that is not harvested off the stone.

When these waters from the mountain come down to the sea, the spring bubbles up. It excites the limu o'olu, and then it

causes it to spawn. After it spawns and matures, it breaks away from the rock and ends up on the beach. That's how you harvest this type of limu after its maturity.

When I went with my grandmother, my job was to catch crab, kuhonu, ala'eke and 'alamihi. These crabs use the limu for hiding, and they wait for their kau kau to swim by. There are several different types of limu - manauea, huluhuluwaena, 'ele'ele. These limu rely upon this fresh water or spring water coming down into this river as part of their habitat.

As a practitioner and from the knowledge I got from my grandmother, I see a great effect on my native subsistence and fishing rights that are being imposed on. If they drilled, the water would not come down the mountain. That would disrupt the water cycle I've described and the life cycle of all the living things that depend on it.

Q: You've described some of the kinds of gathering you do particularly in terms of the limu and the crab. Are these the kinds of gathering that you do in this particular stream?

A: Yes, right in this stream. You have to understand that water feeds through that whole side. That's the only stream running right now. The next stream you can go to is at Kawela, and it runs all year round. If you go way up mauka up to the Kawela Gulch or right next it, there is a stream. That one won't flow all the way down. You won't see it during the wintertime.

Kaunakakai River is one of the few streams that flows all the way down. There's a lot that flow, but they disappear in the rocks. Kawela already supports two ahupua'a up the road.

Q: With respect to these kinds of products or food sources that you seek, how often do you go there to gather crab or limu?

A: As often as I can.

Q: Are there any other kinds of products that you do gather, any kind of fish, for example?

A: Yes, I catch mullet and freshwater he'e. Mullet, like the ones in this picture (attached as Exhibit B-12), like the freshwater because it excites them to breed. Somehow it's a sexual thing about the water that reproduces the fish. They become excited, and they spawn. They need the freshwater to catch all the 'opae coming down the river.

The he'e like to live near the freshwater. That's part of the fish chain. When you eat any of the fish in the ocean, it's part of the flesh. If you break that chain off, there is no more kau kau for the other fish. They rely on the sources right in the water.

I can name them off, kumu, aholehole (attached as Exhibit B-13), palani (attached as Exhibit B-14). Choke fish are in this cycle that you cannot disturb because they rely on the freshwater.

Q: You mentioned 'opae. If the streamflow that currently exists up above is reduced, maybe reduced by some activity, what

would happen to the 'opae and limu along that stretch of stream that might be affected by the flow?

A: That 'opae and limu would disappear. It would be detrimental. The crab eat the 'opae. If the limu disappear, there isn't going to be crab to eat. Everything will be out. They need that mud and silt and sand to live in, hide and burrow themselves in. There would be big time damage to the ecology of the ocean.

Q: Do you know where the Moloka'i Irrigation System is located in relation to the proposed well site?

A: It goes from Waikolu Valley, comes across all the way down right where they want to put the new well setting. I don't know. It might be on top of that tunnel. I'm not sure. I've only seen the map where they want to put it. Yet that tunnel water comes out right there. I fear there may be an impact of this well on the water in the tunnel. That's a big detriment to me because my homestead is over here for my children and for me to live on. I have two children. One lives in Kaunakakai, one in Pu'u Hauoli Homestead. I'm here protecting their rights for water.

Q: You mentioned in your genealogy Mary Lee, is that right?

A: That's right.

Q: Robert K. Alcain speaks of Aunty Mary Lee who gathered limu along the Kamiloloa shoreline. Is that the same Mary Lee in your genealogy?

A: Yes. That's the same Mary Lee. We take and teach everybody to harvest. Mary Lee was the teacher. She taught the right way, so when you harvest there is still enough for the next generation. Like I said, she was an expert. I know one thing she told me, "Watch the water, boy. The water disappears, it's goners the limu."

Q: Can you summarize your concerns about the proposed well?

A: I have two main concerns. First, the proposed well is in the same ahupua'a as Pu'u Haouli, where I reside. The Kaunakakai river runs parallel to this area, so I am afraid the new well will dry up the river.

Second, I fear that the proposed well will deplete the supply of water from the Kamiloloa aquifer and result in salty water. This will directly and significantly impact my hunting and fishing activities, possibly leading to loss of crabs and loss of fish ponds. Fish, including mullet, will not spawn without fresh water. If the saline level in the waters increase, then all the fresh water fish will be affected.

Q: How long have you been gathering food in this area?

A: Most of my life. My family depends on the hunting and gathering we have done in this area as a means of subsistence. As I mentioned before, my grandma and I used to pick limu and catch crab.

Q: Throughout your years of fishing and hunting in the ahupua'a,

have you ever noticed any difference in the salinity of the domestic water you drink in the homestead area?

A: Yes. At one time the saline levels went up when the new county well was put in near the DHHL wells (see Exhibit B-7). We could tell there was saline in the water because after we used our domestic water for farming, salt remained on the surface. I fear the new well will cause the saline levels to rise to a level where it is not safe for my family and I to drink the water.

In addition, some rivers have stopped running, particularly in the Kamalo and Kawela areas. We could see that rivers that used to run before were no longer running. We had no more limu 'ele'ele to pick.

Q: Are you involved in a challenge to Molokai Ranch's Great Molokai Trail Project?

A: Yes, I am one of several members of Pono, which asked the Land Use Commission (LUC) to determine whether the Ranch's "overnight camps" needed to get approval by the LUC. The LUC said yes in its Declaratory Order (attached as Exhibit B-11). Pono also files suit against the Ranch because it refused to listen to the LUC. Because of the Ranch's actions, it is not complying with the state land use laws.

Page 104

order again this afternoon. And we're ready for the witnesses for the intervenors along here. Who is going to introduce --

MR. MURAKAMI: I am going to call as our first witness Wayde Lee.

HEARING OFFICER COX: Would you swear in the first witness.

WAYDE LEE

called as a witness at the instance of Intervenors Kahae, et al. being first duly sworn to tell the truth, the whole truth and nothing but the truth, was examined and testified as follows:

THE WITNESS: Promise.

DIRECT EXAMINATION

BY MR. MURAKAMI:

Q Mr. Lee, can you please state your name and address for the record?

A **O Wayde Hoapili Lee kou inoa.**

Q And your address?

A **Address is right now is Manila Camp, Kamiloloa. P. O. Box 832. But I also have a homestead lot in Ho'olehua.**

Q Okay. And are, how long have you been a resident of Moloka'i?

A **I don't want to tell my age but all my life.**

Q Are you Hawaiian?

A **Yeah.**

Q And how much?

Page 105

A **I'm about, I'm a native Hawaiian, over 50 percent.**

Q All right. And have you in your lifetime engaged in the practice of gathering along the shoreline of Moloka'i?

A Yes.

Q And have you fished in the waters off of Moloka'i?

A **Yes.**

Q And are you familiar with the area known as the Kamiloloa shoreline?

A **Yes.**

Q Did you prepare and submit testimony that's been submitted under the title of Direct Witness Statement of Wayde H. Lee?

A **Yes.**

Q And have you had a chance to read that testimony to see if you wanted to add any other items to the statements you made?

A Yeah.

Q Have you heard the testimony of Dr. Dollar that was just presented today?

A **Yes.**

Q And the testimonies of Dr. McNulty and Mr. Nance?

A **Yes.**

Q Okay. In connection with that, with those testimonies would you agree with the statements they made concerning some of the characteristics of water seepages on the

Page 106

shoreline along Kamiloloa?

A **No.**

MR. OSHIMA: For the record, objection.

HEARING OFFICER COX: Objection is --

MR. OSHIMA: The witness is to be offered for summary of the prefiled direct testimony. And I'd like to have an offer of proof as to what this is summarizing.

MR. MURAKAMI: Well, we will get into the summary but I don't think that this witness or any of my witnesses should necessarily be confined to the words and lines of what is contained in his written submission.

As you know there have been no opportunities to rebut some of the statements that have been presented since this particular statement has been drafted and submitted. And this is the occasion during this hearing to supplement and amplify those statements.

MR. OSHIMA: Well, just one further, Mr. Cox. To the extent that new testimony is offered at this time and because applicants bear the burden of proof as already decided by the Hearings Officer in this case by Minute Order, applicants are the parties who have the right of rebuttal.

So if there is any new testimony offered by these witnesses as they come up to otherwise summarize their direct testimony, then applicants must then be given the additional opportunity to further rebut that new testimony. And such a

Page 107

procedure could last interminably without some direction and control.

MR. MURAKAMI: I don't understand what Mr. Oshima's concern is. I haven't gone into any new areas so far and don't intend to do so. Information that is going to be presented today will in part amplify on the various statements he has submitted. I think that has been allowed in the past with Mr. Oshima's witnesses and should be allowed with mine.

MR. OSHIMA: They were only allowed to the extent that cross-examination led them into their rebuttal portions of their testimony which is prefiled. Nothing new was offered by their witnesses.

MR. MURAKAMI: Excuse me, but I recall at least two or three new exhibits that I've never seen before these proceedings began. I don't think he's in any position to complain that something new is being submitted at this time.

We intend to, my final offer of proof in this is we intend to submit a video, a seven minute video that I'm prepared to have this witness explain. Just for your information, Mr. Hearings Officer, this video is really demonstrative of the statements made within his written statement.

HEARING OFFICER COX: I will rule that it would certainly, Mr. Lee can talk about, summarize his written testimony here. And I will allow a little leeway in terms of

Page 108

new information.

MR. MURAKAMI: Thank you very much.

Q Mr. Lee, have you prepared a video to explain and summarize your statements that you have submitted as a witness in this case?

A **Yes, I have.**

MR. MURAKAMI: With the Hearing Officer's permission I'd like to have leave to play the video which is seven minutes long so that Mr. Lee can go through his summary.

MS. NISHIOKA: Before we start, how are we going to handle -- are you talking on the video also or it's just no sound?

MR. MURAKAMI: He is talking on the video.

MS. NISHIOKA: So we're going to do a transcript of what he is testifying to and then admit the tape as a video.

MR. MURAKAMI: As he narrates it you mean?

MS. NISHIOKA: Right. I'm just looking at how we are going to do the transcript of this. You're going to have him talking on the video at the same time.

THE WITNESS: You can have the video.

MR. MURAKAMI: We will mark it.

THE WITNESS: That's my gift to you guys.

MS. NISHIOKA: So we're just going to do a transcript of what he is saying.

THE REPORTER: Not of what's on the video.

Page 109

MS. NISHIOKA: Right.

MR. MURAKAMI: So we will mark the video the next number in order and ask for it to be admitted at the proper time.

THE WITNESS: This was taken two days ago.

Q (By Mr. Murakami) Mr. Lee, before you proceed if you could describe where you are as depicted in this video.

A **I'm right at this area right over here.**

Q You're referring to what's been marked as CWRM-1?

A Yeah.

Q That's the map of the island, right?

A Yeah.

Q What is this area known as?

A **Kalama'ula.**

Q Specifically that location of the site that's being videoed.

A Coconut Grove.

Q Just outside of Kaunakakai to the west?

A Yes. You guys see all the, I guess I was going to say Australian mullet inside that freshwater. That's freshwater coming out over there, coming out from the ground. What you see now is all the baby pua on top over there, the fries. Right in the freshwater they coming out into the ocean. This is about 6:00 in the morning. Maybe 6:30.

You see all the baby fish? So they loving it right

Page 110

there. That's that 'ele'ele that Mr. Dollar -- stop right there. See that? See the dark cloud? It's not raining. It's actually the fish. We depend on this freshwater.

If you can see the clear water and the bubbling coming up, this we're about 40 yards out in the ocean. So any speculations that any hydrologist made or models they have shown they're not too sure there's springs out in the ocean, this is it.

It's out in the ocean. We're not on the shoreline. This is outside in the ocean. This is a spring and that's located just above of here, right about over here, this section, this sprung is out there.

HEARING OFFICER COX: That's in the Manawainui aquifer.

THE WITNESS: Yes.

Q (By Mr. Murakami) Mr. Lee, would you take a green dot I'm going to hand you and mark a spot of that location of that spring that's depicted in the video is located. I'm sorry I gave you the wrong color.

THE WITNESS: Blue is --

MR. MURAKAMI: I'm sorry. I gave you the wrong color. May the record reflect the witness is placing a blue dot in the location of the spring that's being depicted in the video where he's standing in the water 40 yards out from the shoreline.

Page 111

THE WITNESS: Okay. This spring is about 40 yards out in the ocean and it's a big puka and the freshwater just keep coming. I reluctant to show plenty springs 'cause this is hidden stuff. That's why the guys don't know because we don't like 'em put wells right over there. So I willing to show this because might damage. You can understand why we reluctant to show some of the springs.

Right there the clear water, all the water coming out. Stop 'em right there. What I'm holding into my hand is a introduced ala'eke Hawaiian call 'em. DLNR introduced this crab. It ate all our kuhonu. It's Samoan. We use this right now for hiau. This is our wild crab, cooked crab. We eat this now. And this guy he need the freshwater too. Okay? I going show different species of crab.

Stop. This is an endangered species that rely on also the freshwater. It's found on this whole coastline, that depends on this too this endangered species called the Hawaiian Stilt. It part of the system and it eats all the fries, the crabs. So this is an endangered species also that would be affected by this water disappearing discharge in the ocean.

HEARING OFFICER COX: Excuse me. Can you stop it for a minute. I think we have a question.

MR. OSHIMA: As we go along, Alan, can we have identification of the exact location of where this is being taped, whenever we stop.

Page 112

THE WITNESS: This is all along this area here. It's Coconut Grove.

Q (By Mr. Murakami) You're talking about an area that's --

A Kalama'ula.

Q In the immediate vicinity of the blue dot that you've placed on the map?

A Yeah.

Q We're talking to the west of the dot?

A Yeah, west of the dot. Us guys, they look one Hawaiian going throw net on top land, they say, "This guy's crazy." Well, I going let out my secret spot. Inside that pond get mullet. Okay? And I going catch the mullet but I never like. But I wanted to show, but the mullet in there. Plenty people can verify.

This is a spring about 40 feet in from shore and about maybe 60 yards from the road. Now, get mullet in there about this big. Yeah, about that fat.

Q Can you describe how long that you just described with your hands?

A About one foot long and they all living in there. The mullet that tells you underneath the puka they live in the springs. Okay? So they stay -- stop right there. This is the spring right there. This spring was --

HEARING OFFICER COX: Excuse me. Could you identify

Page 113

the spot again.

THE WITNESS: In this area too Coconut Grove same where, west of the line.

Q (By Mr. Murakami) Mr. Lee, in relation to the blue dot that you just placed on the map, where is the location of that pond that you just talked about?

A Right inside here.

Q So you're talking to an area just above and to the left of the dot?

A Yeah.

Q It's between the shoreline and the depiction of the road?

A And the road. It's between this road and the shoreline. It's in there. Okay? So that spring get mullet inside. So that's an indication that no matter where you going to stop the discharge it's going to effect the system, the ecosystem.

So a lot of people say this Hawaiian crazy throwing net on dry land. That's good. I take that as a compliment.

Fast forward. Here's the evidence of another spring. See how heavy the bugger flowing into the ocean? It's the same place west of this blue dot.

Q Again, for the record can you describe where that flow is occurring in relation to the blue dot?

A It is about 40 feet -- or 40 yards below that blue

Page 114

dot.

Q For the purposes of the record can you mark a 1 in the blue dot that you put on the wall. That is the original location of that spring source that you had depicted on the video?

A **Yes.**

Q With this next spring source can you mark it on the map with another blue dot and the No. 2 on it. So for purposes of identification can you put your initials to the bottom of the dots.

A This blue dot is to be offshore. Is that okay? **It's supposed to be off.**

Q Put your initials below that. Thank you.

A Freeze. Okay. I going over this point. This, see this guy right here? It's a little tongue. It's from one our clams inside here. Okay? That's how we can find 'em. This clam need the freshwater survive, all the freshwater in the mud inside there. So this is his tongue reaching out and grinding. We going dig 'em up. That's out 40 feet below the second blue dot down the road.

HEARING OFFICER COX: By below you mean to the west?

THE WITNESS: To the west. Fast forward where we dig 'em up. Okay. See 'em? They bigger than that. But this one of them that we found. But we put 'em back because bumbye we going pick 'em up when they get a little bigger. Oops.

Page 115

Stop.

This next species is kuhonu, the white crab. This is another species that's a delicacy for us Hawaiians. This one not too much guys use them for party. Mostly they save 'em home for themselves. This is the kuhonu crab and another species that thrive in that area that we use for subsistence.

Stop right there. That's the kuhonu crab. We also have some other species in this area which is the mo'ala crab.

HEARING OFFICER COX: Where is this spot?

THE WITNESS: That's the same place right about 40 yards down here. It's to the west of that.

Q (By Mr. Murakami) Mr. Lee, before we proceed, using this yellow dot which will represent the crab locations, can you put that where that spot is and put your initials below it.

A Okay. I was to tell you where the crab stay. Put a yellow dot here. Let me -- there are other crabs that are in this area, this whole area over here, Samoan crab. Mo'ala is a crab, ali'i crab is identified by a reddish purple color, long eyes okay? The ali'i used to eat this crab.

That crab out of all the species he need the freshwater. Besides that in this area is the hana opae. This opae he need that freshwater. But what we have to understand is if we want talk about, we want talk about limu like that we cannot take the environment out of his context. In other

Page 116

words, we got to talk the whole ecosystem.
The freshwater go in the ocean water. If you fill out up this kau kau, food for all these small fishes, crabs and the limu grow, the crab eat the limu, they hiding there, they eat the opae, the opae eat that. As you go out the bigger fish come in that one. The he'e come in eat the crab. Then ulu come in eat that one. The papio come in, the weke, awa, so and I'm at the end. I'm at the end of the food chain. Yeah?
So if we interrupt, we only talking one segment of this ecosystem -- if we going to interrupt 'em it leaves me -- we need too understand the whole system and not take it out of context of how this freshwater going affect this environment.
That's what I saying is that I'm at the end. If you disturb anything below me in the food chain it's going to affect me. So not only me but all the gatherers in this room. We need to not only look at limu but look at everything. Because we dependent on it. Moloka'i people are dependent to subsidize their table.
Q That's the end of the video, right?
A Yeah.
Q On the map behind you, Mr. Lee, there's a stretch of coastline marked in pencil showing the end points of the effect that I think that the modelers discussed would occur along the shoreline from the proposed well drilling and pumping.
Taking again the blue dots to represent the springs

Page 117

that you have encountered along the shoreline, would you depict where along the shoreline you've encountered concentrations of freshwater outflow into the ocean?
A This fresh spring output over here is by Aunty Janette's house ola olo. 1928 the homesteaders over there used to pump 'em two hours in the morning, two hours in the afternoon to water their crops. This spring come all the way out from the mangrove. You can see the thing go inside.
This spring ola olo. They puka out. They have stopped pumping since 1928 because of the, they started getting salt. So they said, you know, what? We going stop pumping this well. So this spring comes all the way out to the ocean. The thing go underground too 'eh and come out. This is one spring.
You see all these blue dots? You guys know what is that? Loko, the fishponds. They all springs. The Hawaiians they knew the difference, they knew. They know. Only aquaculture guys in the world. There's no other place in the world you find this and in Moloka'i had the most fishponds. So they had to put them by freshwater.
Had some statement these fishponds no rely on springs. They akamai the Hawaiians. When you look at the ponds the bugger turning light green color tint, the bugger was ready for throw the fries inside. This is the kau kau that they eat. Yeah?

Page 118

So they knew exactly what the fresh water when mix with the salt water just like throwing the thing develop the kau kau. I don't know the haole word but plankton or, you know, you guys knows what is that?
Q For the purposes of the record can you mark that with dot 3 with your initial? That's the one, Kalama'ula, the dot that you put on there? And you have other springs?
A Okay. Auwe. Manawainui, this guy right here is, name of this fishpond is Puhi.
Q Why don't we mark that as No. 4.
A And this one I put my initial in it?
Q Yes.
A This one lotta guys I guess plenty guys going to understand when I say Pasqua's Pond. But it's not Pasqua's Pond. But the freshwater go all the way out to the ocean. You see how far the thing go in? This is one long freshwater go all the way out to here. And the thing, when you come over to here the thing bubbling. You know how I show the picture the thing bubbling over the grounds? It's bubbling over here too.
So is, this is one of the affected springs. There's also one, two, three -- there are three springs over here. Got to put one more dot. West of this one more spring. This is the spring outside, one inside and one more down here. This is where Rodrigues' house.
Q Would you label that 5 and your initials?

Page 119

A Old man Rodrigues used to have, right out his place had one spring going out and also it shoots right into the ocean and come bubbling out. What else? Keep going?
Q Would you also mark the next one as No. 6 and the initials?
A Going up now, going way more up, 6 is Mowat's place. They went hide this spring. They went cover them over because of the development next door. But gonna expose 'em right now. Got one spring over here and they come out. I don't know what the transect was but this has a spring over here.
Q Is this, is that a spring that comes out --
A Under the ground too.
Q -- in the ocean?
A In the ocean too. It comes out as well on top his land and come out -- every spring he just, you know, my theory is the water come wherever he can puka out he going come out and he just keep going until the bugger come a little not enough gallons to bubble out like over there.
Q How far offshore?
A This spring right now is actually on land where he went hide. But outside here get freshwater. Outside this reefs -- you know, the reefs, yeah, I never had underwater camera or else I woulda took pictures too. But on the reef get. I going tell you'll how you know.
First, if you cold when you dive down you can feel

Page 120

the water coming up. It change, the temperature of the water.
Second, the water will get all blurry. 'Cause when the freshwater meet the salt water the thing make the place, I dunno, just like heat waves. That's the evidence of freshwater mixing with salt water. It gets blurry. So I dive all this over here. Over here I only go to here because my family only over here, my brother-in-law.
Q Wait a second. You say you dove and you saw these freshwater coming out under the water. Were you diving -- along what stretch of reef were you speaking on this map?
A All the way over here dive with my boat.
Q Is this at Punakou?
A Yeah. From Punakou all the way Kamiloloa freshwater is evidence all along here.
Q How far from the shoreline?
A This is like in the channel, deep.
Q Are you saying where the reef drops off?
A Yeah. Behind the reef the water still come out when you dive you can see. That's what it looks like heat waves coming up. But it's actually the mixture of the salt, the freshwater mixing with the salt. Then you get cold and we usually dig away from that because we no like dive in cold water.
Q Any other springs?
A Well, all these ponds over here get springs, all

Page 121

these ponds.
Q Just so we can assure Commissioner Cox what you're doing, you have a map with you?
A Yes.
Q What is this map for?
A It's a better map than this one. You can see the house and everything. Coconut Grove. They can see all over here. They can see the ponds.
Q How are you using this map?
A So I can relate to this map so I can see where the general area is. Yeah? Because this map is a better detailed map I can tell where I am. But right now this is, I think, oh, wait. Manila Camp.
See this river? I live right over here. They never mark mine down. Oh, yeah. There my house right there, the purple. Intervenors, the bugger right around my house.
This stream right there way up in the thing split off. He go one into Kakalahale which is this area over here, Pu'u Kakalahale. And then he going into Makakupa'ia which is down this side the bugger spin off.
The water, he disappears coming down on the ground. Then he bubble up over here. So he come out. I tell you where the areas he come out. He come out on the road right under the bridge, right in front the bridge, and he come outside the ocean too.

Page 122

Q Can you mark that site as spring 7 and put your initials there?
A Okay. So when you drive you go to the side you can see 'em right there coming out. So this is the spring. I know this, yeah, because it's passed on to me from my grandmother Mary Lee. And if anybody say they one expert on limu, there's this kindergarten question we ask. If I walk up to you and I say "Clean water?" you no can answer, you never pass kindergarten-picking limu because you never work with the kupunas.
Q What does that yellow dot mean?
A This yellow dot means crab, where the crab stay. Okay? I come down here and I catch Samoan crab in these ponds already. I won't tell how but I catch Samoan crabs. I only going up to here. Because like I said I only get family over now.
And like Moloka'i style I was telling Dr. Dollar them before you go in the ocean, my grandmother taught me this very well, you got to go "Hoooooeeee, you got people home?" If they tell you "Yeah", you can go. If you go and you no ask them, you sick. You no belong in that area. Okay? So that's all. You like Moloka'i participants, you just gotta go, "Hoooooeeee." Draw the line?
Q No, what is the significance of the two dots you just drew?

Page 123

A I catch crab all over here.
Q Can you put an arrow pointing from the right on the first dot and put an arrow to the left of the second dot and put your initials there and tell us what these two dots mean?
A Um, you no can catch crab one place. You going wipe 'em out. So you gotta spread out the area different times. Sometimes over here. Raining more hard than over here. We catch crab over here we walk, sometimes get flat bottom boat. I catch Samoan crab with net. I scoop 'em, I grab 'em like how you see in the picture. That was all grabbed by hand.
All the different crabs all inside here, this whole area. Like I said I no can go past that because I no more, I not too much ohana that side so I cannot go "hooooeee". Just only in this area I can. This is where my grandmother took me. We go to limu now.
Q Just one thing to follow up. Dr. Dollar reported that he detected a seep, groundwater seep to the west of the Ali'i Fishpond. Do you know about that discharge of water?
A What is that? Bubbling water?
Q Yeah, bubbling water to the west of Ali'i Fishpond.
A Oneali'i Park coming here?
Q Yes.
A This way. All the ponds, the blue dots. I should initial them, all of them get screen. All of them get screen. Hawaiians build their ponds around screens, It's not a place

Page 124

Streams
where you get the fish and hold 'em. It's a place where you cultivate the fish and grow them so they no need touch the outside wild. They have some occasion let some of the wilds come in close and boom, let the wilds go, the bigger ones.
Q Isn't there a seep that occurs to the west?
A You mean the water coming out?
Q Yes.
A Yes.
Q You want to put a blue dot there?
A Yeah. Like I said, I never like show all the screens. Bumbye they get educated.
Q Well, he's already put that in his report. I just wanted to see if you could confirm that or not. I guess you've marked that as No. 8 with your initials.
Going on to limu populations, Dr. Dollar reports in his report that he encountered relatively more limu in transects 2 and 3 which are in the location of the, between the harbor, Kaunakakai Harbor and somewhere to the east of it up to about the first fishpond.
And he says there's some, there's relatively more limu in the two transects that he drew there and that if you go further eastward it's rare and patchy.
Would you, concentrating on that area would you take the green dot and tell me where you have seen limu and in what abundance along that stretch of coastline.

Page 125

First I want start with da kine, 'eh? The limu 'ele'ele right over here. Then I will tell you one secret.
Okay, bruddah? My grandmother's favorite place was the Kanehameha battlegrounds. Before that she go pick right by Uncle Sherman's house over here. Plenty limu there. The problem was --
MR. OSHIMA: Can we have --
A Plenty limu over there. The problem was you went wrong timing, brah. That's why I say, if you went "Hooooooee, I can go look for limu?" They would tell you, "Brah, no more limu now. Come back two months from now."
Okay? And out by the big pond, out by the battlegrounds, Kawela, all inside here. Okay. That was my grandmother's favorite place for go get limu.
Q (By Mr. Murakami) For those last two dots you put on is that to signify the outer boundaries of the area that had limu?
A That was most plentiful.
Q Could you put an arrow on the left dot to point to the right and an arrow on the left --
A I shouldn't say most plentiful. It was my grandmother's favorite place to go. No more house. She always, "Hooooeee, you got over there?"
Q Put your initial's under both dots so we know it was marked by you. So would you characterize the growth of limu in

Page 126

this stretch of coastline that you just designated as being rare and patchy?
A Oh, get plenty limu.
Q What kind?
A Okay. Huluhuluwaena, ogo, inside here, get 'ele'ele and get one limu that only my grandmother named. It's called o'olu. And this limu, 'eh, we took to University of Hilo and showed him. What happens was when the most water get to 'em it matures and he break off of the rock. And when the turbulence comes bring 'em on shore, matured that's when you pick that limu.
I used to, "Grandmother, how come we picking up rubbish limu?" Because it was always on the sand that certain type.
"No, boy. That's where this limu is. It's called o'olu." My grandmother gave that name to that limu. Yeah? Palahalaha the cabbage limu. That one too. My grandmother would eat any -- mix all the limu together, not just make one like this. She throw all the limu together mix 'em up. Then sometimes she separate 'em.
Q Mr. Lee, now is that the extent to which you're prepared to testify about the coastal springs, limu and crabs in this area?
A That's her favorite places. But she went all the way up to da kine. What's that house? What her name? My

Page 127

grandmother go all the way up to here to pick limu.
Q Are you placing the green dots in area just east of Kamalo?
A Yeah. That's where she, but this was her favorite places, but over here. The crab, that was my job. Her and Aunty Clara used to go pick limu. My job was stay inside wit the kids. Make a chute, we catch crabs. We catch crabs, they pick limu. Then we come home clean everything.
Q Can you put an arrow to the left of the last green dot and put your initials there as well. This the Kamalo spot?
A Yeah. Oh, that's a good spot.
Q Now, are you done testifying about the limu populations?
A Yes.
Q So you mentioned several varieties: Ogo, or manauea. And what other varieties?
A All the limu kohu, limu kaha, more off side. Limu pac, moa. And outside on the reef got the limu kohu and hulahuluwaena.
Q Huluhuluwaena?
A Yeah.
Q How about wawae'iole?
A Wawae'iole. Oh, wawae'iole get one secret spot this side.
Q May I ask the Commission for [illegible]. Mr. Lee, I'm

Page 128

going to hand you what's been marked as C-16. It's a sample limu that was handed to Dr. Dollar. And he identified, I believe it may have been two species of limu in here, sargassum and hypnea. I don't know which one he asserted to, alleged to have been limu kohu. But do you see any limu kohu in that sample?

A I don't see nothing in there. You can smell 'em too, you know, the kohu. That's how Hawaiians get excited when you smell the kohu. No, no more.

Q The sargassum you referred to, what is that called in Hawaiian?

A I don't know. He got to tell me what named sarcasm. But I can identify them in my name. (Audience laughter)

Q What is it?

A It's okay because he never know my name. I can broke 'em up? Can?

Q Well, just identify.

A Limu kala. I think he said it was limu kohu, 'eh? It's limu kala, bruddah. Bruddah, you chop 'em. I no tell you guys how. You like eat 'em.

Q You are also a fisherman?

A Yeah.

Q What kind of fisherman are you?

A I'm a subsistence fisherman.

Q How do you fish generally?

Page 129

A I free dive. I fish off a boat, throw net and I hand harvest and I pole.

Q Are you familiar with the species known as mullet?

A Yes.

Q What do the Hawaiians call it?

A Ono. (Audience laughter) This size is 'anae. This the amaama, it's the big bugger.

Q I'll hand you what's marked as Exhibit B-12. It's a photograph of some fish. Can you identify that fish, please?

A It's the mullet, it's the 'anae.

Q I hand you what's been marked as B-13. What's that fish that's depicted?

A It's aholehole.

Q Finally going to hand you what's been marked as B-14. What is that fish?

A It's the palani.

Q Do you catch all these fish?

A Oh, yeah.

Q As to the nearshore areas what fish are common along the shoreline amongst the three fishes that I just handed you?

A Close to the shore?

Q Yes.

A The most is the mullet and then the aholehole. They like the freshwater. That's why they stay close to the shore.

Q Have you gone down the shore also to fish for

Page 130

aholehole and mullet?

A Yeah, but only if I forced to in the flat bottom.

Q Can you also take the red dots and mark places where along the shoreline you have fished for mullet?

A I can make one line?

Q Okay. Or use the arrows in the same way. Put the appropriate arrow and put your initials.

A You talking where all the mullet stay, that species or where I fish?

Q Where you have witnessed the mullet to be?

A Oh, brah. (Audience laughter)

Q Along that southern shoreline?

A Okay. We can't go by these yellow dots. Where these ponds on top and then all the way by the last dot over there too, red 'eh? Like I say I cannot go farther than that because I no kuleana over there.

Q Put a red arrow.

A Put my initials?

Q Yes. So in essence by putting those dots where they are you're saying you fished this entire shoreline to find aholehole and mullet?

A Yeah. But I not going tell exactly where but in this whole area get.

MR. MURAKAMI: Mr. Hearing Officer, I have taken the liberty of drawing up a legend that can be taped to the

Page 131

CWRM-I so the representation of dots will be clear. Red will be for fish, green for limu, blue for springs and yellow for crab. With no objection I'd like to –

MR. OSHIMA: No objection.

MR. MURAKAMI: – place it on the map.

THE WITNESS: Right next to this kine?

Q (By Mr. Murakami) Yes. That's fine. Okay. Mr. Lee, are you involved in a curatorship program for Moloka'i?

A Mo'omomi.

Q Mo'omomi?

A Yeah.

Q Would you tell us very briefly, not a lot of details, what that entails?

A We along with the Subsistence Task Force introduced two legislation Acts 271 which entitles the Department of Land and Natural Resources designate subsistence fishing area because the state only believed there were two types of fisherman which was commercial and recreational but they forgot us Hawaiian is subsistence.

In April Mr. Mike Wilson, who I just met this past Saturday, along with other people in here, will seek designation from Ilio Point all the way to Nihoa over here under the management of our hui which I am the president, under careful rules. We're allowed some commercial fisherman,

Page 132

commercial fishing but most of it will be designated subsistence fishing area to manage these resources here on the shoreline. And for that reason it's because they admitted the state cannot manage our resources. So they look to us to manage it.

We lease 400 acres right here parallel to the shoreline which is Mo'omomi all the way to Anahaki. We lease lease the 400 acres. We have a park down there.

We have educated over 700 kids on subsistence fishing learning the life cycle, which is important, the ecosystem how you can take without disrupting the life cycle. We educated over 5,000 people in conferences about our project And I guess he recognized our project as the experts.

Q What is the name of this project?

A Hui Malama O Mo'omomi Subsistence Project.

Q Thank you for your testimony up to now. Do you have any further comments –

A Yeah.

Q – to add?

A In the video you guys saw that if anybody get questions you guys' hydrologist no more spring in the ocean, we went show get springs way out in the ocean. If you never know the limu I gave you the name now. Learn 'em.

Second of all, you gotta know the seasons and you gotta know the life cycle. And you gotta know that everything

Page 133

over here is related, interrelated. We just a part of it. And anything that we touch might damage it or disturb.

Last of all, some of this limu disappearing. I cannot say only from the water. We need to still educate. What we doing now is our Filipino foreigners whose, we need t teach them how along this side they harvest plenty limu too. Maybe that's some of the cause no more limu. But they don't know how to harvest, that's why. They take everything. So we need to educate. We still are educating them.

Hopefully from this pilot project we can do something to educate how they can take and be able to still have a sustaining yield to harvest. Yeah?

So it's important in this that we understand the life cycle of the whole ocean and how it relates from mauka. My grandmother say, "Boy, maka'ala. You no only look in the ocean. You got to look up in the mountains. What happens up here affects here." It's a proven fact. Okay.

I wanted to talk about this island. A lot of you from off-island, I know the mana went touch your heart. When you walked out this door, you went home you felt the peaceful and beautiful life living. I also tell you, "You like move Moloka'i?" You would say, "Yeah, in an instant."

Now, I'm talking about a life style here. We no more people robbing bank. All though 21 percent are unemployed, people are not starving, and they're not robbing

Page 8

A I know this is not written in my testimony but there is something that I feel I need to say from my gut. I made a choice to move home to Moloka'i back in '79 because one of the things that I wanted was the right to have a homestead land.

I am 50 plus percent – I can almost prove that I'm 57 and-a-half percent Hawaiian. I was grateful that in '83 the Lord blessed me. I have this one-acre homestead lot. I hope and pray I'm able to have it to pass it on to others within my family because that's my intent.

My grandparents have a four-acre homestead lot which is on Mo'omomi. And my cousin presently lives there. And he tries to utilize the farm and use the land that way.

When I sit here at that table I not only represent myself but I represent my family that's presently on this earth that's with me, those that have gone, are beyond the veil and those to come.

I want to make sure that in all my power and abilities that I am able to really share to you the concern that I have about water. It's something that we as Hawaiians treasure and take care of and malama.

But we're also not selfish. If there's enough I don't have a problem with sharing. I don't know if there is enough and with that concern I'm afraid. That's the fear I have. And that's why I have to do what I did as far as these proceedings.

Page 9

Q Finally, Louise, were you here yesterday to hear some of the testimonies from our other clients about gathering of fish, crab, limu?

A Yes.

Q And I'm wondering do you benefit from any of the sharing of that food that's gathered by the other clients and the other people that do gathering?

A Very much so. In fact there are many times, and I'm not ashamed to say this, when I don't have in my home or in my freezer. But I don't have a problem calling one of them or any of my other family members who also use those rights and knowing that I will have something to put on my table for that night.

Q Are any of the foods that you benefit, that you get from the sharing, are they used in hula celebrations?

A Some of those foods are used for ceremony. I need to be honest, though, I'm not really good or I'm not an expert in that area. I don't have a real clear understanding. But recently I have been, I've participated in two aha'aina's and saw some of those things applied there.

Q Does that conclude your testimony?

A Yes.

MS. PAUOLE: Mrs. Bush is available for cross-examination.

HEARING OFFICER COX: Mr. Oshima?

Page 10

MR. OSHIMA: No questions.

HEARING OFFICER COX: Mr. Zakian?

MR. ZAKIAN: No questions.

HEARING OFFICER COX: Mr. Achitoff?

MR. ACHITOFF: No questions.

HEARING OFFICER COX: Mr. Crowell?

MR. CROWELL: No questions.

HEARING OFFICER COX: Mr. Nakamura?

MR. NAKAMURA: No questions.

HEARING OFFICER COX: Thank you very much, Ms. Bush. We appreciate your testimony. Call your next witness.

MR. MURAKAMI: At this time I don't know if you want to reshuffle. Should we just leave the witness stand here? He's going to refer to the map.

HEARING OFFICER COX: If you're referring to the map I think you better. Okay.

MR. MURAKAMI: We call Dr. Clyde Tamaru.

CLYDE TAMARU, Ph.D.

called as a witness at the instance of Intervenors Martin Kahe, et al, being first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

THE WITNESS: Yes. Good morning.

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Page 11

DIRECT EXAMINATION

BY MR. MURAKAMI:

Q Dr. Tamaru, would you state your name and residence address for the record.

A My name is Clyde S. Tamaru.

Q And your address?

A Home?

Q Yes.

A My home address is 1157 Lunaapono Place in Kailua on Oahu.

Q Dr. Tamaru, did you prepare at my insistence a Direct Witness Statement for submission for these proceedings?

A Yes, I did.

Q That was marked as testimony No. B-T-13?

A Yes.

Q I'll hand you a copy. Is that your testimony?

A It's so long.

Q I think the errata sheets were sent out. All the parties received that, the additions, the references to the awa.

A Okay.

Q Just for clarification what were those changes?

A Initially when we talked we had a short time for discussion but I had asked for the inclusion of the milkfish or the awa.

Page 12

Q And that was specifically in three reference points on Page 2 of your testimony?

A Correct.

Q After the listing of the mullet or ama'ama?

A Correct.

Q The inclusion there was just to include the awa or milkfish as an additional listed fish?

A Correct.

Q Would you summarize your testimony with respect to its relation to the life cycle of the fish that you presented in this testimony?

A Would you repeat.

Q Yes. Could you summarize your testimony with respect to the life cycle of the fish.

A The question posed to me was whether there would be an adverse effect if there was taken away of fresh waters in a particular habitat. That was the specific question that you posed to me.

There's several fish that are concerned. One was the ama'ama, the striped mullet. Aholehole is another one. That's why also to be included was the milkfish. These three depend on the kind of, I'll call it euryaline or brackish water environment for the nursery portions.

Certain questions were posed to me about, for example, whether mullet can spawn in freshwater. And I tried

Page 13

to correct them. That's not correct. The basis that most of these particular species need –

Q Before you go on, Mr. Tamaru, I forgot to offer you as an expert in, let's see, in fisheries and aquaculture.

MR. ACHITOFF: Stipulate.

MR. ZAKIAN: No objection.

HEARING OFFICER COX: You will be recognized as an expert in fisheries and aquaculture.

THE WITNESS: Continue?

Q (By Mr. Murakami) Go ahead. Sorry to interrupt you.

A Anyway, I've done a lot of research on the certain parts of the life cycle for both the milkfish – my doctoral thesis on the milkfish. Striped mullet is just another species I have been working with since 1977. And there are some errors that are commonly said. But it's kind of, I think, a misunderstanding about appearance of fish in a particular habitat.

Mullet and milkfish requires saltwater for spawning. Then the larvae develop at sea. However, from the juvenile stages that's when they migrate and they require the euryaline or brackish environment for their growth.

For the mullet specifically it's even documented that the brackish water environment is not necessary but it's best for the maturation. That was what I wanted to clarify.

Page 14

Those are the areas that are particularly endangered especially if you take away freshwater or decrease the brackish water environment.

Habitat destruction I don't know if you got the plot of the fisheries of mullet. Is that too late? Yeah.

Q Are you referring to the charts that you had submitted as exhibits to your testimony Exhibit B-23? And I'm handing you includes both the Live Food Pyramid, and three charts with respect to the Catch Records of the Striped Mullet, Milkfish and Ahole. You can refer to that.

A I'll focus on the striped mullet for now, but this is a commercial catch data from the Department of Land and Natural Resources. As you can see the landings is a continuing decline. This is up to 1996, the historical record from 1949 to the present. Even with the restrictions on closed seasons we're still having a decline in the ama'ama fishery.

There's two questions as to why this occurred. There's two possibilities. One is overfishing. And the second is habitat destruction. Probably the answer would be it's a combination of both. The habitat -- I mean the state is now investing, I think, about 300,000 in the stock enhancement program to address restocking native mullet.

The trouble is that when you talk about stock enhancing program they have to take into account the other factors that affect the catch record. That's the destruction

Page 15

of habitat.

On Oahu in particular this is a real serious concern. And that's one of the things I think on Moloka'i, the fishery here, the nursery habitat is still quite good.

Same with the milkfish and the ahole. The milkfish is kind of the same situation. And the ahole is the only one that hasn't changed much. It just goes up and down, up and down. But these two particular species brackish water environment especially the habitat is essential to their healthy population.

Q Now, you described, did you not, the life cycle of the fish. Would you just detail that part of your testimony so that the record and the Water Commission will have a clear understanding of how this particular life cycle of the, in particular the mullet and the awa are dependent upon certain conditions in the habitats for them to go through the cycle of adulthood, spawning and juvenile stage to maturation?

A Okay. The best I can provide is a pictorial. This is an actual manual for striped mullet production, artificial propagation that I produced under contract to the Governor of Guam. On the picture is basically the life cycle. In aquaculture our goal is to close the life cycle in captivity.

Our research is focused on doing all of this on land. That's why we need to understand what are the requirements of the fish during this complete life cycle, fish,

Page 16

mullet, moi, all the ones we are targeting for culture.

In research we focus on, a lot of time is focused on the environmental parameters. Because these are what we call euryaline fish or brackish water species, there's certain periods that we need to identify when lower salinity is important.

For the striped mullet I think I already said the spawning will take place in the ocean. That's required all the way to the larval development. It is at this portion from the juvenile stage all the way up to maturation where brackish water environments are important in their life cycle. We need to identify what are the actual parameters and take advantage of them to close the cycle.

In the process, as I said, we have to produce the fry artificially, so we have to know how, what they eat, et cetera. In aquaculture we are capable of doing, we actually know how much we have to put in to get so much fry out.

That's why we can get an estimate on the, what it requires to produce X number of fish. This is the Live Food Pyramid based upon our recent results. This is a daily requirement.

Q You're referring to the front page of the Exhibit marked B-23?

A Yeah.

Q It's titled Live Food Pyramid ?

Page 17

A Yes.

Q Would you explain the significance of the relationship of the different stages you see depicted in that pyramid?

A A lot of people forget that even humans are dependent on the primary productivity required. Energy from the sun must be translated into something that will go up to the food chain, the fish for us to eat it.

That's why you see the bottom of the pyramid is very large, 750 million phytoplankton cells per day. That is needed to support 120 million rotifers. This is the food that we're going to be feeding to the larvae. That will support, the rotifers are a direct food for the mullet fry.

In addition we also include a 1200, excuse me 12 million artemia, small crustaceans, baby shrimp. Anyway, the combined amount to support 40,000 mullet fry the daily requirement is 12,000 -- 12 million artemia, 120 million rotifers.

One of the questions that Mr. Murakami asked was how did the production in saltwater occur. These are live food organisms for the mullet. But as these start to grow older they will switch. This is, the protocol that we have to use for the mullet and milkfish is pretty similar.

These lines here are the live feed requirements, Artemia and rotifers. You will notice that this day zero when

Page 18

they spawn, hatch, you'll notice when they grow older it's an artificial feed that's being also added. This reflects a change in their diet. That occurs actually in nature. It's applicable to what happens in the nursery.

They become, they switch from a predator to what we call a omnivore or even a herbivore. They start to feed on the diatoms, the benthic mat which the nursery habitat supports. This is the key component for both mullet and milkfish.

The euryaline environment provides enough of the diatoms for them to switch over. Without this particular area this is where you will impact the native Hawaiian, excuse me, mullet and milkfish populations.

The other parts you realize is that the pyramid, you notice -- I was reading the testimony of Dr. Dollar, I believe. He's actually in the same college that I'm in. He considered the macro algae as one of the components in his testimony.

But he forgot to -- he left out this other portion, the phytoplankton and diatom base which is what this group will rely upon.

You know, this is not, if you change 11 percent reduction in freshwater it is very difficult to know what the effects will be. But what it is also to impress upon you it is not a simple linear relationship, proportional. It's an exponential relationship. So 11 percent change --

MR. ACHITOFF: Changed to 15.

Page 19

THE WITNESS: Oh, 15? Anyway, a change like that reflects a much larger change than can be anticipated. You have to keep in mind it's not a proportional one. It's an exponential change.

Q (By Mr. Murakami) That's related to that pyramid, that exponential relationship?

A Yes. The difficulties in estimating the amount that's actually in the nursery habitat by reducing the freshwater, no one can predict what's going to happen as far as the proportionate change. What will happen is even a small change might result in a very large change in habitat.

Q I'm not sure this came out real clearly. You spoke about the transition phase when the juveniles switch from eating the certain type of food and become predators?

A Yes.

Q Now, what relationship does the presence of fresh or brackish water have with respect to that particular stage in the life cycle of the mullet or awa? What are the requirements that are for those types of food for the mullet or awa?

A I'll try and -- I have a picture of developmental changes so that in your mind you can see. This is the basic change in morphology that the larvae will go through.

Q What type of fish?

A It's ama'ama, striped mullet. But approximately this bottom portion you'll never see this close to shore. This

Page 20

is occurring out in the ocean. This is when they are still dependent on plankton. They are basically considered a carnivore at this point in time feeding on small crustaceans, et cetera.

When they get older you'll see both a change -- this is the pua that the people refer to -- occurs at specific times of the year. This, at this particular point in time they actually change their diet and become almost exclusively what we call herbivore, feed on plants.

The herbivore-raising area, so to speak, is a nursery ground. And this is basically an estuarine or a brackish water environment. This is probably the best source of particular diatoms they use as food.

In fact I'm not sure if you're familiar, but Hawaiian fishponds -- I was also reading I think Dr. Dollar's report -- I think he made one conclusion that I would not particularly agree upon. He said that the fishponds are at this point in time, because of the disnse they are silted in. And he said they're just confines for fish.

That's not entirely true. In historical times and the ones that are still being used today, there are very few of them though, they are all local knapa which is the type of fishponds you see on Moloka'i. They were built around estuarine environments.

The reason they did that, the mullet pua, the fry

Page 21

and milkfish juveniles are attracted to these areas and they will literally stock the pond by themselves.

That was one of the remarkable achievements of the Hawaiians. They understood that. That's, you know, it cost a lot of money to stock ponds but these ponds do it themselves.

So one of the main characteristics of a Hawaiian fishpond before was that they were built around estuarine environments.

I think he said there's no freshwater now. But I think because of disuse it silted in. And I think if you were to dig, the water would come up again. But they probably been pushed off to the side.

Q How did Hawaiians in ancient days take care of that problem?

A That has not been very well documented. But my understanding they continued to sweep; they probably used the outgoing tides to stir the bottom up so that the silt never got to the point that it is now. It's remarkable what they used to do.

A good example that I use as an example, I'm not sure if you're familiar with Kawai Nui Marsh. Everybody knows how overgrown it is. In prehistory, precontact that was a 250-acre fishpond that was clean. There was nothing growing like it is now. They pulled everything that rooted. It's hard to imagine but that's how it used to be.

Page 22

Q Dr. Tamaru, are your comments similar to both the awa and the mullet?

A Very similar, yes.

Q How about for the aholehole?

A That one is a little bit different. I'm not -- they require -- they spend a large portion of their time as juveniles in the brackish water environment. The difference is that milkfish and mullet are herbivores at that particular point in time.

The aholehole is always a carnivore and he will feed on the plankton that is also present, not only the plankton but small benthic crustaceans that thrive in the nursery habitat or the brackish water habitat.

Q So they will depend on slightly different type of source but also dependent on the brackish water environment?

A Correct. The brackish water environment is necessary for the primary productivity there that the small crustaceans will feed on.

The mention of opae, that's actually one of the bigger crustaceans that are present. You have to really look for the phytoplankton that are present. Those are at microscopic level.

Q Are you familiar with the waters off the south shores of Moloka'i in and around the area of Kaunakakai?

A Actually not like the hydrology but I do know a

Page 23

little bit about the coastline. I had to do a small assessment of the mullet fry population. And it's kind of coincidence because I never knew about this particular hearing. But is that Oneali'i? The culvert right by the service station and Coconut Grove.

Q You're speaking of the service station right down the road from this hearing room?

A Yes.

Q What was the last place?

A Coconut Grove.

HEARING OFFICER COX: Just a second.

MR. ZARIAN: Excuse me. Could you identify the name of the service station so we have it clear on the record.

THE WITNESS: I don't know the name. Chevron.

VOICE FROM AUDIENCE: Robin's Chevron.

THE WITNESS: I'm from Oahu so I just know that's the service station. (Audience laughter)

Q (By Mr. Murakami) Maybe this might be helpful. If you could take this pen and locate the general areas that you said that you just mentioned on what's been marked CWRM-1. Could you just circle those areas, designate what they are and initial them.

A I may need some assistance.

HEARING OFFICER COX: Use the mike, please.

Q (By Mr. Murakami) What might assist you is a more

Page 24

detailed map of the features of Moloka'i that has not been admitted into evidence but several witnesses have referred to in order to get a bearing on CWRM-1.

A Coconut Grove is right around here someplace? It would be in this location right there. This area is Coconut Grove.

Q Will you circle that and just initial that, just put a circle where your survey area included on that map?

A There's a lot of stuff here.

Q I know. Maybe just draw a line to it so we know you did that.

A Is this the main road?

Q That's an aquifer boundary you just pointed to.

A This is the main road. The Chevron station would be where? This is the pier. Someplace over there.

VOICE FROM AUDIENCE: Near the pier area.

MR. MURAKAMI: The witness will have to testify on his own. Just put your initials there too.

A And then Oneali'i is around, I'm not familiar with the landmarks on the map.

Q Well, your testimony is that around Oneali'i you did the survey?

A Yeah.

Q If you can't find Oneali'i that's fine. We will have to take your oral testimony on that basis. What you've

Page 25

done you've indicated on the map two areas: One, Coconut Grove, one just outside the shoreline near the service station closest to the culvert line where you did some survey work.

Would you describe what the survey work revealed?

A The question was whether there's enough mullet fry, an estimate of how much mullet fry is present in this area, actually for all of this but I just had enough time to just do a real quick and dirty one.

Basically it's what they called a catch per unit effort. You time yourself how much fish you catch per amount of time. So I have it in written form that I had to submit to the person.

Roughly I think I know the culvert by the Chevron is 200 fry per minute. 200 fry per minute now. And Coconut Grove area is also 200 fry per minute. And Oneali'i was 2 fry per minute.

And the unfortunate part is that there aren't many, in fact there are none to my knowledge similar kinds of even guesstimates anyplace in the state. That's one of the things that we are lacking on that kind of baseline data.

But just based upon that information there's enough fry to just those three areas. The issue was whether they had enough fry to stock up the fishponds 300 acres could be stocked. I estimated, yeah, you could do it in three days. That's how much mullet pua was present.

Page 26

I took that as an indication your nursery ground here is stable, not stable but very, still very productive as opposed to some other nursery locations on Oahu.
Q That's assuming that the project, the design wasn't to take fry out of the wild?
A That's correct.
Q Just for purposes of clarification I'm going to hand you a photograph that's marked as Exhibit B-12. Could you identify what that species of fish is?
A Mugil cephalus.
Q Which is?
A Ama'ama.
Q Striped mullet.
A Striped mullet. This is Hanauma Bay.
Q I'm going to show you a photograph B-13. Are you familiar with that species and what is it?
A Yeah. That's the aholehole Kuhlia sandvicensis.
Q The aholehole, the species you referred earlier?
A Correct.
Q Just out of curiosity, I'm not sure you know this, you know what species is depicted in Exhibit B-14?
A I call it a palani. Acanthurus dussumferi. That's on Guam I think. (Audience laughter)
Q Have palani entered into any of your research?
A No.

Page 27

Q Do you have anything to add to conclude your testimony?
A That's all you asked me.
MR. MURAKAMI: Okay. The witness is now open for cross-examination.
HEARING OFFICER COX: Could I ask a question? In terms of the brackish water which you talked about, do you know how much freshwater has to be, what percentage of freshwater should be out there?
THE WITNESS: I knew this question would come across. That's a very difficult question. I would tell you right at this time no. There's no one in the world that could tell you that. We know the limits or the ranges that are important for certain parts of the live hatchery.
The issue at hand is a much more complicated one. By taking out a certain percentage of water from the aquifer you're basically asking, well how much of an impact will that make on the nursery ground, the nursery habitat. To be quite frank there's no one in the world that can tell you what 10 percent would mean, what 15, 20.
The only thing I can add or I guess caution people when they think about it is that, as I said, it's not a proportional. If you think 11 percent it's going to -- take out 11 percent of water then maybe only 11 percent of the habitat will change. That is not true. It will be an

Page 28

exponential change. That's why it's really scary. You have to be really careful.
MR. MURAKAMI: Mr. Hearing Officer, I failed to mention I would be willing to offer to copy those pages in Mr. Tamaru's book here on the hatchery manual or the artificial propagation of striped mullet just so that the record will be complete if that will be useful.
MR. OSHIMA: Unless we had opportunity the review it in advance to do cross-examination I don't think it's useful on the record.
HEARING OFFICER COX: I believe we are ready for cross-examination, Mr. Oshima.
CROSS-EXAMINATION
BY MR. OSHIMA:
Q Dr. Tamaru, I'm Alan Oshima. I'm representing the applicants in this case.
A Moloka'i Ranch?
Q Yes, Moloka'i Ranch and Wai'ola o Moloka'i. Your estimates of fry, can you tell me when you did that and how long it took? You described it as quick and dirty. I'd like to know when that was done, what time of year?
A Can I have a minute here? My quick and dirty results were reported to a Mr. John Savas. He was the then executive director of Department of Labor, Office of Community Services. I did the survey on January 25th.

Page 29

Q Of what year?
A 1996. Excuse me, '97.
Q And you did the three areas at the same time, the same day?
A Yes, same day.
Q Approximately how much time did it take to conduct your survey?
A The entire time?
Q Yes.
A About hour and-a-half.
Q So what you did is you went there and you looked at one spot and you counted the amount of fry per minute?
A Basically you go, it's a catch per unit effort. So you get your net --
Q And just scoop?
A Just scoop. You got to be careful in those areas. There are two kinds of mullet that are present. The reason I went in January this is the natural time when the fry are coming in. So basically between January till April. Actually this is early in the season so my guesstimate is that the fry population even gets higher.
Q So with respect to the scoop technique you used, you did the same scoop technique at each of the locations?
A Right.
Q Now, you say you were looking primarily for striped

Page 30

mullet?
A Yes.
Q That was the focus of your efforts at that point?
A Correct.
Q And at the culvert near the gas station --
A Yes.
Q -- was it -- on which side of the road did you do that?
A The ocean side, makai. It's actually at the beginning part of the culvert along the coastline right at the opening.
Q Okay. Had you gone further in you might have still found fry?
A Yes. I just looked but, yes, they are there.
Q What was the purpose of your study in reporting to Mr. Savas?
A What was that?
Q Were you contracted? Was this under a contract for the state?
A No. My duties as an extension.
Q So this was a part of your regular duties in surveying?
A Yeah, not the surveying. The issue that was at hand was whether there was enough mullet fry to stock Hawaiian fishponds assuming that all 300 acres would be back in

Page 31

production.
Q So you did surveys elsewhere as well?
A I haven't done any.
Q So you would be totally dependent upon these three quick and dirty studies to make a determination that all 300 plus fishponds could be stocked?
A Yeah. I mean I would feel comfortable with that to tell me if I had, you know, in an hour I would have wondered. But per minute, no.
Q And why would you -- and particularly this is to address Moloka'i fishponds or fishponds statewide?
A No. The issue is whether there's enough fry in the nursery habitat on Moloka'i.
Q On Moloka'i?
A Yeah. If I was to do, if I had time and resources, you know, the correct study would be the whole coastline here. Because if it's typical of other places they will congregate in certain areas so you can actually, you can identify areas that they congregate.
Q What would those areas be?
A Brackish water.
Q Would they most likely be around inlets like the Kaunakakai culvert, stream water, what might be considered a small estuarine environment?
A Yes.

Page 32

Q They do not normally -- I think in your direct testimony you refer to the, in Punalu'u within the ocean environment may not be as conducive to habitat?
A Yes.
Q As an estuarine environment such as I think you pointed to Kahalu'u at that point?
A Yes. In fact they have with the stock enhancement activities where they put little wire tags so that they can monitor. We want to know where we putting our fish, what happens to them in areas where you release in an estuarine environment.
So if you specifically put them in Kahana Bay -- Hilo is the best example -- they will stay there. If you put them along the coastline where there's not a great deal of brackish water, they just go along the coastline until they find it.
Q They find their habitat, right?
A Correct.
Q These are the juvenile mullet we're talking about?
A Yes.
Q Not particularly the adult mullet?
A That's correct.
Q Because the adult mullet once they reach adult stage will migrate and can live in a different environment?
A That's actually, they will congregate during the

Page 33

spawning season. I think this is one of the reasons that people believe that they need the freshwater to spawn.
But during periods of December, actually right now if you were to go to Kaneohe Bay, Pearl Harbor you'll start to see the mullet coming close to shore in the estuarine environment, the adults.
And we have done experiments to determine what is the optimal salinity for maturation. It turns out brackish water. So there is, apparently, a physiological component to that aggregation before spawning.
They then will migrate. And there are very few people that I know of that have actually seen it. But fishermen are well aware of the migratory activities that take place when the school moves offshore to spawn.
Q So you could catch mullet in various parts of the state not just necessarily their fisheries?
A Yeah. It would be easier to catch them in the estuarine environments, unfortunately, when they're in the spawning season.
Q When you say you've done studies on the salinity and the brackish water is the best, can you define brackish water for this commission?
A Brackish water, the range can be quite large, anything from our sophistication is units, parts per thousand.
Q Correct. And seawater, just for the record seawater

Page 34

is?
A Above 30, I'd say above 30 parts per thousand for our definition we call seawater. Anything above, so from 1 till 30 I guess.
Q Is seawater?
A No. 30 and above. And below that to freshwater is considered brackish.
Q The lower the parts per thousand is it better or is it worse or is there any linear relationship to the habitat quality that you seek for striped mullet juveniles or have you arrived at that conclusion?
A At this point, no. It's difficult.
Q So would you expect that a 29 parts per thousand salinity level would be just as good as a 15 parts per thousand?
A No. I think that's too general a statement to make. Because what the level of understanding where we know it will impact the nursery, we do not know what will happen. Even that's -- what? Say the numbers are 15 to 29.
Q Well, you described 30 as the dividing point between what you considered to be ocean water and brackish water?
A Right.
Q So my question was is 29 just as good as 15?
A No. They're quite different.
Q All right. Is 23 just as good as 15?

Page 35

A It's still -- if you're looking for a range I think about 3 parts per thousand to plus or minus around there.
Q You're looking for 3 parts per thousand environment for the juvenile mullet?
A No. The environment, well, in the lab we can define specifically what, if you wanted 15.25 we could do that.
Q Correct.
A In the environment there's with the fluxes and the way water enters the ocean you just have to say brackish water. So you will be anywhere from even freshwater for the mullet till about 28 parts per thousand, my experience.
Q Where is it most likely that you would find the juveniles? Is it in 28 parts per thousand, 23 parts per thousand, 15 parts per thousand?
A It's, I wouldn't be able to answer that one. Most of the places are approximately -- again it's a real difficult answer to give you. The best I say no because I don't know the exact boundaries in the wild, in the nursery habitat.
Q So you don't know?
A No. I couldn't tell you.
Q As long as there's some freshwater input --
A Yes.
Q -- it's okay?
A Yes.
Q You say that if you were to look along the coastline

Page 36

here there would be other areas where you would find mullet fry, striped mullet fry?
A Yes.
Q Where might those areas be?
A The first I would look for is basically streams or estuarines, because the mind is simple thinking. I can see the stream and I'll look for it.
On Moloka'i it's a little bit more complex because you have the streams coming out from right onto the shore. So then I would start to go along the coast and hope to find those areas.
Q Would you agree -- are you familiar with Dr. Steven M. Blaiber and his article in 1987 on Factors Affecting the Recruitment and Survival?
A No.
Q You're not. Is habitat besides salinity an important part of juvenile recruitment for striped mullet in your estimation?
A My estimation, yes.
Q Part of the reasons why mullet seek a fresh or a brackish water environment is partly might be predator protection as well?
A Not necessarily because at that point in time there are several other predators that also frequent the area, clops, awa'awa, clops, small carangidaes, papio, the moi already

Page 37

moving out, those kind of barracuda.
Q What about turbidity?
A Turbidity if it affects the benthic food chain that would have an input. Turbidity prevents light from penetrating.
Q So they would seek -- it's a better environment when there is turbidity?
A Not necessarily.
Q You think it's the other way around? You think a clear water is better for striped mullet juveniles than turbid water?
A Not necessarily. It depends if there's enough food, you know, if there's enough light penetration whatever the turbidity may be to give them that benthic mat that they feed on.
When you say turbid what do you mean by turbid? Is that because of the siltation? Because turbid is also --
Q Suspended particles in the water making it less than clear.
A Okay. But the particles themselves is that silt or is that plankton?
Q Could be either.
A If it's plankton, yes, that's actually a good environment because that's all live stuff. If you're getting siltation from where it's from the soil that would be a

Page 38

problem.
Q So surface runoff would not be a good situation necessarily?
A Correct.
Q But streams -- in an estuarine environment in Hawaii aren't the periodic episodes of stream water input good for the estuary in terms of charging the estuary with a large amount of nutrients?
A Yes.
Q That increases phytoplankton growth as well?
A Yes.
Q So in some situations turbidity might be good and some situations it might not be good?
A Yes.
Q When you look for the other stream environments along the coastline, can you tell me where they might be, where you might look for fry that might stock the fishponds that you're now studying?
A We're talking about mullet or milkfish or both?
Q Mullet, striped mullet.
A For mullet, I haven't done outside here yet. We're kind of proposing to do that for the future. Like I said the problem with our study we don't have enough of them. So I just would look for anywhere where I can see or measure salinity drop. So something in the brackish environment. It doesn't

Page 39

have to be, necessarily be a stream. But that would be my first clue that this would be appropriate nursery.
Q Do you know the relationship of freshwater to -- looking at your food pyramid, what is the relationship of groundwater to phytoplankton availability?
A For groundwater, okay, that pyramid is based on culture results. That's why sometimes the people -- what am I trying to say here? In the artificial environment we have to create the food chain. In the wild the groundwater basically supports nutrients that will provide an adequate bloom at this level.
Q What is that level of nutrients that's required for the adequate bloom that you propose?
A Is this for this pyramid or for out in the wild?
Q Out in the wild.
A The wild I don't know what it would be.
Q Would surface water runoff contribute to the nutrient levels --
A Yes.
Q -- in the wild? Do you know what percentage surface water runoff would have compared to groundwater discharge?
A No.
Q When you're looking at the striped mullet recruitment, you say it starts in January, how long does it extend to?

Page 40

A Basically between January through April.
Q Okay.
A Peaks in February or March. That's the general term. It changes every year.
Q Have you correlated that to what months are the wetter months and surface runoff and stream levels, et cetera?
A To the amount of runoff?
Q Yes.
A No.
Q Is it your expectation that the months of January through April would be the time where there would be no surface runoff and the streams would be fuller than other times of the year?
A Well, that's usually -- our rainy season is usually considered more of a wet time so that's probably correct, yes.
Q So your exhibit also attaches the catch records of striped mullet from 1948 through 1996?
A Yeah, right.
Q This you got from the Division of Aquatic Resources?
A Right.
Q So these are commercial reports of --
A Commercial landings, right.
Q -- of landings?
A Hmm hmm.
Q But you used it as an indicator, a broad indicator

Page 41

of availability of that fish?
A Yes.
Q Because if commercial fisheries are reporting it the trends would be the same in your mind as what others are catching, the availability of the fish?
A There's been quite a debate as far as using the commercial landings on certain species because as you know the recreational fisheries in Hawaii is rather large.
And there's another fish that we are trying to culture. That's moi. I use, we look at the commercial landings. It's prior to when restrictions were placed. And the average landing is only 14,000 pounds a year. And everybody -- Jesus, moi is a real popular fish. But the actual numbers that are landed is really low.
The commercial fishery -- I had to do this with akule and a couple others. Quite frankly, um, there's no estimate, unfortunately, that we can give. But the recreational fishery has to contribute a substantial amount to the fishing pressure.
Q Which is not reported, not shown in this data?
A That's correct.
Q I think you identified that in your summary where you say that, "It's affected by primarily overfishing and habitat destruction."
A Yes. It's a combination of both. That's the issue

Page 42

that is at hand. I think with, the DLNR, DAR has to face.
Q What would you consider the habitat destruction that's affecting this, if you know?
A At this point we didn't do enough of the survey. I believe that is planned for the upcoming years.
Q Hilo Bay has how many rivers emptying into it, if you know?
A I only know of the one major one. I don't know its name.
Q Would you consider Hilo Bay to be a good habitat --
A Yes.
Q -- for striped mullet?
A Yes.
Q Juveniles especially?
A Yes.
Q In fact, that's where one of the studies is ongoing for stocking?
A That's right.
Q To determine the --
A Feasibility.
Q -- feasibility of stocking a good habitat?
A That's correct.
Q And if, I guess I'm just trying to get to your statement that habitat destruction might be a part of this. I'm trying to understand where you've determined that mullet,

Page 43

striped mullet habitat has been destroyed to show this correlation, what effect that has versus the overfishing aspect that you also attribute?
A How are we going to decide on which is the main contributor?
Q Right. In your mind.
A In my mind, actually I was hoping for the Waiahole case to be in favor. Actually in part I rely upon the traditional fisheries, fishermen in the Kaneohe Bay area. One of the things -- that's the problem with that work that I do. A lot of it is anecdotal but actually I kind of rely on them a lot. With the increase, even though it's not the full amount, we can see a little bit of restoration in the striped mullet population in Kaneohe Bay.
Q That was in 1995, wasn't it?
A Yes. But from the original report there's one person I trust with his observation is one of the last traditional fishpond operators, Mr. Omura. And I rely on his judgment a lot of times. He said he could see it the following year. But I thought, wow, that's pretty fast.
But, anyway, at this point in time as far as just the general amount, like I said, I cannot give you a number. But there are feelings and their, what they're saying it's coming back large numbers.
Q What about Pearl Harbor?

Page 44

A I have no idea on Pearl Harbor.
Q Have you compared the mullet populations in other habitat during that same period to determine if there is a correlation at all?
A No.
Q Or is it just merely anecdotal?
A It's anecdotal.
Q So it could be occurring in other habitats as well?
A Possibly, yes.
Q In fact it is happening in Hilo Bay because of the stocking program. But it may be also happening there as well naturally, correct?
A The Hilo Bay one because the fish are tagged they can measure the actual contribution made by the hatchery-raised fish. I believe it's quite high. It's 30 percent, which is a lot. You don't hear that kind of number in the normal stock enhancements like they do in Japan in the trout and other things.
I wanted to clarify in my opinion it's not just overfishing or it's not just habitat destruction. I think it's going to be somewhere in between or a combination of both.
HEARING OFFICER COX: How much longer do you have for your testimony, cross-examination?
MR. OSHIMA: Why don't we take a break. I only have about five minutes.

Page 45

HEARING OFFICER COX: Let's see if we can finish up then.
Q (By Mr. Oshima) Dr. Tamaru, what is your definition of an estuary?
A An estuary?
Q Yeah.
A My definition of it? Mine might not be the same as an ecologist. Basically it would be an euryaline, any, I use the water as my definition. It would a euryaline environment, a brackish water being lower than normal seawater, salinity is lower than normal seawater.
Q So any salinity lower than 30 in your estimation is an estuary?
A Not an estuary. But, I don't know. I would, like I say, I don't know. My definition of an estuary might not be the same but I would just focus on levels of salinity.
Q So residence time of water in a captured natural embayment has nothing to do with an estuary environment in your mind?
A Say that again.
Q Residence time of the water in a captured environment in an embayment is not, has nothing to do with the definition of estuary?
A Residence time?
Q Yes.

Page 46

A Normally I guess when you talk about a brackish water environment and estuary there's a constant flow of freshwater into the sea. That implies a movement all the time, not a fixed body of water.
Q So an estuary to you could be a coastline, a stream mouth that's open into the coastline. And where there's a rapid current along the coastline even the euryaline environment in the ocean until it gets to 30 parts per thousand to you would be an estuary?
A That's what I consider. But it may not be what other people.
Q With regard to the fishponds, how important, as long as the fishpond water is less than 30 parts per thousand it's okay?
A The salinity is just one component. Like I said Mr. Dollar uses the example of the fishpond as they are now. That's the dead fishpond, not a living one. Like I said those were built in specific areas where there was a continuous inflow of freshwater.
That actually will help to stimulate the primary productivity there, the phytoplankton and the diatoms. That's an essential one. I think Mr. Dollar when I just read that part it kind of struck me as odd. That's a dead fishpond, not a live one.
Q Do you have any live fishponds where you can make

Page 47

those determinations of the salinity level and the nutrient levels that are necessary to maintain a fishpond environment?
A Yeah. We don't have the numbers now but we have a project ongoing that is trying to determine that.
Q But you don't know if it's, what salinity level is the optimum in your mind?
A Salinity --
Q Anything less than 30 is okay?
A Actually for that particular kind, yeah, if you want to just generalize less than 30. Actually the fishponds are very dynamic things. If you were to draw a picture, some of the small ones is a salinity gradient inside of the fishpond where the springs, of course, are coming out it's almost fresh and it mixes.
So by the time it reaches the kuapa it's almost all salt or maybe even a little less. That changes on the tide and they actually would regulate that also.
Q From an aquaculture standpoint is it necessary in a fishpond environment to rely solely upon natural nutrient levels or is it also possible to supplement that by man?
A Okay. Are we talking about 20th Century aquaculture?
Q Yes.
A Twentieth century aquaculture normal practice for high production we normally do not add nutrients or fertilizer.

Page 48

Our fertilizer comes in the form of the feed that we feed to the fish.
Q Right.
A And their poop is fertilizer. There have been times when people have tried adding direct fertilizer, and sometimes catastrophic results because you can't control.
Q But what you do is you feed the fish so that they're not totally relying on the phytoplankton and other naturally occurring --
A Yes. In modern day aquaculture.
MR. OSHIMA: Thank you. I have no further questions.
HEARING OFFICER COX: Before we take a break I want to see if there is a lot of additional cross-examination.
Mr. Zakian?
MR. ZAKIAN: Just a few questions.
HEARING OFFICER COX: Mr. Achitoff?
MR. ACHITOFF: I might have a couple.
HEARING OFFICER COX: I think we better take our break then first and come back.
(A recess was taken.)
HEARING OFFICER COX: I call the hearing back to order. I believe we are ready for Mr. Zakian.
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Page 49

CROSS-EXAMINATION
BY MR. ZAKIAN:
Q Mr. Tamaru, I just have a few questions to ask of you. Is it your testimony that freshwater entering into the saltwater in the nearshore areas is important to the mullet and other fry that live there?
A Yes. I need some clarification when you say mullet fry. You have to understand that the fry are depending on what's growing there. That's where the brackish water is important.
Q Okay. With their food source?
A Right.
Q Okay. Are you opposed to the drilling of a well that would decrease the amount of freshwater that flows into these nearshore waters?
A Not opposed to it. Actually the only way to resolve the issue, the question that nobody's posed to me but I kinda feel it coming: "What is the 11 percent going to do?" There's nobody in the world that's going to able to do that. You gonna have to punch a well and monitor it and see what it does. That's the bottom line.
Q Okay. So you would have no objection then if, say, the County of Maui were to drill another well that may have some impact on the amount of freshwater flowing into the nearshore waters?

Page 50

MR. MURAKAMI: This is a question that goes way beyond the direct examination and is irrelevant to these proceedings. I object.
Q (By Mr. Zakian) I'll rephrase it. You would have no objection, then, to Moloka'i Ranch drilling a well that may have some impact on the amount of freshwater flowing into the nearshore waters --
MR. MURAKAMI: Objection. It's really not relevant what this witness is for or against. He's here as an expert on fisheries and aquaculture. I think he's provided evidence. Really this answer would be irrelevant.
HEARING OFFICER COX: I'm going to allow this for whatever value it is. We have asked quite a few witnesses fairly broad questions.
Q (By Mr. Zakian) Please answer.
A **Can you restate the question.**
MR. ZAKIAN: Repeat the question.
HEARING OFFICER COX: Could you rephrase your question.
Q (By Mr. Zakian) Yes. Would you have any objection to Moloka'i Ranch drilling a well that may have some impact on the amount of freshwater flowing into the nearshore waters? That's as best as I can remember the question I asked.
A **Okay. I wouldn't have any objection but they would need to demonstrate that the impact would be negligible. I**

Page 51

also work with Waikoloa Fishpond Preservation Society on the Kaneohe Bay. Pacific Allied owns the golf course now. And part of their permit application it was approved on condition that they fund a monitoring study to demonstrate that there is no impact.
In fact if there was 1/100th impact on the adjoining stream they would have to shut the well down. But at this point in time there's no, they haven't, the amount of water that they have taken hasn't reached that. So the, kind of the only way to resolve the situation is to have some kind of a study ongoing at the same time.
I found it kind of interesting that I believe it's the Water Commission or a part of the terms of the approval was for them to fund it. They had to pay for it to build. Because otherwise you're going to call this expert, that expert, you're never going to answer the question.
Q Just one final question. This is more of, I think, a housekeeping measure. In your written testimony on Page 1 of 5, line 12 you state that you got your Ph.D. in agriculture from the University of Tokyo in 1981?
A **That's, I think, a mistake. '88.**
Q Okay. I just wanted to clarify that because on your curriculum vitae you indicate 1988.
A **Yeah. I caught that after.**
MR. ZAKIAN: No further questions.

Page 52

HEARING OFFICER COX: Let's see. Mr. Achitoff, cross-examination?
CROSS-EXAMINATION
BY MR. ACHITOFF:
Q I was confused about one part of your testimony. Perhaps you could clarify it for me, Dr. Tamaru. That is regarding the salinity levels that are optimum or even necessary for the kind of habitat that you had testified was needed by the mullet at a certain stage in their life.
And as I understand it, nobody knows with precision what the optimum salinity level is, is that correct in terms of parts per thousand, or do we?
A **When you do a salinity, especially estuarine environment, we are talking a range of salinities. So when I say less than seawater, you have to incorporate the whole range. It's not an average value.**
I know this is not in evidence but I got -- in research we can't control it. But even when we do so this is the stuff I did about showing the importance of freshwater in the maturation of the striped mullet. The range that we found to be effective or important was 13 to 20. So it's a range. You could never say an average value.
Normally you have to actually take it all the way from 1 to, I guess I used the definition less than 30. So it's all of that, not just 1 below 30. It's the whole range.

Page 53

Q So you said 13 to 20? Is that what you said 13 to 20?
A **For the oocyte maturation. Specifically for oocyte maturation of the mullet when the eggs are being produced. That's 13 to 20.**
Q Okay. That's 13 parts per thousand?
A **Per thousand, yes.**
Q If you had a fishpond that was -- are you saying that if you wanted to have a productive fishpond you would need at least part of that fishpond that had a 13 to 20 parts per thousand? Or is that --
A **With the fishpond it's a much, it's kind of a very complex situation, I guess. Can I draw something just to clarify?**
HEARING OFFICER COX: You may. Do we have another sheet back here?
MR. MURAKAMI: Mr. Hearing Officer, for purposes of the record I'd like to mark that as B-27.
HEARING OFFICER COX: B-27.
THE WITNESS: What was the question?
HEARING OFFICER COX: Maybe you can rephrase it.
Q (By Mr. Achitoff) I'll see if I can make it clearer. What I'm trying to find out is if you wanted to have a productive fishpond, what kinds of salinity, what levels of salinity would you need to have in the fishpond?

Page 54

A **Okay, I remember. I'm going to use the black as the fishpond. That's the kuapa makahas. The problem about, this is a difficult answer, I guess. As I said before when we work with euryaline fish you have to consider the whole range. It's not a specific --**
Q You use the word euryaline meaning brackish?
A **Yeah, it's a range of salinity so from zero all the way up to seawater. That's the range when I say brackish water. In the fishpond, as I said, the ones that are alive they will always have the freshwater source, either a stream or spring, some kind of freshwater source. So I'm going to put that as this purple area.**
So the salinities just where the streams are obviously they're going to be very low. If you take it out of the spring it might be freshwater. I got to say already we are talking about a range already. So 0 to 5 maybe? Zero to 10? It depends on how much saltwater influx.
The other part that's difficult in the fishponds the tidal flux occurs twice a day. So it's a real dynamic type of situation. I guess what you will see is a gradient occur. Again I cannot give you a number. It will be 5 to 15.
Q Again parts per thousand?
A **Parts per thousand, yes. I can't, all I will be able to tell you it's closer to the makahas. Then you see the 20, 28. The fishpond is never except in a dead one, one**

Page 55

salinity. Unfortunately that's what most of our fishponds in the state are, dead.
Q In terms of what the fish need, is there some relationship between these ranges that you've given us and what the fish need in order for the fishponds to be productive? I think you've described what the fishpond looks like. What's the relationship between these ranges and the needs of the fish?
A **The brackish water environment. That's why I won't, I'm not going to talk about the specific part of the pond. The brackish water environment is conducive for the benthic growth of their basic food source. That's the important -- that's the relationship.**
So you could have actually, you know, mat growing all the way up to here. But it's this particular, the whole thing together that's conducive for the nursery habitat and important for the mullet and milkfish.
Q Okay. The range that you mentioned earlier 13 to 20 parts per thousand, how would you relate that to the fishpond environment that you're describing here? What's sort of the overlap between those concepts of the 13 to 20 parts per thousand in Exhibit B-27?
A **Okay. That's a wholly different scenario. Because as I said the ponds themselves were built around these particular areas. The reason why is that the fry are attracted**

Page 56

to them. And as I said they naturally stocked the ponds. That was one of the most remarkable achievements to recognize that behavior.
Basically when they went to the makaha, went into the ponds, fed in the nursery habitat that was created they got too big and couldn't come back out.
Q This is the relationship between the freshwater and the attraction?
A **Yes. They will seek out, I don't know, for lack of a better term they feel, they feel it. That's one of things they homing in, they homing in on. This particular study is the adults totally separate entity.**
We looked at what was required for the maturation. And, you know, although they spawn in saltwater the brackish water environment is actually very important in their maturation process.
That's why it's, I think when you -- that's where I think the misunderstanding about them spawning in freshwater came about. It is a very, very important part of their reaching full sexual maturity. But when they actually spawn they will do it offshore. But at least I can give you a range, a specific range that is necessary.
Q I see. I think that clarifies it for me, anyway.
HEARING OFFICER COX: You've completed your cross-examination, Mr. Achitoff?

Page 57

MR. ACHITOFF: I want to make sure. Yes, I think that's it.
HEARING OFFICER COX: Mr. Crowell?
CROSS-EXAMINATION
BY MR. CROWELL:
Q Dr. Tamaru, as you reduce the amount of freshwater coming in either through the spring or the stream, does that affect -- it would affect the amount of, the parts per thousand, right?
A Right.
Q And how far out it spreads, correct?
A Right.
Q Would that have any effect on the number of fish, the number of fry in that pond?
A **Yes. That's the whole point I guess I have been making, trying to make. I was not making. It is at the fishpond. I hate to use the fishpond as an example. Because this is only one example of what you are facing to decide. I could put it on the bottom.**
What you're faced also with is the shoreline. There's springs throughout. And as I said before this particular springs create this nursery habitat that God knows how big it is.
If you reduce the freshwater by a certain amount, what that will do nobody in this world will be able to tell.

Page 58

Because you don't know which part of the springs it's gonna affect. Basically I'm just gonna diagram something. This is just a guess.
So this, you know, this particular area, so the spring is being fed creates this particular habitat. What you folks are trying to ask me, I think, correct me if I'm wrong, if I take away 11 percent does this thing shrink by 11 percent? That is not entirely true.
As I said what will happen is your food structure, the bottom base of the pyramid will change. How much I don't know. There's nobody else that can tell you. What that does you set up -- and I said the effects are exponential. That's the, yeah.
Q So 15 percent might not just be 4 percent reduction?
A No. It may be even, there may be quite catastrophic. It may have no impact. I cannot tell you. This is a food chain that you're messing with on the bottom part. That's why it's really scary. That's not, you guys are focusing on awa and mullet. You guys are forgetting all the opae, all the phytoplankton that everything else relies upon.
That pyramid, that's why I use that pyramid our best means to try and illustrate that. I know for sure exactly how much food to feed mullet only. But with all the other critters you got out there it's quite, it's quite, it can have a major impact but it might be negligible too. I couldn't answer.

Page 59

Q But you may not be able to say that the amount of the impact or the significance of the impact. But is it fair to say that as the amount of freshwater declines, it declines more and more that the impact would rise?
A **Oh, yeah, definitely.**
MR. CROWELL: No further questions.
HEARING OFFICER COX: Mr. Nakamura?
CROSS-EXAMINATION
BY MR. NAKAMURA:
Q Just a couple of questions, Dr. Tamaru, you mentioned that once a habitat is damaged the damage to the food chain -- you mentioned that once a habitat is damaged the damage to the food chain is exponential. What do you mean by exponential?
A **Like I was trying to -- when they say 11 percent, a proportional amount, if you take away 11 percent here and, say, actually put a small proportion -- gosh, I don't know how to explain it.**
HEARING OFFICER COX: Could you close the door so we can hear the witness.
THE WITNESS: I guess what I'm trying to say is maybe it's not a linear change or it's a straight line. In other words you make a change like one, two times. One half versus two times. The amount of change is exponential.
It's not -- okay, a 10 time change results in a

Page 60

hundred fold change. I don't know if that's making it clear. It's not just linear. Linear just goes step by step. Exponential it goes this way. A small change results in a bigger change.
Q (By Mr. Nakamura) You mentioned in response to one question on cross that in order to determine damage it might be reasonable to condition a well upon monitoring studies.
If we are talking, as we are in this case, about natural environment with a multitude of ponds, a number of fishponds and the concern is the ecological and cultural effect of the withdrawal --
A Right.
Q -- would it be sufficient to monitor any single site? If the commission, say, were to require a monitoring as a condition?
A **Of approval, huh-huh.**
Q Given the fact that we are concerned about a natural environment with a multitude of potentially affected sites and an ecological and cultural impact that's a legitimate legal concern --
A Right.
Q -- do you think it would be sufficient to monitor one site?
A **Oh, no. This is a, dealing with this kind of issue on the coastlines that's really difficult one because just**

Page 61

defining the aquifer is not good enough as far as monitoring. You have to understand the nursery habitat. It will extend well outside the boundaries of the aquifer because freshwater does not have any restrictions on where it's going to go. That's what makes it difficult. My guess is why the state probably hasn't done a lot of this kind of work. It's not a simple task.
Q So something like the monitoring that you mentioned to take a single stream and look for a flow reduction is not what you meant by conditional monitoring?
A **No. It's not applicable. I'm sorry. It's not applicable to what the situation you have here. Because in our area, I mean the place that I'm assisting, if you want to call it that, the golf course is watered by the stream. So actually it's actually very easy way to monitor it, I think, maybe one of the reasons they said to do it. Because it's a clear case you can establish cause and effect.**
This one going be a little more difficult to do. But in our situation I was surprised the Water Commission did that. They did that.
MR. NAKAMURA: No further questions.
HEARING OFFICER COX: All right. Do we have redirect, Mr. Murakami?
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Page 62

REDIRECT EXAMINATION
BY MR. MURAKAMI:
Q Just a point of clarification here. Dr. Tamaru, in, I think in answer to a question by Mr. Oshima there may have been a suggestion of your definition of what estuaries were in the context of the discussion of brackish water environments.
Just to be clear, is it true that all, that estuaries are confined to areas that are inlets or months of streams in the definition that you used where estuaries are brackish water confines?
A They're not confined? Try that one again.
Q Are they confined to only inlets and mouths of streams as it suggests?
A No. My definition of what I used is the salinity change.
Q So, for example, you mentioned the Coconut Grove area. Does that fit in the description –
A Yes.
Q – of some sort of inlet or a stream mouth?
A I considered the location an estuary. There's no stream coming directly to it. But because there is upboiling of freshwater that whole area in my definition is an estuary.
Q That does provide some conditions that are conducive to the mullet fry?
A Yes.

Page 63

Q With respect to the study you cited, I guess, that you conducted with respect to the best salinity conditions for the maturation of, I think you called it oocytes, those are eggs, right?
A Yes.
Q Does that finding of 13 to 20 parts per million, per thousand is that a finding of what is the ideal level for the maturation of eggs or does it, is it the only range in which eggs can mature?
A They will mature across, all the way from freshwater to seawater. But the best maturation occurs between, what did I say? 13 to 20.
Q You talked about benthic growth. Just to be clear for those of us that are not real familiar with some of the terminology, can you define what you're talking about when you talk about benthic growth or shelves?
A Benthic growth, the easiest way to define that?
Q Describe it in laymen's terms what it looks like.
A Well, that's part of the problems, where a lot of people misunderstand. We run into this all the time. I think Mr. Oshima refers it as turbidity.
Turbid water is, you have to look what's in the turbid water. Because if it's, as I say, silt particles or non-living that is bad. But turbid water when it's got phytoplankton and living things that's actually good.

Page 64

The benthic growth you need – too bad I didn't bring the picture -- at a microscopic level the benthic mat is a diatom layer. It's not like the macro algae where you can, like this one. I can't do that. That's why I don't know.
Q In other words you can't grab it?
A No. Well, you can pick up a rock and see it along top of it along the sediment. It's growing on top of it, yeah. If you watch the mullet when they're eating they lift their butts up and they're going like this and they're scrubbing the alga mat. **Milkfish will do the same.**
If you were to go you might say they're not eating, but tearing.
Q You're referring to some sort of layer on the surfaces on the bottom of the rocks?
A Yes.
Q You indicated that you would not know for certain what the effects of an 11 percent reduction along this coastline might be. Is that true?
A Yes.
Q For purposes of evaluating risks here, how would you characterize what a decision maker should be careful to be wary of given what you know about the range of possible outcomes?
A Good question. I face this all the time in my position. I'm not sure if you understand. I'm an aquaculture extension agent. I wear two hats. One is economic

Page 65

development. The other one is my funds come from DLNR. Part of my salary. So I'm actually also a protector of the environment. I'm in the in between many times so I have to cross this.
At present I will use the same criteria as far as the Department of Ag and how we introduce alien species or the process that goes through getting permission to bring in a species. You have to err – if you're gonna err you have to err on the side, I mean you have to be the most cautious I guess.
They always use the worst case scenario that you have to prove or not prove but provide enough evidence that the impact is not significant. Until you can do that they don't allow an introduction.
A good example, I'm trying to bring in striped mullet from Taiwan. This is supposedly the same Taiwan, I mean same species that we have here. The reason I wanted to bring it in it grows fast. But there is the possibility that it can interbreed with our native stocks. And just because of that they have used that.
I cannot guarantee that it won't escape and do that. What they told me is that the way they will approach it they always will assume the worst case scenario if it did get out and what then will happen. That's what they have, that's kind of how the Department of Ag. I don't know about the rest of

Page 66

the state.
Q What is the worst case in this situation of 11 percent decline, 15 percent decline in groundwater input to this coastline?
A You will have a diminishing of your habitat. With that, as I said, then you will have a diminishing of your natural fry population and everything else that depends on the nursery.
I don't know if we're focusing – you asked me to testify on mullet and milkfish and maybe aholehole. But that habitat supports birds, crabs, other fish, you know. It's a habitat. It's an ecosystem that you'll diminish. That's the worst case scenario.
Q Actually my next question was aside from milkfish and mullet what other creatures that are in your area of expertise would be affected in the way of a worst case scenario?
A Like I said the fry that are present feed upon – the initial area again is the bottom of the food chain. That supports X number, a certain number of smaller organisms. These form the basis of the food chain.
One layer is the mullet fry and awa fry. But then there are high level carnivores, papio, barracuda, moi, all those other fish that will come in also to feed on them. Then on top of that you got crustaceans, crabs, birds, everything

Page 67

else. The ultimate one is man, us.
Q Is your Service aware of the presence of the endangered Hawaiian Stilt in this area?
A Yes.
Q Is that one of the birds that of which you're speaking?
A One.
MR. OSHIMA: Objection. He's an expert in fish and aquaculture.
MR. MURAKAMI: Well, I think he testified about birds. I was going to ask him about it. I think that's an allowable question.
HEARING OFFICER COX: I'm going to allow him to testify as to his personal experience.
THE WITNESS: As a public servant in my area I need to be aware of which endangered species are. The native Hawaiian Stilt is an endangered species. One of the problems we have in aquaculture they like our facilities. It's an immediate source of food.
I'm well aware. We have this confrontation all the time. The farmers want to kill them. You can't do that. So we have to come up with ingenious ways to make them move.
Q (By Mr. Murakami) Is the he'e or octopus a part of this chain?
A Certain on the outer level it would benefit, yes.

Page 68

MR. MURAKAMI: Thank you. That's all.
HEARING OFFICER COX: Thank you, very much, Doctor. Recross? Excuse me.
RECROSS-EXAMINATION
BY MR. OSHIMA:
Q Mr. Nakamura asked you about your – Mr. Murakami, I'm sorry, asked you about your position and you described it as being torn between economic development and protecting the environment because of your occupation.
A That's correct.
Q Can you tell me again who you work for and how you're funded?
A I have a joint – okay. I am a faculty member of the School of Ocean, Earth Sciences and Technology at the University of Hawaii at Manoa. My department is Sea Grant Extension Service. I have a joint funding for my position. I'm funded by Aquaculture Development Program which is part of the DLNR.
The second component is Sea Grant College program which is federally funded Department of Commerce.
Q So you're a fulltime employee of the university but you focus on areas specific to your funding because of the funding. Who directs your work?
A The way that it's set up is that I have to apply for, I have to make a proposal, annual proposal to get funding

Page 69

for my position. The person that directs the direction actually is me.
Q And you're appearing today in your official capacity as part of the University of Hawaii or on your own?
A This is part of the, I cannot represent the university without that signature. So I'm testifying as an expert witness on the area of my expertise.
Q On your own? This is personal?
A No. I've combined it with some of my extension. This is part of my extension duties.
Q So you're being paid by the university to appear before us today?
A As part of my duties, yes.
Q Okay. Now, talking about erring on the side of protecting the environment?
A Yes.
Q Would you agree with me that if we carried that to the ultimate extreme, then we wouldn't do anything?
MR. MURAKAMI: Objection. This is a totally argumentative question. I would oppose it.
MR. OSHIMA: He's an expert. He can answer the question.
MR. MURAKAMI: He's answered the question as to what the worst case is. He's stated it. You're now attempting to provide argument in the form of a question.

Page 70

HEARING OFFICER COX: I'm going to allow him to answer it. And we will give it the weight that may not be particularly helpful.
THE WITNESS: Repeat that.
Q (By Mr. Oshima) You've urged this commission in your testimony today and talked about other monitoring projects that you're a consultant on, et cetera. And you said on balance between economic development and protecting the environment you would err on the side of protecting the environment?
A Yes.
Q To what degree? Where does that end?
A That's why the burden of proof for example I have to do this, that's why. I'll use the example of bringing in the mullet from Taiwan as, if you will, as an example. We have reached the crossroad. And it may pass.
My duties then because after – I'm doing this on behalf of the aquaculture community which is what they want. I have to then prove to the board with research that the impact will be negligible. So now that's what I just proposed to do. It may take six years but that's what I have to do.
Q Okay. And bringing the mullet from Taiwan there's not a critical urgency for that particular mullet, is there?
A For the farmers there are.
Q It would be for aquaculture purposes?

Page 71

A That's right.
Q In a controlled environment?
A That's correct.
Q Now, with respect to an open environment like this what would you use as a baseline for determining the effect of diminished groundwater flow at any specific location along a 13-mile stretch of coastline?
A This is my own opinion because –
Q That's what we want, your opinion.
A You probably would have to demonstrate – of course you're going to monitor that groundwater salinity for sure.
Q How would you do that?
A I believe there are methods. You just have to do continual transects or repeated transects along, across the 13-mile area. You don't have to do every foot but representative like demonstrate the gradients.
You probably would need to do that first before the drilling takes place because you will then identify the impact area. So it might not even extend 13 miles. It might be larger.
Second, you'd probably have to get the baseline to determine what is the current level present as far as biota.
Q How would you do that along 13 miles?
A That also would probably have to be done by multiple transecting to establish the gradient across that area.

Page 72

Q And what would you be testing for? Would you be testing for nitrates and phosphates?
A No, no.
Q What would you be testing for?
A You would be looking at, again you can probably get the phytoplankton count, micro algae fish surveys.
Q How often would you do that?
A You would probably have to do at least in an initial phases – if you wanted to start tomorrow you would probably have to do it minimum on a monthly basis or even – a monthly basis for about a year just to get the baseline of temporal changes that occur. In fact, they would be nice to be duplicated for two years. So you have two years and across the months.
Q What else would you have to do to get a baseline?
A Basically you have to get an estimate of your macro and micro algal and also fish counts and invertebrate counts.
Q How would you do that?
A Probably they would probably be quarterly sampling and estimate the number, quarterly sample.
Q How often would you have to do that?
A I would say should be doing it at least once a month. Again across the months and probably two years for temporal change and at least two months -- ah, two years. That's before the well goes in. And then probably follow after

Page 73

the well goes in probably another two months.
And then assess its effects for about actually for that kind of change, maybe, almost five years. Then if no impact you can start to decrease the monitoring but need to continue once a month or even every other month.
Q Would that be the totality of the establishment of the baseline?
A No. Just the manpower and costwise that's probably the best way to start.
Q Would you also have to correlate surface water runoff into the area so that you could isolate the effects of groundwater?
A Yes.
Q How would you do that?
A Probably the initial work you need to focus on your water fall, rainfall. And I believe, I'm not sure of this area, but where they do monitor that particular, the gauges that are set up each island those certain specific sites.
Q But wouldn't you have to monitor the surface runoff into the specific area rather than just up in the mountains?
A That's why I said this is not like the situation in Kaneohe because we have an adjacent, a good case for a direct cause and effect.
This is a little bit more difficult because of the aquifer's percolating down into the shoreline area. So 13

Page 74

miles, if you going to only restrict yourself initially for the 13 miles I think it's initially, I think that's a little bit too small.
Q Again how would you monitor the surface water runoff effect so that you could isolate the groundwater model based on?
A I understand your question. Okay.
Q How would you do that?
A I don't know if you could, to tell you the truth.
Q And how would you monitor --
A Oh, I think, I handled one, that's why. The temporal and the two year monitoring would be, you get a guesstimate on what will happen. Because it will be obviously dry seasons and wet seasons. That's why the necessary long period of time to get a handle on that groundwater.
Q I guess what I'm getting at, though, is how would you isolate the groundwater effect versus the combined groundwater and surface water effect in the euryaline environment?
A The only way to do it would be the temporal, look at the temporal to see the different changes. That's the only way I think I could. Not an easy one.
Q And you would rely upon the model to, a model to give you the groundwater discharge? How would you measure the groundwater discharge if it's not isolated to the springs and

Page 75

the seeps that are visible?
A My own, this is my opinion. I'm not a hydrologist that's why. Like I said I would monitor the salinity gradient across the coastline. And that's why this is where it's real difficult for this particular area because it may extend quite a ways. And just look at that gradient. That will define quote your "estuary."
Q So you consider this coastline as an estuary in totality?
A Yeah. My definition because of the springs, yeah.
Q Can you mark on CWRM-1 the boundaries of the estuary that you are defining for this case?
A Well, actually you can look at where the fishponds are located.
Q So from Waialua to Punakou?
A Yeah.
Q Would be the extent of the estuarine boundaries as you define them?
A That's along the coast. How far out from shore I don't know. That you would use the salinity gradient.
Q So as long as it's below 30 parts per thousand it's an estuary for your purposes?
MR. MURAKAMI: I object. There's no foundation for that particular question.
MR. OSHIMA: I thought that was his answer. I'm

Page 76

just getting clarity on.
MR. MURAKAMI: Dr. Tamaru has gone into extensive explanation as to the gradients and why they are important as opposed to a one set average figure for salinity in terms of the answers that he's provided.
MR. OSHIMA: Dr. Tamaru is the expert. He's fully capable of answering his own question. If he knows the answer I'd like to know the answer. If not --
MR. MURAKAMI: I have a right to object to the form of the question. It lacks foundation. I think this question lacks foundation.
MR. OSHIMA: The foundation was his answer to my previous question. He didn't know how far out the salinity gradient extended. I just want more following up on that.
HEARING OFFICER COX: I will allow the question. Can you answer the question?
THE WITNESS: At this point, no. I will add in two years maybe. The study is, we realize this particular problem. That's why we have already initiated this study, a study.
Q (By Mr. Oshima) What study is that?
A Right now it's to, we're looking to establish the baseline water quality parameters of two types of fishponds, basically. 1. The working ones that are still alive. And 2. that are undergoing restoration process.
Q I want to be clear on this. The study you're

Page 77

referring to is not the water quality along the miles of coastline between Waialua and Punakou?
A No.
Q But you're confining it to the fishpond environment?
A The fishpond environment.
Q So that's not the study that I was asking you about in terms of establishing a baseline per se for that whole area?
A Yes. You would be able to at least get some information from it, though.
Q Now, one's the two year part of your study and I thought you also mentioned a five year monitoring program before you established a baseline. Can you clarify what needs five years and what needs two years?
A I guess the question is whether to go to two or five as your initial baseline. At this point in time I don't know what to expect, that's why. So, you know, I'm just throwing those as a range two to five.
Q So if you err on the side of protecting the environment what would the time frame be?
A A minimum would be five, I guess.
Q Five years?
A To be on the safe side.
Q With respect to -- do you have any historical data along these lines that you could measure the effect of increased pumping at Kualapu'u in the past and how it might

Page 78

have affected the same factors that you're proposing be imposed now?
A I don't have that.
Q To your knowledge does anyone?
A I don't know.
Q So your answer to my question as to monitoring would apply to any diminution of groundwater discharge at the shoreline from whatever source if, from the protect the environment standpoint?
MR. MURAKAMI: Just a second. I want to get an objection in here. This question is vague and is not based on any prior evidence submitted earlier. He has testified nothing about a need to monitor Kualapu'u groundwater.
MR. OSHIMA: He is talking -- if you're ready to rule I withdraw the question. I will proceed. But he's talking about the need to protect the environment and for extensive groundwater modeling or discharge modeling on the effects of the shoreline.
My question is is that irrespective of where the effect is coming from whether it's from a MRL well, a DBHL well, a department well, a Kukui well, a private well?
Would the same figure be imposed from the protect the environment standpoint irrespective of the source of the diminution?
MR. MURAKAMI: I would object on the basis it lacks

Page 79

foundation. Because he's talking about establishing a base line set of data. These other wells are already in place. You cannot establish a baseline for something that's already in place. He's talking about the current conditions with the wells already operating.
MR. OSHIMA: Despite Mr. Murakami's objection that's not the question. It's about a new source development.
HEARING OFFICER COX: I think I'm going to allow this question. Because I think we have been talking about groundwater coming out.
THE WITNESS: So try your question again. You lost me.
Q (By Mr. Oshima) Your monitoring program that you just described before a well should be allowed to pump water, would apply to any scenario --
A Ah --
Q -- for diminution of groundwater discharge along the shoreline, would it not?
A Any?
MR. MURAKAMI: Objection, vague. The question is about any discharge is completely vague.
Q (By Mr. Oshima) Why would you impose this monitoring requirement on this particular well? And would the monitoring requirements in your mind change based solely upon the ownership of the well?

Page 80

A I don't care who owns the well.
Q Okay. So if another party were seeking additional water that would have similar effects at the shoreline?
A Yes.
Q Your answer would be the same that the same monitoring effects, the same monitoring studies should be done in advance of that water being allowed to be drawn from the aquifer?
A Hmm hmm.
Q And you're nodding. Is that a yes?
A Yes.
MR. OSHIMA: Fine. Thank you. I have no further questions.
HEARING OFFICER COX: All right. We have recross Mr. Zakian?
MR. ZAKIAN: Yes.
RECROSS-EXAMINATION
BY MR. ZAKIAN:
Q A few questions. Lawyers' famous last words. Mr. Tamaru, in your redirect you indicated that you wear two hats. One in terms of an aquaculture specialist, the other as relates to economic development. Could you explain?
A That's the same hat. The other half is part of the DLNR. So I need to also be accountable for our natural resources.

Page 81

Q Maybe you could just explain. I'm a little confused.
A Aquaculture specialist, my main job is to assist farmers in aquaculture to develop enterprises that will basically make money. That sometimes conflicts with the environmental issues because we need to take into account effluent discharge, also many of the species that are culturable are not native.
And that's why this is where many times the conflicts come into play. Because part of my job is to protect the environment. Part of it is to make sure that people can develop successful businesses. And those do not necessarily coexist together sometimes.
Q Okay. Now, I believe you testified specifically about mullet in Taiwan that you want to have introduced here?
A That's correct.
Q To what extent would the introduction of those mullet benefit the citizens of Moloka'i and more generally the County of Maui? Would the mullet be introduced for production here on Moloka'i?
A I would -- at this point in time the target production and the way the discussions have gone on with the plant and animal quarantine, they would not be used in anything close to the coastline.
Again, the way they set it up is to err on the least

Page 82

probability of escape. Initially I had thought about doing that but that is the way -- actually after the arguments and now like I said I'm in between and I have to actually put on my DLNR cap. I have to agree with them. They are targeted for inland based areas where the potential of escape is almost nil.
Q Would those areas include the island of Moloka'i?
A If there are facilities that are, that will pass the Department of Ag's regulations, yes.
Q Are there any facilities either currently existing or that you're aware of that are pending that could accommodate these fish?
A Some, yes.
Q Some.
A The specific, there are actually specific requests that have already come. That's why I have to respond to their requests. Two on the Big Island. One on Oahu.
Q And any on Moloka'i?
A Nobody has requested it at this time.
Q Okay. Is there anything that you're able to testify to that would indicate to you that the drilling of the Moloka'i Ranch well in particular and the introduction of these mullet for farming inland, not in the ocean, that the well Moloka'i Ranch proposes and the mullet cannot coexist?
In other words, can the mullet be introduced here on Moloka'i and the ranch well be drilled without affecting each

Page 83

other?
MR. MURAKAMI: Objection. This question is totally vague.
HEARING OFFICER COX: I think maybe, it gets -- I'm not able to follow your question myself.
Q (By Mr. Zakian) I was trying to follow it as I was asking it myself.
MR. MURAKAMI: I'm going to have to at this point object on the basis that goes beyond the scope of redirect. I recall some questions vaguely, vaguely peripherally related to this particular question, but I don't think it is proper on recross.
HEARING OFFICER COX: I think I will uphold your objection.
Q (By Mr. Zakian) I'll move on. Mr. Tamaru, who requested that you appear here today as part of your job?
MR. MURAKAMI: Same objection. This goes beyond the scope of redirect. He could have asked that on cross-examination. He failed to do so. He has waived his right.
MR. ZAKIAN: I disagree with that. Mr. Tamaru testified on redirect and recross that he was here as part of his job with the University of Hawaii.
HEARING OFFICER COX: I believe that's correct. I will allow you to ask the question.

Page 84

Q (By Mr. Zakian) So, Mr. Tamaru, who requested that you appear here today?
MR. MURAKAMI: Just another objection. That was the subject of recross by Mr. Oshima, not a subject of redirect examination. The purpose of recross is to address redirect examination not recross-examination by a fellow party.
HEARING OFFICER COX: I'm going to allow you to answer it. I don't know whether it's material or not.
THE WITNESS: Request was generated by Mr. Alan Murakami.
Q (By Mr. Zakian) On behalf of intervenors?
A Yes.
Q If a private party such as a business requested that you appear and testify, would you also be doing so as part of your duties and jobs with the university?
A That's correct.
MR. ZAKIAN: No further questions.
HEARING OFFICER COX: Mr. Achitoff, recross?
RECROSS-EXAMINATION
BY MR. ACHITOFF:
Q One point of clarification. You were testifying earlier that, about the hats that you wear, economic development and aqua-, environmental protection. In this situation that we are talking about today in terms of your testimony, the economic development we are talking about here

Page 85

that is part of your job responsibilities is the economic development as a result of aquaculture not, say, building Kentucky Fried Chicken?
A Hmm-hmm.
Q Okay. So your concerns here are to both protect the environment and promote economic development through aquaculture?
A That's correct.
MR. ACHITOFF: Thank you.
HEARING OFFICER COX: Mr. Crowell?
MR. CROWELL: Nothing further.
HEARING OFFICER COX: Mr. Nakamura? You will be brief?
MR. NAKAMURA: I will be brief.
RECROSS-EXAMINATION
BY MR. NAKAMURA:
Q On redirect Mr. Murakami asked you to build a worst case scenario based on a 15 percent reduction in the groundwater seepage. Would your testimony be the same if it were based on, say, a 5 percent reduction?
A Yes. Of course we don't answer, we don't know what will happen upon that basis alone.
Q In your discussion on the need for monitoring would be the same based on a 5 percent reduction rather than a 15 percent?

Page 86

A Yes.
Q In your discussion on the parameters of appropriate monitoring study, given the particular environment, given your knowledge of the particular environment and the traditional and customary gathering practices that have occurred here, do you think it's an important part of any such monitoring or study that traditional and customary practitioners be included in the construction, implementation -- design and implementation of this study?
A **Their input is essential.**
MR. NAKAMURA: That's all I have. Thank you.
HEARING OFFICER COX: I think we have completed, then, the recross. And we thank you very much, Dr. Tamaru along in here. We will take a recess, let's say, till a quarter after 11.
(A recess was taken.)
HEARING OFFICER COX: Will the hearing come back to order again. We're ready for your next witness, Mr. Murakami.
MR. MURAKAMI: We call Davianna McGregor.
DAVIANNA MCGREGOR, Ph.D.
called as a witness at the instance of Intervenors Martin Kahae, et al, being first duly sworn to tell the truth, the whole truth and nothing but the truth, was examined and testified as follows:
THE WITNESS: Yes, I do.
DIRECT EXAMINATION

Page 87

BY MR. MURAKAMI:
Q Dr. McGregor, would you state your full name and address for the record?
A **Davianna Pomaikai McGregor. 1942 Naio Street, Honolulu, Hawaii.**
Q In anticipation of this case did you prepare a Direct Witness Statement of Davianna Pomaikai McGregor, Ph.D. that's been marked Exhibit B-T-9?
A **Yes, I have.**
Q Utilizing that testimony would you summarize the salient points of that testimony for Commissioner Cox.
A **Actually I'd like to elaborate on some of the points.**
HEARING OFFICER COX: Could you pull the mike a little closer.
MR. MURAKAMI: At this point I'd like to get a stipulation as to her qualification as an expert in the history of Hawaiians and rural communities and the continuity of cultural practices in rural Hawaiian communities.
HEARING OFFICER COX: History of Hawaiian --
MR. MURAKAMI: And the continuation of cultural practices in rural Hawaiian communities.
HEARING OFFICER COX: Is there --
MR. OSHIMA: No objections.
HEARING OFFICER COX: -- any objections?

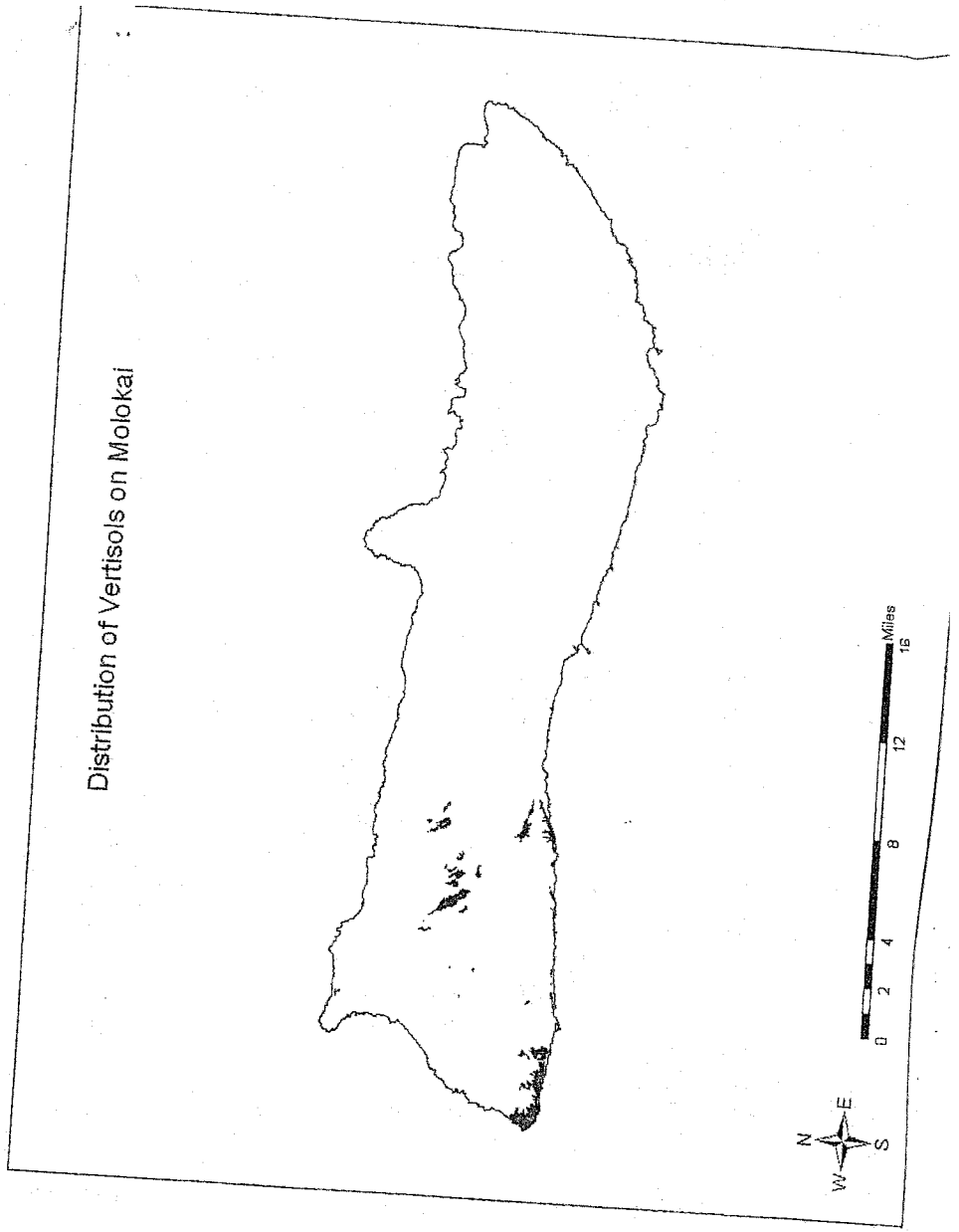
Page 88

MR. ZAKIAN: No objections.
HEARING OFFICER COX: If not you are an expert.
THE WITNESS: I'd like to summarize, then, and elaborate on some of the points in the testimony which I provided.
Moloka'i is properly known as the last Hawaiian island and traditionally was known as the "land of the fat fish and kukui nut relish" which indicated the healthy natural resources of both the ocean and of the land.
The Moloka'i people have an unbroken continuity with the customs and practices of their ancestors. Subsistence has continued to be an integral part of the life of the people of Moloka'i. This subsistence is guided by cultural beliefs, customs and practices and deep spiritual connection and respect of the spirit of the land.
There are basic principles which help to guide the management of Hawaiian cultural resources. One is that the ahupua'a's the basic unit of Hawaiian cultural resource management. So the management of the land goes with the ocean and runs from mauka where the clouds bring down the rain --
HEARING OFFICER COX: I think you better slow down just a little bit so the court reporter can...
THE WITNESS: Okay. And mauka down and including the ocean and out into the reef and the deep blue ocean.
The second is that the natural elements of land and air and water and ocean are interconnected and interdependent. The atmosphere affects the land which, in turn, affects running streams and the water table and the beaches and the ocean. And cultural land use management must take all aspects of the natural environment into account.
And, thirdly, that of all of the natural elements freshwater is the most important for life and needs to be considered in every aspect of land use and planning.
Hawaiian ancestors studied the land and the natural elements and became very familiar with its features and its assets. This ancestral knowledge of the land was recorded and passed down through place names and chants and the names of our winds and the rains and different landscape features or mo'olelo, our traditions.
And the people of Moloka'i have learned that knowledge from their ancestors. I would say that of what is documented about Moloka'i probably only one fourth of the total knowledge has been written. And three fourths is in the lives of the memory of the living descendants of our ancestors.
Moloka'i people are very knowledgeable and have a very deep knowledge of the land and the culture of our people as a whole not just for the Moloka'i people but as Hawaiians as a whole throughout all of our islands.
The values and customs include in the gathering of limu or the ocean marine resources and fishing and hunting such values and ethics as: Only take what is needed. Don't waste the natural resources. Gather according to the life cycle of the resources. Allow the resources to reproduce. Don't fish during their spawning seasons.
Alternate areas to gather fish and hunt. Don't keep going back to the same places. Allow the resource to replenish itself. If an area has a declining resource, observe a kapu in harvesting until it comes back.
Replant if appropriate. Resources are always abundant and accessible only to those who possess the knowledge about their rotation and have the skill to obtain them, so there's no need to overuse a more accessible area.
In some, in some communities the more accessible areas are reserved for the kupuna who can't go to the less accessible areas. There's respect and protect the knowledge which has been passed down from one generation to the next. It is not carelessly given away to outsiders.
Everyone respects the areas of their ancestors. Families usually gather and hunt in those areas that have been taught to them by their ancestors. If they go outside an area of their family for some specific purpose, they usually ask permission of the other people who live there or go out with the people who are living there.
When they go out to fish or hunt or gather they keep focused on the purpose and the goal; are aware of the natural elements and stay alert to natural signs. And they share what is gathered with family and neighbors.
They take care of the kupuna who pass knowledge and experience to them and who are now too old to go out on their own, and make sure that they have resources. And most of what is gathered is shared very generously with kupuna and neighbors and family.
Usually people don't talk openly about their plans to go out to subsistence hunt, fish or gather. There's a strong respect for aumakua and resources of those aumakua which are sacred to them.
In 1993-94 the Moloka'i people decided to conduct the study of subsistence on Moloka'i. They knew that their legacy was special. They wanted to protect it for future generations.
Myself and Jon Matsuoka of the School of Social Work and Luciano Minerbi of the Department of Urban and Regional Planning facilitated the process for the community.
The result I included in my testimony the executive summary of the Moloka'i Subsistence Task Force final report which was completed in June of 1994.
Q Dr. McGregor, was that what was marked as Exhibit B-8 and included, incorporated as far as your testimony? It was?
A Yes, it was. The executive summary was incorporated

Page 89

Page 90

Page 91



Molokai Properties Limited

November 1, 2007

David Kimo Frankel
Native Hawaiian Legal Corporation
1164 Bishop Street, Suite 1205
Honolulu, Hawai'i 96813

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Frankel:

Thank you for your letter dated February 1, 2007 on behalf of the Molokai Homestead Farmers Alliance and Wayde Lee regarding the Lā'au Point Draft Environmental Impact Statement (EIS). We offer the following responses to your comments.

We have made a good faith effort to prepare an EIS in compliance with Chapter 343 and the underlying regulations found in HAR § 11-200-1 et. seq.

The information that we have assembled is thorough and detailed. The EIS will alert decision-makers to significant environmental effects which may results from the implementation of the Lā'au Point project. This document will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations.

We agree that the public trust doctrine is applicable in many instances and that agency decision-makers bear important responsibilities in reviewing Molokai Properties Limited's requests for land use entitlements. While your comments have focused upon the legal duties of administrative agencies in acting on requests for permits or approvals, in this EIS, we have provided sufficiently detailed and complete information to the public and decision-makers to aid in this important decision-making process.

IMPACTS FROM PROPOSED WATER PUMPING AND USE

1. *In his response to the comments our office submitted on behalf of the Moloka'i Homestead Farmers Alliance, Thomas Witten writes, "potential impacts of the proposed use of the Kakalahale Well will be addressed in the permitting process for this well..." ¶The EIS cannot ignore, and the Land Use Commission may not disregard, water issues under the premise that the Water Commission will consider the issue at some future date. In Maui Tomorrow v. BLNR, 110 Haw. 234, 245 (2006), the Hawaii Supreme Court recognized that the BLNR could not make a decision that could adversely affect Native Hawaiian rights subject to a future CWRM decision. The LUC, like the BLNR, is under the duty to protect Native Hawaiian rights and public trust resources. ¶No EIS can be accepted until after USGS completes the comprehensive modeling analysis that is currently being done. During the Waiola contested case hearing, there was much contention over MPL's failure to provide timely information on its modeling, last minute "recalibration"; and the untimely production of data upon which conclusions were drawn. The LUC's decisionmaking process on this application will be facilitated if all this information is provided up-front.* (page 2-3)

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Response: We have addressed, to the greatest extent feasible, the potential impacts of the proposed use of Kākalahale Well. In response to your comments regarding water issues, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS has been revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Additional Information on the Kākalahale Well."

Section 7.5 of the Draft EIS includes a section summarizing unresolved issues with a discussion of how such issues will be resolved prior to the commencement of the action. See HAR § 11-200-17(n). Further discussion has been provided in Section 7.5 of the Final EIS as shown in the attachment titled, "Revised Section 7.5 (Unresolved Issues)."

2. *The main body of the EIS should disclose the impacts that were projected to occur to the Kualapu'u aquifer from Waiola Well application. Some of these issues are summarized on pages 126-132 of the cultural impact assessment. This issue should not be minimized, or buried in an appendix. The EIS should explain why there would be any less impact to the aquifer in pumping brackish water instead of potable water.* (page 3)

Response: MPL is not proposing to withdraw water from the proposed Waiola well site. There are material differences between the Waiola and Kākalahale well sites such that a discussion about the impacts of the Waiola well on the Kualapu'u aquifer would be irrelevant.

MPL assumes that the impact of withdrawing 1 mgd from the Kamiloloa aquifer from the Kākalahale Well is not dependent upon the quality of water being withdrawn.

The reason that withdrawing 1 mgd from the Kākalahale well site will not have adverse impacts on the drinking water aquifers is not due to the quality of the water, but due to the hydrogeologic isolation of the Kākalahale well site.

The Kākalahale Well was developed in 1969 as a drinking water well for the Kaluako'i Resort. However, due to the brackish quality of the water, the well was never put into production. Relative to its distance inland, chlorides of the Kākalahale Well are anomalously high. This anomaly is explained, however, by the presence of upgradient subsurface intrusives, i.e., the subsurface "plumbing" of Pu'u Kākalahale, which function as barriers to normal mauka-to-makai flow of groundwater. The upgradient intrusives, which create the brackish result in the Kākalahale Well, also function to limit the effect of pumping the Kākalahale Well on other wells upgradient of the intrusives, such as the DHHL and DWS wells in Kualapu'u.

The response to this specific comment is incorporated into the Final EIS as shown in the attachment titled, "Revised Section 4.9.2 (Water)." See the section of the attachment titled, "Waiola Well Issues Raised."

3. *Some of these impacts are discussed in the materials that are attached to this letter: September 26, 1997 letter from William Meyer to Darrell Yagodich; April 1, 1997 letter from William Meyer to Wayne Nishiki; Direct Witness Statements of Darrell Yagodich, Delwyn Oki, Clyde Satoshi Tamaru, Dan Polhemus, Brendan Harley and Wayde Lee; and the transcripts from the testimony of Wayde Lee and Clyde Tamaru. This information should be provided in the EIS.* (page 3)

Response: Your letter and its attachments will be included in the Final EIS.

4. *The failure to discuss timeframes by which uses of potable water would shift to nonpotable creates significant problems for decisionmakers as well as the resources that will likely be affected by overpumping. Does the applicant promise to not pump any water from the Kākalahale well until after all necessary infrastructure is in place to allow current non-potable uses (such as the golf course and landscape irrigation) to use the non-potable water? And does the applicant promise to not sell any lots until after all this infrastructure is in place?* (page 3)

Response: Pumping of Kākalahale will begin when all permits are obtained, the necessary infrastructure is in place and there is a need for additional non-potable water beyond what is currently available.

The response to this specific comment is incorporated into the Final EIS as shown in the attachment titled, "Revised Section 4.9.2 (Water)." See the section of the attachment titled, "Lā'au Project Issues."

5. *It is unfortunate that the EIS misleads the LUC and the public by using a false baseline. It asserts that the proposal does not require any more drinking water than what is currently proposed for allocation in the Community-Based Master Land Use Plan for Molokai Ranch (p.8). The baseline should be either (1) current uses or (2) authorized uses -- not proposed uses in a plan that no government agency has ever approved.* (page 3)

Response: As shown on page 115 of the *Community-Based Master Land Use Plan for Molokai Ranch* (Appendix A of the Draft EIS), the Water Plan provides a baseline of MPL's (1) current uses and (2) authorized water allocation of 1,018,000 gallons per day (gpd) from Well 17 and 500,000 gpd from the Molokai Ranch system. The current uses are covered by the current allocation. MPL does not require more drinking water for its current uses.

Using the current water allocation as a baseline, water demand for the proposed developments (Lā'au Point lots, parks, re-opening of the Kaluako'i Hotel, buildout of Kaluako'i residential lots and Maunaloa industrial park, and future CDC buildout for community expansion of Kualapu'u and Maunaloa) described in the *Community-Based Master Land Use Plan for Molokai Ranch* are not covered by MPL's current water allocation. Therefore, it makes sense to propose a water allocation that covers the proposed developments.

6. *The EIS should address whether the covenants preventing MPL from ever seeking further potable water permits apply to MPL's successors, assignees etc.*. (page 4)

Response: MPL will enter into agreements with the land trust and will be subject to regulatory requirements that will have to be assumed by its successors, etc.

7. *The EIS should disclose the nature and location of the easements that MPL claims it possesses to cross DHHL land for the transmission of Kākalahale water.* (page 4)

Response: Easements are recorded at either the Bureau of Conveyances or the Land Court, and can be found through a title search.

8. *Who is the author of the 'Analysis of the Water Plan for the Community-Based Enterprise Community/Moloka'i Ranch Master Land Use Plan' found at Appendix P?* (page 4)

Response: Yvonne Izu, former Deputy Director to the State Commission on Water Resource Management, and currently with the Morihara Lau & Fong law firm, authored the Water Plan Analysis.

DESALINIZATION

9. *The DEIS too cavalierly rejects desalinization as too expensive. It ignores the fact that water costs are passed down to the consumer — a position that the applicant took in the Waiola contested case. The figures on page 82 suggest that drinking desalinated water will cost less than triple the cost of groundwater. This price difference is not significant given (1) the small percentage of a household budget spent on water (compared to mortgage, insurance, property tax, homeowner association fees, electricity, sewage bills etc.); (2) the wealth of the people who will buy lots at Lā'au; and (3) the impact that groundwater withdrawals will have on future DHHL activities and Native Hawaiian practices dependent on freshwater flows near the ocean. In addition, the EIS should compare the capital costs of these ventures and consider how using the power of the sun can lower the kwh costs of desalinization.¶An independent water purveyor providing desalinated water to Lā'au homeowners would receive PUC approval to charge an appropriate rate that surely these homeowners could afford. Off-island investors will easily absorb island electricity prices that are more than double what they pay at home. Similarly, they can also pay for desalinated water prices that are triple what they may pay at home.* (page 4)

Response: Reasonable alternatives are required to be studied in the EIS. After preliminary investigation it was determined that desalination was not a current reasonable economic alternative and it was therefore not included among those alternatives that were more rigorously explored.

As mentioned in MPL's water plan, desalting is still about four times more expensive on Moloka'i (not helped by the island's high energy costs) than developing an operating deep groundwater well.

A pilot plan on O'ahu developed in the early 2000s still remains idle today because of escalating energy costs needed, in simple terms, to push the brackish water through a membrane to remove the salts.

MPL has previously been approached by two parties proposing desalination on Moloka'i as an economic business; neither party, following their detailed investigation, wished to continue with their plans for a desalination plant.

Desalination is therefore prohibitively expensive to be considered MPL's first choice of non-potable water. However, it is an alternative if water from the Kākalahale Well is not available.

The response to this specific comment is incorporated into the Final EIS as shown in the attachment titled, "Revised Section 4.9.2 (Water)." See the section of the attachment titled, "Alternatives to the Use of Kākalahale-Sourced Water."

CUMULATIVE IMPACTS

10. In another case challenging development the west end of Moloka'i and use of water, the Hawai'i Supreme Court held that Chapter 343 "definitely contemplates a consideration of the secondary and non-physical effects of a proposal prior to a governmental approval thereof. And the effects to be studies include the socio-economic consequences of a proposed action, as well as its direct physical impact." Molokai Homesteaders Cooperative Assn v. Cobb, 63 Haw. 453, 466 (1981). ¶The Hawai'i Supreme Court has also ruled that a group of actions must be treated as a single action when:

1) the single action is part of a larger project;
2) the single action is a necessary precedent for the larger action; or
3) the single action has no independent utility

Kahana Sunset Owners v. County of Maui, 86 Hawai'i 66, 74(1997). See also, HAR § 11-200-7. Furthermore, IIAR §11-200-2 provides:

"Cumulative impact" means the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. ¶Finally, HAR 11-200-17 requires that an EIS discuss "significant beneficial and adverse impacts (including cumulative impacts and secondary imp acts)."¶Page 4 of the DEIS notes that "the La'au Point project is crucial to the economic viability of the Plan. Proceeds from the sale of La'au Point lots will fund renovations and upgrading of the now-closed Kaluako'i Hotel and Golf Course." See also page 1 of Social Impact Assessment. Thus, the EIS must address not only the impacts caused by the Lā'au development itself, but also the increasing tourism from existing levels. If the Lā'au development will fund the re-opening of the Kaluako'i hotel, then the EIS must address the impacts of the equivalent of 56,000 visitor-nights worth of tourists (p.75). This analysis would include a review of not only the economic benefits, but also environmental, infrastructure and social impacts. As such, it would be useful to examine the study the state produced (through the UH Department of Urban and Regional Planning) on the impacts of tourism growth. (page 4-5)

Response: We concur that the Draft EIS must address cumulative impacts, the secondary and non-physical effects of a proposal and the socio-economic consequences of a proposed action. We have done so to the greatest extent possible in this EIS.

First, the Lā'au Point project was analyzed. The environmental impacts and benefits of this project have been addressed based upon the construction of this project in West Moloka'i.

Second, the Lā'au Point project has been addressed as one component that permits other actions to take place such as (1) the reopening of the Kaluako'i Hotel and (2) affordable housing projects elsewhere. To the extent that the EIS must discuss the impacts of re-opening of the Kaluako'i Hotel, this re-opening is roughly to the same extent that the hotel was operating a few years ago such that the impacts of the hotel at that time are already known.

The impact of not increasing tourism on the island is more relevant as most tourism establishments and tour operators are in serious financial difficulties. This difficulty is evidenced

by the continual change in ownership at Hotel Molokai, the lack of retained earnings to fund capital improvements, and the losses sustained by the Molokai Lodge and Beach Village.

The impact of the re-opening of the Kaluako'i Hotel will produce no more of an impact than when it was open up until 2001, providing jobs and a stable economy on the West End of the Island, including a viable Maunaloa elementary school and a viable commercial heart for Maunaloa.

The tourism committee of Project #47, Sustainable Economic Development was unanimous in seeking the hotel's re-opening, and the Sustainable Tourism Study by Dr. Davianna McGregor (2005 for the EC) stated that all participants in the study wanted the hotel re-opened. Dr. McGregor's study resulted in the creation of the *Moloka'i Responsible Tourism Initiative Report* (2006), which is discussed in Section 4.8.4 of the Draft EIS.

In your letter, you suggest that the development of Lā'au together with the potential development at some time in the future of sites zoned for hotel and multi-family units within the existing Kaluako'i Resort could have enormous cumulative impacts, particularly in terms of the amounts of water consumed. Cumulative impacts are restricted to those future actions that are reasonably foreseeable. MPL's development plans are clearly outlined in the Master Plan. MPL has not proposed any new development for Kaluako'i Resort zoned for hotels and multi-family units that is not addressed already in the Master Plan. Therefore, your speculation on unplanned future development cannot be said to be reasonably foreseeable for the purposes of this EIS.

Third, the Lā'au Point project is also a part of the *Community Based Master Land Use Plan for Molokai Ranch* (Master Plan). To this extent, each component of the Master Plan really facilitates each other component of the Plan. In an overall context, the Master Plan preserves and protects large amounts of acreage on the West end of Moloka'i. The development of Lā'au Point to some degree "facilitates" this protection and preservation.

11. In our letter commenting on the EISPN, we specifically asked that the DEIS disclose what Moloka'i Properties Limited's plans are for the other lands it owns near Hale o Lono Harbor. (page 5)

Response: We note that lands near Hale O Lono are not part of the proposed action; regardless, preliminary plans are as shown on page 9 of the Master Plan (provided as Appendix A of the Draft EIS). The lands adjacent to Hale O Lono Harbor are being placed in Rural Landscape Reserve with an easement in favor of the Land Trust. The lands east of the Harbor will be donated fee simple to the Land Trust.

CC&RS

12. In Hui Alaloa v. Planning Commission, 68 Haw. 135 (1985), the Hawai'i Supreme Court held that the government could not delegate its duties to a private party. In that case, which also involved development on the west end of Moloka'i, the planning commission had attempted to condition the approval of an SMA permit on the preparation of an archaeological protection plan by the developer's archaeologist. The developer's plan would protect those sites that the developer's archaeologist decided were significant. The court noted that the commission could not have made appropriate findings given the delegation of the duty to protect historic sites to the developer. The court emphasized that findings must first be made before approval can be granted, and that an

agency cannot delegate to a developer the duty to ensure that resources are protected. Id. at 137. ¶Similarly, in Ka Pa 'akai 0 Ka 'aina v. Land Use Commission, 94 Hawai'i 31, 51(2000), the Hawai'i Supreme Court held that the LUC could not approve a project conditioned on the developer's future development of a resource management plan. ¶MPL is proposing to do just what the developers in the Hui Alaloa and Ka Pa 'akai cases proposed. The DEIS repeatedly claims that impacts will be addressed through the CC&Rs, which will be developed by the applicant... ¶The precise content of these CC&Rs, however, has not been provided to the LUC or the public. If MPL wishes to claim that the CC&Rs will mitigate many of the impacts raised in the EIS, then it must include the exact wording of the CC&Rs. (page 6)

Response: Mitigation measures must be addressed in an EIS and we have done so here in accordance with HAR § 11-200-17(m). Mitigation measures must be described reducing significant impacts to insignificant levels. The timing of the implementation of the mitigation measures must be discussed. What provisions have been included to assure that the mitigation measure will in fact be taken must be discussed.

The CC&Rs are not assuming the State's duty to protect the archaeological and cultural sites, but rather the CC&Rs are provided as supplemental to the State's duty. The enforcement of the CC&Rs shall be pursued by the Lā'au Point homeowners' association, affected persons such as the Land Trust who will be a party to the CC&Rs, and in certain situations MPL, as the declarant under the CC&Rs. The CC&Rs will be enforceable by all legal matters.

As of November 2007, a draft of the CC&Rs were being developed by MPL in conjunction with the Land Trust. The Land Use Commission and other regulatory agencies may further require changes to the CC&Rs during their review process; therefore, a final version of the CC&Rs is not available as of November 2007, and the issue of the completion of the CC&Rs is included as an unresolved issue in the Final EIS. The CC&Rs will be available for review at the Land Use Commission hearings on the State Land Use District Boundary Amendment petition.

To provide the above information in the Final EIS, as well as address other comments about the covenants, Section 2.3.6 (Covenants) has been revised as shown in the attachment titled, "Revised Section 2.3.6 (Covenants)."

13. Furthermore, enforcement of the CC&Rs cannot rest only with the homeowners and the Moloka'i Land Trust. It must also rest with government agencies as well. The public trust doctrine requires that the LUC "ensure that the prescribed measures are actually being implemented." Kelly v. 1250 Oceanside Ptnrs, Ill Haw. 205, 231 (2006) (internal citations and marks omitted). (page 6)

Response: CC&Rs are binding and enforceable. Restrictive Covenants have long been effectively used in Hawaii to control land uses. Conservation Easements are similar land use devices utilized to protect and preserve land resources in Hawaii. There is nothing suspect or unenforceable about these land use tools. They can be successfully relied upon to mitigate adverse impacts to acceptable levels.

Mitigation plans, by our environmental regulations, do not necessarily have to be enforced by administrative agencies. In this instance, many of these mitigation measures will be enforced by the Moloka'i Land Trust. The officers of this Land Trust are local Moloka'i residents. The

citizens of Moloka'i may have greater access to these officers than they would to enforcement agencies located on another island.

As stated in #12 above, the CC&Rs are not assuming the State's duty to protect the archaeological and cultural sites, but rather the CC&Rs are provided as supplemental to the State's duty.

14. Similarly, the shoreline access management plan must be included in the EIS. (page 6)

Response: The Shoreline Access Management Plan is included in the Final EIS as an appendix.

AGRICULTURAL EASEMENT

15. The DEIS reveals that 14,390 "protected" acres that MPL will continue to own will be available for the construction of farm dwellings. The definition of a farm dwelling has been the subject of much controversy and litigation. See e.g., In the Matter of the Petition for a Declaratory Order of the Sierra Club and David Kimo Frankel, DR00-23 COL 14 (Land Use Commission, filed October 25, 2000); Kelly v. Oceanside, Civ. No. 00-1-0192K (Hokulia). In one instance, a developer labeled a three story dwelling consisting of four bedrooms, six baths, five dressing room areas, two enclosed lanais, a kitchen, a dining room, a living room, and a house keeper room as a "farm dwelling." In the Matter of the Petition of John Godfrey, DR94- 17 (Land Use Commission, filed December 6, 1994). How is MPL proposing to define farm dwellings for purposes of the agricultural easement? How big can these farm dwellings be? How many can there be? Where will the water come from for farms on these lands? (page 7)

Response: The Land Trust will be managing the agricultural easement lands. The Land Trust will comply with all state and county laws regarding farm dwellings and structures that can be built in the State Land Use Agricultural District and the County of Maui Agricultural District.

The Draft EIS and Master Plan (Page 4, Executive Summary, 1.6 Easements) states that the 14,390 acres will be protected forever for farming use. It also states that for legitimate farming uses, one dwelling and farm buildings will be allowed, thus facilitating farmers to live on the land that they farm.

The easement criteria and documentation for these lands is currently being drawn up. It will prevent the subdivision of lands into allowable (under the Maui County farming ordinances) 25-acre lots on the West End agricultural lands for "gentlemen farmers."

The criteria for farming will be based on economic units; in the case of the West End it will probably mean 200 acre+ lots that maybe economic for the raising of cattle; near Kualapu'u where intensive agriculture is possible and where there is natural rainfall to irrigate crops, parcels of less acreage may be possible to farm as an economic unit.

The Land Trust will hold the Agricultural Easement over the lands and be the final arbiter on whether agricultural activities are presumed or are taking place. It has litigation as a resort to non-compliance.

On the question of water for these lands, see the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the section of the attachment titled, "Other Water Issues Raised."

HOTEL

16. It is unclear what kind of guarantee, other than a non-binding statement, that proceeds from the sale of Lā'au Point will be spent on the Kaluako'i Hotel. (page 7)

Response: MPL will sign a binding agreement with the Land Trust enforcing the provisions of the Master Plan upon approval of the Lā'au Point project.

17. Given that 72,099 tourists visited Moloka'i in 2004 and that the Kaluako'i Hotel is now closed, how realistic is it that the Kaluako'i hotel can generate 56,000 visitor nights per year? (page 7)

Response: As discussed in Comment #10 above, to the extent that the development of Lā'au Point "facilitates" the re-opening of the Kaluako'i Hotel, this reopening is roughly to the same extent that the hotel was operating a few years ago such that the impacts of the hotel at that time are already known.

We note that Section 4.8.4 of the Draft EIS states the following on page 75:

> The *Moloka'i Responsible Tourism Initiative Report* (2006) indicates: "Kaluako'i resort development is essential to the island's tourism economy" (p. 21). The study determined that for the re-opened Kaluako'i Resort to break even (60 percent occupancy), Moloka'i would need an additional 56,000 visitor nights annually.

It is not implied in the EIS that the responsibility of generating 56,000 visitor nights annually is solely by the Kaluako'i Hotel. The 56,000 visitor nights annually refers to the entire Island of Moloka'i's tourism industry.

Also discussed in Section 4.8.4 of the Draft EIS, although Moloka'i's visitor occupancies have been low for many years, forecasts show Moloka'i visitor unit occupancy rising over time, in proportion to overall growth of Maui County's average visitor count (page 75 of the Draft EIS).

Prior to 9/11, Moloka'i saw 103,630 visitors, averaging 616 per day (source: Moloka'i Responsible Tourism Initiative Report (2006)). With the tourism industry now recovering from the significant impacts of that tragedy, we are optimistic that Moloka'i will be able to regain pre-9/11 visitor arrivals.

18. If the hotel cannot obtain sufficient traffic to break even, will MPL propose more development to subsidize its operations? (page 7)

Response: No, MPL will not propose more development. MPL's plans are set forth in the Master Plan (provided as Appendix A in the Draft EIS).

19. What will be the impact generated from this increase in tourist arrivals? (page 7)

Response: As discussed in Comment #10 above, to the extent that the development of Lā'au Point "facilitates" the re-opening of the Kaluako'i Hotel, this reopening is roughly to the same extent that the hotel was operating a few years ago such that the impacts of the hotel at that time are already known.

SCENIC IMPACTS

20. Unfortunately, the DEIS does not include a simulation of what Lā'au Point will look like after it is developed. The EIS needs to.¶The DEIS misleads the public into thinking that the scenic impact is negligible because so much of the land is left in open space. It is irrelevant that each lot is "relatively large" at two acres given their shape. Some lots fronting the ocean appear to be less than 200 feet wide. The open space will not, for the most part, lie between the houses, but will rather stretch mauka and makai of the houses. Given the shape of the lots (long and narrow facing the ocean), the effect (looking from the ocean) will be a row of houses. (page 7)

Response: During the design phase, building footprints will be defined to mitigate the scenic impact of a "row of houses." Since the maximum buildable area is 30% of the lot, the majority of the lots will remain as open space.

21. The DEIS fails to include any specific information about the maximum size of the houses. (page 8)

Response: The maximum building size is 5,000 square feet. One accessory building, such as a work shed or an 'ohana dwelling, may be built as an accessory to the main house. The house and accessory structure cannot exceed 5,000 square feet.

22. The maximum height is 25 feet, and, apparently, based on responses to DeGray Vanderbilt, from finished grade. This is quite tall. Couldn't these houses be limited to 15 feet in height? (page 8)

Response: Comment noted. However, maximum height in the CC&Rs is still 25 feet. As of November 2007, a draft of the CC&Rs were being developed by MPL in conjunction with the Land Trust. The Land Use Commission and other regulatory agencies may further require changes to the CC&Rs during their review process; therefore, a final version of the CC&Rs is not available as of November 2007, and the issue of the completion of the CC&Rs is included as an unresolved issue in the Final EIS. The CC&Rs will be available for review at the Land Use Commission hearings on the State Land Use District Boundary Amendment petition.

ENDANGERED SPECIES

23. The discussion regarding the endangered monk seal is completely inadequate. Phillip Bruner's field survey is a survey— not an impact analysis. The suggestion that people call NMFS when a monk seal is observed reveals the inadequacy of the EIS. ¶The reason that monk seals frequent this area is that there are no houses and few people. It is unusual for monk seals to frequent beaches that front subdivisions. The impact of this development is not simply that there will be more interaction between humans and the endangered monk seals. Humans will adversely impact monk seal habitat. How will that affect the health of monk seals and their population? The EIS must assess what impact the

development of this area will have on monk seals. The EIS must include an analysis by a monk seal biologist. (page 8)

Response: We consulted with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service about the monk seal population at Lā'au Point. The shoreline access management plan (SAMP) contains a plan and recommendations developed in consultation with the National Oceanic and Atmospheric Administration (NOAA) Monk seal program and elements were taken directly from their draft *Recovery Plan for the Hawaiian Monk Seal* (November 2006).

The SAMP also provides rules to ensure non-disturbance of Hawaiian monk seal habitat and the promotion of Lā'au Point as an area for Hawaiian monk seals to frequent and "haul out." Rules have been developed on removal of gear, the use of certain types of gear, and responses to Hawaiian monk seal sightings. No domestic pets and animals (including hunting dogs) will be allowed in the managed area. The use of toxins and pesticides is specifically prohibited and equipment will be purchased for cordoning off areas where Hawaiian monk seals have come ashore.

To ensure that the project does not alter behavior of Hawaiian monk seals that visit the area, residents and visitors will be educated about possible interaction with these animals and the appropriate human behavior for that interaction. Appropriate protocol if one encounters a Hawaiian monk seal on the beach is to notify National Marine Fisheries Service (NMFS), who will check if the animal is injured or entangled, then put tape around the site to keep people from approaching too closely. Due to the lack of available NMFS staff on Moloka'i, a Resource Manager will monitor the Lā'au shoreline area daily.

The established mitigation measures for protecting hauled-out monk seals have been generally effective elsewhere in the Main Hawaiian Islands, and this segment of the monk seal population appears to be increasing. Prohibition of domestic animals from the shoreline may be of greater significance in limiting behavioral disturbances.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding monk seals, Section 3.7 (Fauna) of the Final EIS has been revised as shown on the attachment titled, "Revised Section 3.7 (Fauna)." The SAMP has been included as an appendix to the Final EIS.

In their letter dated June 21, 2007, NOAA states: "NMFS believes it would not be necessary to conduct a survey at the site to ascertain that Lā'au Point is important monk seal habitat, as that is already known." For your convenience and reference, we have attached the correspondence from NOAA.

24. *The suggestion that people on Moloka'i call the National Marine Fisheries Service when a monk seal is encountered is absurd. What kind of presence does NMFS have on Moloka'i? How many NMFS staff members live and work on Moloka'i? And what kind of mitigation is this????* (page 8)

Response: The SAMP contains a plan and recommendations developed in conjunction with the National Oceanic and Atmospheric Administration (NOAA) Monk seal program and elements

were taken directly from their draft *Recovery Plan for the Hawaiian Monk Seal* (November 2006). The SAMP reiterates the rules required to ensure non-disturbance of Monk seal habitat and the promotion of Lā'au point as an area for Monk seals to frequent and "haul out."

To address your comment in the Final EIS, Section 3.7 (Fauna) has been revised as follows:

> Appropriate protocol if one encounters a Hawaiian monk seal on the beach is to notify National Marine Fisheries Service (NMFS), who will check if the animal is injured or entangled, then put tape around the site to keep people from approaching too closely. Due to the lack of available NMFS staff on Moloka'i, a Resource Manager will monitor the Lā'au shoreline area daily. The Resource Manager will:
>
> - Post signs in regular intervals along the shoreline explaining the rules regarding Hawaiian monk seals.
> - Cordon off areas, place signs around resting Hawaiian monk seals, and designate areas closed to fishing as a result of a Hawaiian monk seal sightings.
> - Report Hawaiian monk seal sightings to NOAA and take whatever actions are required by NOAA to ensure the safety of the Hawaiian monk seal.
> - Enforce all Hawaiian monk seal protection rules, regulations, and protocols.
> - Report violations of federal or state laws to appropriate authorities and act as a witness in the prosecution of any person violating federal or state laws.
> - Receive training as a Hawaiian monk seal protection specialist.
> - Notify NOAA of entangled Hawaiian monk seals.
> - Remove debris that may be harmful to Hawaiian monk seals from the shoreline area.
> - Monitor the shoreline area for contaminants that may be harmful to Hawaiian monk seals.
> - Work with NMFS to develop a volunteer seal monitoring program.

25. *Finally, a biologist with experience locating hawksbill nesting sites should study whether the area is currently used by the endangered hawksbill. The cultural impact assessment reports that the West End is home to many turtles – although it does not identify the species.* (page 8)

Response: Hawksbill turtles are extremely rare in Hawai'i, but nests have been observed on isolated beaches on Moloka'i and the Big Island. The following information is from the Pacific Hawksbill Recovery Plan.

In Hawai'i, hawksbills nest only on main island beaches, primarily along the east coast of the island of Hawai'i. Kamehame Point on Hawai'i and a black sand beach at the river mouth of Hālawa Valley at the east end of Moloka'i are the most consistently used beaches. In surveys from 1989-1993, eighteen hawksbills were tagged and 98 nests documented. Nesting occurred from late May with hatching completed by early December. Peak nesting activity occurs from late July to early September. There are no measurable trends in stock numbers, either up or down.

Hawksbill nesting has not been recorded at Lā'au Point, but such nests, if they occurred, would be subject to the same threats present elsewhere including non-native predators of eggs and hatchlings and perhaps human takes of eggs and/or shells. Increased human activity at Lā'au

Point could reduce the threats from non-native predators, but increase the threats of human interactions. On the other hand, increased human presence could be a deterrent to illegal harvest if nesting were to occur at Lā'au Point.

Green turtles may be found throughout the Hawaiian Islands but their main nesting beaches are in the NWHI. The Hawai'i stock of green turtles has been increasing for some time, and some people, including the Western Pacific Regional Fishery Management Council, believe that the recovery of this species has progressed to the point that delisting should be considered. Given that most of the nesting of this species occurs in the NWHI, increased activity at Lā'au Point will have a negligible effect on the population trajectory of this species.

The SAMP also addresses other biological and endangered species protection. A long term monitoring program will be developed to adapt to changing circumstances and to measure the effectiveness of the mitigation measures. To include this information in the Final EIS, Section 4.3 (Trails and Access) has been revised to include the following about the SAMP:

- **Biological/Endangered species protection** – Similar to the Hawaiian monk seal requirements, rules for access and designation of closed areas are set forth in the SAMP. The Resource Manager will be responsible for monitoring the health of any significant organisms, designating closed areas, and enforcing regulations designed to protect the resource including fires and limitations on access to the area. A long term monitoring program will also be developed to adapt to changing circumstances and to measure the effectiveness of the program.

MARINE ENVIRONMENT

26. *The water quality analysis failed to examine nutrients in a thorough manner. No analysis of nutrient levels was provided in dry conditions as a baseline. Impacts to the marine environment must examine not only sediments, but also nutrients and hydrocarbons. Sources of nutrients include natural fertilizers, wastewater and pets. Hydrocarbons come from cars. What impact will adding these nutrients and hydrocarbons to the land – and thereby into coastal waters from runoff or percolation – have on coastal water quality and marine life? ¶The EIS should study the amount of nonpoint source water pollution associated with similar developments and discuss the degradation of coral reefs and coastal water quality caused by similar projects.¶The EIS should apply the HSPF model to project post-development total phosphorus load, total phosphorus concentration, total nitrogen load, total nitrogen concentration, nitrate concentration, ammonia concentration, metals concentrations and a pathogen count.* (page 8-9)

Response: During dry conditions surface runoff would be non-existent. Nutrient levels except in the immediate vicinity of groundwater seepage points would be similar to open ocean waters because of the short residence time of water along this coast. Advection by currents, mixing and dilution would homogenize the water within a short distance from shore.

Vehicle traffic will be extremely light and with streets well removed from the ocean, hydrocarbon delivery to coastal waters will be minimal. Wastewater will be used for irrigation and not disposed of directly to the ocean.

Regarding your comment that the EIS should model post-development runoff for its "total phosphorus load, total phosphorus concentration, total nitrogen load, total nitrogen concentration, nitrate concentration, ammonia concentration, metals concentrations and a pathogen count," this is not necessary because the proposed development is not expected to have a significant adverse effect on the existing downstream properties. The anticipated increase in surface runoff from the paved roadway area will be directed into surface or subsurface detention and/or desilting facilities before being released into the nearby drainageways. Also, the increase in runoff from each developed lot will be retained onsite in surface or subsurface facilities. In addition, the contractor will be required to comply with State and County approved Best Management Practices for the duration of the construction period. To reflect this information in the Final EIS, Section 4.9.1 (Drainage) has been revised as shown in the attachment titled, "Revised Section 4.9.1 (Drainage)." The preliminary drainage plan is also included as an appendix in the EIS.

27. *What precisely are the best management practices that will be implemented to control erosion? ¶Because an EIS is a full disclosure document and because there is no meaningful opportunity for public participation in the approval of erosion control plans, please provide a copy of the erosion control plan and best management practices in the EIS.* (page 9)

Response: All construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. To address your comment in the Final EIS, Section 3.3 (Soils) has been revised as follows:

> Before a grading and grubbing permit can be secured from the County, a grading and grubbing permit must be secured from the County in accordance with Chapter 20.08 Maui County Code, "Soil Erosion and Sedimentation Control". This Chapter helps the County comply with Federal and State requirements to protect coastal waters from non-point source pollution and minimize construction impacts to downstream properties coastal ecosystems.
>
> Erosion control plans are reviewed by the County Department of Public Works, the State of Hawaii Department of Health Clean Water Branch, and the Federal Natural Resources Conservation Services (NRCS).
>
> The BMP plan which is part of the application will show silt fencing around construction areas. According to County policy, no more than 15 acres can be exposed at any given time. Each exposed area will be provided with a temporary sedimentation basin. Each exposed area must also be regressed or re-vegetated before the next 15 acre section can be graded. Contractors will also be asked to "leapfrog" between areas to be graded to minimize the cumulative exposed area.
>
> After construction, the establishment of permanent landscaping will provide long-term erosion control. Since annual rainfall in West Moloka'i is less than 15 inches per year, a permanent irrigation system will be installed to irrigate and establish ground cover on all disturbed areas such as, roadway shoulders and cut and fill slopes, which are estimated to total 85 acres. Water for this purpose will be from the Kākalahale Well as discussed elsewhere in this EIS document. A nonpotable water irrigation reservoir or tank will be constructed above the project site at the outset to ensure continuous non-potable supply and source for this purpose. To the extent possible, Conservation District areas will not

be landscaped or irrigated. Exceptions to this may include areas subject to erosion, where new landscaping can serve to stabilize the soil.

28. *The DEIS discloses on page 30 that water quality will be continuously monitored. It fails to discuss what happens if the monitoring detects a problem. What is supposed to take place – and pursuant to what authority – if the water quality monitoring detects a problem?* (page 9)

Response: Subsequent monitoring activities will be conducted by the Land Trust in its role as the easement holder over the expanded Conservation Area. In the Final EIS, Section 3.8 (Marine Environment) has been revised to include the following:

> Potential short-term impacts of construction on marine waters will be mitigated by implementation of State and County approved Best Management Practices to control drainage and mitigate erosion from grading for the duration of the construction period. Subsequent water monitoring activities will be conducted by a Council representing Homeowners and the Moloka'i Land Trust. These organizations will have management responsibility and enforcement authority over the Pu'u Hakina and Kamāka'ipō (Lā'au area) shoreline area and fishing zone. The Land Trust will conduct the monitoring on a regular basis. Should it be determined that there is some problem with water quality, testing will be undertaken and investigation made as to the cause. The action taken will depend on the results of the investigation and the attributed cause. Through the CC&Rs or through the courts, the problem will be rectified of the cause is a violation of the law of the CC&Rs.

In the Final EIS, Section 4.9.3 (Drainage) has been revised to include the following:

> Where necessary, grass-lined diversion ditches will be installed along mauka boundaries of the project site to keep offsite runoff from flowing across the lots. All lots will also be required to retain runoff of their lot in surface or subsurface retention basins onsite. This is to ensure that additional runoff generated by the project is kept within the project limits in accordance with Maui County Storm Drainage Standards. The contractor will also be required to comply with State and County approved Best Management Practices for the duration of the construction period.
>
> The Land Trust will conduct the monitoring on a regular basis. Should it be determined that there is some problem with water quality, testing will be undertaken and investigation made as to the cause. The action taken will depend on the results of the investigation and the attributed cause. Through the CC&Rs or through the courts, the problem will be rectified of the cause is a violation of the law of the CC&Rs.

29. *The drainage maps (exhibit 5 and 6 in Appendix O) are too small to comprehend. Where will the drainage retention and erosion abatement structures be built, and what will they look like?* (page 9)

Response: We understand that some pages of the document contain two pages per sheet which results in small print; however, this format is used so that the hard copy of the document would not be too unwieldy to handle. If every page were printed full-size, the hard copy document would have yielded over a 1,000 pages. For this reason, we also offer the EIS on CD to view on a computer; this provides the reader the option to enlarge pages for easier reading.

The response to your comment about the drainage structures is included in the attachment titled, "Revised Section 4.9.1 (Drainage)." The preliminary drainage plan is also included as an appendix in the EIS.

ACCESS TO BEACHES

30. *Will the public be given an opportunity to review the shoreline access management plan before the EIS process is completed?* (page 9)

Response: The Shoreline Access Management Plan has been reviewed and was approved by the Land Trust on August 10, 2007.

31. *Will parking be free?¶Will parking be closed at night?¶Is the amount of parking adequate?* (page 9)

Response: The park rules will be determined by the managing authority of the parks—either the County Department of Parks & Recreation or the Moloka'i Land Trust. MPL plans to follow the parking requirements per the Maui County Code and/or recommendation from the Department of Parks & Recreation.

32. *How will Lā'au homeowners located inland (not adjacent to the conservation district) get to the shoreline? Will they travel all the way to the public shoreline access points at the southern and western ends, or will they be able to cut across land within the development to get to the beach?* (page 9)

Response: The project will create two public access points at each end of the project, which will include shoreline parks, parking, and comfort stations. Homeowners may access the shoreline from the residential area; however, they will be required to adhere to the rules of the SAMP, which designate certain protected areas in the Conservation zone as off-limits to non-cultural practitioners.

33. *Has the old traditional trail been located on the ground and mapped (p.60)? This information should be in the EIS. The EIS should include the 1186 and 1897 maps that show the trail.* (page10)

Response: Informants indicate that the existing dirt road is located upon the old traditional trail and serves the purpose of providing access to subsistence, cultural and spiritual resources utilized for traditional and customary purposes. The coastal trail which appears in the 1886 and 1897 Monsarrat maps is reproduced in Figures 1 and 5 of the Cultural Impact Assessment (Appendix F of the Draft EIS). It is identified in the Figure 5 map legend as the "Keala Pupu Coastal Trail," as informants indicated that they believe it is possible that the trail drawn on the Monsarrat Maps was possibly located upon the Kealaakapupu trail established by Kihaapi'ilani.

34. *Why are the toilets at the two proposed parks not linked to the wastewater system? Wouldn't coastal resources be better protected if the bathrooms were connected to the developer's wastewater system? Why is the electrical system from the project connecting all the way to Hale O Lono, but the sewage system not linked to the parks?* (page 10)

Response: The Lā'au Point wastewater treatment plant (WWTP) will be owned and maintained by the Lā'au Point homeowners' association fees. The parks' comfort stations will have their own individual wastewater systems.

The State Department of Health (DOH) allows for individual wastewater systems to be used in remote areas and in areas of low density. Individual wastewater systems are quite reliable. All wastewater plans will conform to applicable provisions of the DOH's Administrative Rules, Chapter 11-62, "Wastewater System."

WILDERNESS

35. The applicant is to be commended for acknowledging that:

- *"development of the area will destroy the special quality of La'au as a special place of spiritual mana and power. The overall spiritual quality of the La'au area as a wahi pana and wahi kapu cannot be quantified and deserves recognition and respect. The La'au Point project will have an impact upon the solitude and spiritual resources now existing." (p. 60)*
- *the area is an "isolated, pristine and spiritual area" (p. 56)*
- *"A large part of the significance of the La'au Point area is that it is raw and untouched. . . Lā'au Point has become an icon of what Moloka'i represents -- a rural stronghold and reserve of Native Hawaiian culture, a cultural kipuka. If Moloka'i is 'The last Hawaiian Island' then La'au is one of the last untouched Hawaiian places on 'The Last Hawaiian Island."*

The EIS should identify how many people currently use this stretch of coastline on any given day. How much more use will there be after the 200 houses are built? The character of the area is dramatically affected by the inevitable use by residents of the 200 houses. The EIS should discuss how use by these new residents will affect natural resources in the area, cultural practices and the wilderness experience. (page 10)

Response: In responding to your comment regarding the spiritual quality of Lā'au point, it is first important to note that Lā'au Point, itself, can be considered a significant cultural property. Hawaiians named specific sites according to their natural resources and features. Looking at historic and contemporary maps of Moloka'i, Ka Lae O Ka Lā'au is within the 51 acres owned by the federal government. This property will not be disturbed or developed on by the proposed project.

The west and south shorelines adjacent to Lā'au Point, Keawakalani on the southeast and Kamāka'ipō on the northwest, is where the proposed development is projected. According to the archaeological surveys and ethnographic documents, there were settlement clusters around protected bays, such as at Kapukuwahine and Kanalukaha on the south shore. In addition, the Master Plan identified Kamāka'ipō as an important cultural and spiritual place.

Molokai Ranch has applied to the State Land Use Commission to re-district these areas from Agricultural to Conservation district in order to protect the significant settlement areas and clusters along the west and south shores adjacent to Lā'au Point, notably at Kamāka'ipō, Kapukuwahine, and Kanalukaha. These proposed conservation zones will be gifted to the Moloka'i Land Trust.

A Shoreline Access Management Plan, included in the Final EIS, sets out management guidelines for the Lā'au shoreline area, which includes an expanded conservation district zone

between the makai boundary of the proposed residential lots and the shoreline, and two parks at the culturally significant Kamāka'ipō Gulch and Pu'u Hakina areas. Access will be limited to foot travel in these areas to limit the amount of traffic and disturbance.

In addition, a cultural management plan will guide protection, access to and use of the cultural and spiritual sites. These cultural guidelines are provided on pages 116-117 of the Cultural Impact Assessment report (provided as Appendix F of the Draft EIS).

The cultural impact assessment was a qualitative rather than quantitative study. Of the 250 persons who attended the community meetings held in Summer 2006, very few indicated that they access the area projected for development by land. Some indicated that they access the area by boat. The key informants who were interviewed indicated that their families have accessed the coastal areas proposed for development to gather marine resources for large family gatherings for occasions such as graduations, baby lu'au, weddings, and funerals.

The 1994 subsistence study reported that 23 percent of the respondents in the random sample telephone survey fish in the area from Pālā'au to Lā'au Point and from Lā'au to 'Īlio Point, while 19% gather in the ocean off of the same area. By comparison, fishing and ocean gathering areas with the largest percentages of multiple responses (above 30%) was on the South-East end coast from Makakupa'ia to Honouliwai (40% for fishing and 35% for ocean gathering) and from Honouliwai to Halawa (30% for fishing and 33% for ocean gathering).

Employees of MPL are allowed access along the west coast at areas called Egusa, Kamāka'ipō, Sam Wights, and Shipwreck, all of which are located in the area proposed for development. Maunaloa Ahupua'a Tenants can access Pu'u Hakina, Halena Camp, and Kolo on the South coast; however, only Pu'u Hakina is in the area proposed for development. From April 2006 through May 2007, a total of 214 different persons accessed these areas located on west and south coastal areas which are proposed for development. Many of these persons camped as 'ohana, as there were only 85 distinct family names among these 214 persons. In addition, some of these persons accessed these areas more than once, as there were a total of 375 persons who were granted a day pass or permission to camp in these areas from April 2006 through May 2007. The months of May 2006 and May 2007, right before graduation, had the highest use. January, February, and March 2007 also had high use.

36. The EIS should discuss the loss of this 'unspoiled coastal environment,' the impact of this loss to native Hawaiians, the visitor experience, and the affect on visitors return to the islands. (page 10)

Response: The EIS comprehensively discusses the expansion the Conservation District shoreline area around Lā'au Point. There will not be a "loss of unspoiled coastal environment" because the residential areas will not be on the shoreline. The lots will have large setbacks and an additional building setback for the houses. The coastal environment will be managed by the Land Trust, who will hire resource managers as stewards of the area.

Native Hawaiians will continue to be able to access the area for cultural and subsistence activities.

Since visitors are not known to frequent Lā'au Point, unless with a commercial tour operator through Molokai Ranch Lodge, their "experience" and "effect on return" will be unchanged. Visitors will still be able to visit Lā'au Point through Molokai Ranch, or they can hike along the shoreline as residents do.

37. *People visit Hawai'i because of the natural environment. A Visitor's View Of Paradise: A Report On Maui's Visitors...Why They Come, What They Enjoy, Why They Return) concluded that:*
    - *The most memorable part of visitors' trip was "excursions into Nature."*
    - *The feature that most visitors said that they would like to see more of was "natural coastlines"*
    - *91% reported that the preservation of natural areas was very important in their decision to return to visit.* (page 10-11)

Response: We note that the document, *A Visitor's View Of Paradise: A Report On Maui's Visitors...Why They Come, What They Enjoy, Why They Return,* is a 1998 survey conducted by the Sierra Club Maui Group. As stated on page 1 of the report: "This report was based on a survey that offered visitors a chance to respond to a series of questions about one specific island (Maui)."

Although visitors to Moloka'i may agree with similar conclusions from the 1998 Maui survey, we do not believe this report it is an accurate resource to apply directly to Moloka'i's visitor industry. For this reason, the EIS utilizes visitor-related information from a tourism report completed more recently and specific to the island of Moloka'i, *Moloka'i Responsible Tourism Initiative* (author: McGregor, 2006). A copy of this report can be obtained at: <http://huinet.hawaiirdp.org/molokai/visitorindustry.htm>

In response to the three conclusions bullet-pointed, please see our response to #36 above about visitor experience likely remaining unchanged because the "excursion into nature," "natural coastlines," and "preservation of natural areas" will remain with the implementation of the Master Plan and the Lā'au Point project.

MUNITIONS DUMP

38. *The EIS should include a thorough discussion of the former target range, and in particular the munitions dump that the road corridor passes. Has the munitions dump been cleaned up? Are there any plans to clean it up?"* (page 11)

Response: MPL understands that there was some bombardment of the Kaluako'i area in the past, and that there have been surveys of the area by the Army Corps of Engineers. However, the Army has assured there were no live firings that took place at Kaluako'i. The project area does not have a history of previous releases of petroleum, hazardous substances, pollutants, or contaminants.

To provide information in the Final EIS regarding the former target range, Section 2.1.3 (Surrounding Uses) will be revised to include the following:

> A portion of the Pāpōhaku Ranchland subdivision, located north of the project area, has been identified as a Formerly Used Defense Site (FUDS). The FUDS was a rocket and bombing target range used by the U.S. Navy and Marine Corps from 1944 to 1965. The 1,500 acres of FUDS is in the vicinity of Kaluako'i Road which provides access to the project.

ALTERNATIVES ANALYSIS

39. *MPL raises the dire prospect of it selling of its holdings or 101 lots, which could then be subdivided into 1500 lots. How many of these lots have water already available to make them (1) marketable and (2) developable? Does the subdivision code allow lots to be subdivided if no source of water is identifies and no drinking water infrastructure provided?* (page 11)

Response: This question relates to issues outside the project area and is a hypothetical question based on the abandonment of the Master Plan. In the event of the Master Plan being abandoned and MPL selling its holdings, water could be made available to subdivided lands from the Pālā'au Prawn Farm non-potable well.

40. *MPL rejects various alternatives in which it sells off some of its holdings. But isn't it true that MPL may still proceed with some of the alternatives it rejected after this project is approved?* (page 11)

Response: As stated in #16 above, MPL will sign a binding agreement with the Land Trust enforcing the provisions of the Master Plan upon approval of the Lā'au Point project. If this project is approved, 26,200 acres of MPL's holdings will be donated to the Land Trust and another 24,950 acres will have a perpetual easement held by the Land Trust. Even if MPL sold their lands, the perpetual easements run with the land, preventing development. MPL will not have many holdings left to "sell off" if the Master Plan and this project are implemented.

41. *What are the entitlements on lands that MPL acquired at Kaluako'i?* (page 11)

Response: The entitlements for the Kaluako'i lands are what are designated by the *Molokai Community Plan*, which is available on-line from the Molokai Planning Commission and the Maui County Planning Department.

MPL has not changed the entitlements since it purchased the Kaluako'i lands in 2001. The entitlements can be summarized a number of ocean-front hotel/multi family sites, a number of mauka multi-family sites, rural zoned land and a commercial site adjacent to the road leading to the Kaluako'i Hotel.

Under the Master Plan, MPL intends to donate two hotel/condo sites and part of a third to the Moloka'i Land Trust because of their cultural significance. As outlined in the Master Plan, MPL may need the remaining site at some time in the future for:

- An extension to the Kaluako'i Hotel if demand warrants.
- A cultural center.
- Housing for staff working at the Kaluako'i Hotel.
- A second golf course to replace the community-plan designated golf course in Maunaloa that was proposed to be sited near the Molokai Lodge.

However, in the event these future opportunities eventuate, approval would be needed from the Moloka'i Planning Commission as the entire Kaluako'i entitled area aforementioned are contained within the Special Management Area. Also, MPL has no water for such future expansions and has no current plans for any such implementation. In the event the community sought an extension to the hotel, desalinated water would be its only option.

FINANCIAL DATA

42. *MPL has put the issue of its finances on the table (see, e.g., page 64 of the Social Impact Assessment). And HAR § 15-15-50(c)(8) makes this information pertinent as well. MPL cannot, after claiming significant revenue loss, refuse to answer questions that challenge the veracity of such claims.¶Steve Morgan raises interesting financial data regarding recent profits from sales at Kaluako'i. His data indicates that MPL is not being candid. DeGray Vanderbilt similarly points to a BIL report that Molokai Properties managed to remain cash positive in the 2004/05 financial year. Is MPL really bleeding?* (page 11)

Response: MPL has stated quite clearly that it is cash negative from its operations-Lodge and Beach Village, Golf Course, island maintenance, property taxes, insurance, etc., as outlined in the Economics and Fiscal Impacts Report (Appendix J of the Draft EIS). Since 2001, MPL has been "cash negative from its operations," plus the need to spent money on replacement capital equipment, prior to the sale of land, of more than $40 million.

The sale of land over that period has enabled MPL to realize cash to offset those losses and remain cash positive. It has been able to prevent seeking funds from its parent by keeping ahead of this "cash burn" by selling parcels of lands, particularly subdivided lots in Maunaloa and at Kaluako'i. However some time in the future MPL will have no more subdivided lots to sell to offset its losses.

Because of the huge cash drain MPL previously imposed on its parent company, BIL International (MPL has accumulated cash losses---known as Net Operating Loss, in excess of $90 million), MPL's parent company BIL will not longer support on-going losses.

In this event, and if this "cash negative from operations" situation continues in a similar manner, MPL will need to sell all its land to offset its operational losses.

Or close its loss making operations and sell its land to the highest bidder in a piecemeal way to realize cash for its shareholders.

43. *The economic impact analysis absurdly assumes that the cost to government to provide services (per person) will remain the same through the year 2023. The modeling also makes no sense since many additional government services are fixed costs regardless of whether the services are provided to ten new residents or 325 new residents.* (page 12)

Response: The Economic report (Appendix J of the Draft EIS) did not include an analysis of how Maui County expenditures in total or per person may change over the next 15 years and it was outside of the scope of the analysis. However, the author of the Economics report feels that

there will be few if any additional fixed costs to government due to the Lā'au Pont project, so it is reasonable that the costs per person would likely decrease.

SOCIAL IMPACT

44. *The social impact assessment should have devoted less time to surveys and more time to analysis of social impacts. What will be the affect on crime rates, suicides and other indicators of social disruption that were found on Lana'i? The "assessment" reads more like a rationalization than a real assessment of the impacts of social stratification.* (page 12)

Response: We disagree that the Social Impact Assessment (SIA) should have devoted less time to surveys and more time to analysis of social impacts. First, SIAs have many purposes, including understanding the ability of a community or group to adapt to changing conditions, defining the problems or clarifying the issues involved in a proposed change and illuminating the meaning and importance of anticipated change. Obtaining this type of information requires in-field primary research that may be supplemented by secondary research. Earthplan chose to obtain this level of information through primary research that included direct contact with Molokai residents. The SIA conducted a public information meeting attended by 27 people, conducted focus group that included 49 people, and conducted 62 interviews with community people. These efforts were standardized for comparison purposes, and the results are summarized and analyzed in Section 4 of the SIA (Appendix M in the Draft EIS).

Section 5 of the SIA contains further analysis of social impacts and we disagree that this section tried to rationalize such impacts. The SIA presented an objective analysis of possible issues and recommended mitigation measures to address potential impacts. There were no predispositions or prejudgments on the nature of impacts.

We call your attention to your reference to Lāna'i, which was examined as a possible model of potential social impact. The SIA found that the Lāna'i model illustrates how a rapid shift from a single-product agribusiness to a resort and luxury development caused significant social disruption. The SIA further found that implementation of Lā'au Point would not result in similar social conditions. Moloka'i has traditionally exhibited self-reliance and independence, whereas Lāna'i residents historically accepted the decisions of the island's predominant employer. Also, whereas Lāna'i had no other options for their abrupt change to a tourism industry, Moloka'i has multiple options for change, including economic forces and development projects. To say that Moloka'i will experience the same social results as Lāna'i implies that that the Moloka'i people are unable to influence their future and do not recognize the diversity of economic and social options. We strongly disagree with your implications.

ARCHAEOLOGICAL IMPACTS

45. *The EIS must include a map that shows where all the archaeological sites that have been identified are located – in particularly with respect to where the houses are proposed.* (page 12)

Response: Figure 10 of the Draft EIS contains a map of archaeological sites and residential lot plan. During the design phase, the housing envelopes for each of the lots will take into account the location of the historic sites and not intrude on them.

46. As OHA commented, view planes between heiau and other cultural sites must be preserved. ¶Thomas Witten's reply to OHA's letter suggests that buffers around heiau will be nine meters. A nine meter buffer around a heiau and burials is incredibly small. (page 12)

Response: Heiau buffers were specified at a minimum 9-meter radius beyond the edge of the site. At this time, the only identified heiau occur within the large Cultural Protection Zones at Kamāka'ipō on the west coast and Hakina. Ko'a (fishing shrines) also occur within the Cultural Protection Zones and Shoreline Conservation Zones. Therefore, all known shrines and heiau have larger buffers than the minimum specified. The Preservation Plan also specifies that the makai view plane of heiau and ko'a will be protected.

In response to your comments, Section 4.1 (Archaeological Resources) in the Final EIS will be revised as follows:

> MPL is committed to preserving known archaeological sites and complexes in the project area. As a result of the archaeological work and the two year involvement of the Cultural Committee and the larger community within the *Community-Based Master Land Use Plan for Molokai Ranch* process, approximately 1,000 acres of "Cultural Protection Zones" were identified to denote areas where groupings of archaeological and historic sites exist, such as the archaeological preserve (approximately 128 acres) to be created at Kamāka'ipō Gulch (see Figure ~~10~~ 12). As noted throughout the Preservation Plan contained in Appendix E, the plan was developed with significant community input during the course of the community based planning process for the Master Plan and through the work of our archaeologist. The creation of Cultural Protection Zones, to be managed by the Land Trust, increases both continued community involvement and preservation of cultural landscapes rather than only individual sites, which represents a great advance not just in acreage, but in diversity and intensity of preservation actions. In their July 5, 2006 comment letter on the EISPN, OHA stated: "Because many known archaeological sites exist within this property, it is likely that more will be found, ...the area is more of a cultural property than a property containing cultural sites." The creation of Cultural Protection Zones acknowledges this concept and implements protection of cultural landscapes rather than only individual sites.
>
> In their July 5, 2006 comment letter on the EISPN, OHA stated: "Further consultation also may show that view planes must be preserved between existing heiau and other cultural sites." The archaeological preservation plan provides for a buffer with a radius of nine meters to extend from burials and heiau. In the case of ko'a shrines, an additional aspect of the buffer will be a requirement to keep an open view plane toward the ocean. In the case of the Mauka-Makai preserve at Kamāka'ipō, the entire area will be a buffer, so that the overall character of the cultural landscape will be preserved.
>
> Access roads and the rural-residential lots will not affect cultural resources since plans are to avoid Cultural Protection Zones and archaeological sites. Depending on the nature of the archaeological sites, mitigation measures such as buffers, permanent boundaries and easements, and interpretive signs will be established to protect and preserve sites. It is expected that the project will not have adverse effects to archaeological sites. The residential community will not encroach on Cultural Protection Zones and strict cultural resource management measures (discussed below) will be implemented.

> To ensure proper resource protection and management in the project area, mitigation efforts will include: 1) the establishment of the Moloka'i Land Trust, an organization tasked with preserving natural and cultural resources within lands deeded to it; 2) conservation easements and cultural overlay districts on MPL lands; and 3) CC&Rs for the Lā'au Point project that would help preserve sites therein and establish procedures for a management partnership between the Lā'au Point homeowners' association and the Land Trust.
>
> MPL has committed to maintain or expand upon previous preservation measures as the landowner's plans have changed in response to the community becoming more involved in the process. It is recognized by MPL that TMK 5-1-008 (Pāpōhaku Ranchlands) does not yet have an adequate inventory survey. MPL will survey the Pāpōhaku Ranchlands parcels that will be affected by the road corridor through the area. This commitment does not extend into TMK 5-1-02-030. Prior to construction, the archaeologist will re-examine the road corridor and verify descriptions of known sites, gather additional data if possible, and search for unrecorded archaeological deposits or features observable due to changes in surface visibility. After the road corridor ~~re-survey~~ re-examination and supplemental data collection, the proposed subdivision lots and coastal zone will be also be re-surveyed, following the same methods for investigating and recording sites as described for the road corridor. Additional survey work will be done prior to designation of the road corridor in order to design the corridor to avoid significant sites. Inventory work will be performed in accordance with the Preservation and Monitoring Plans during the road construction period.
>
> Archaeological sites will be treated in one of three ways: preservation, data recovery, or no action. Preservation means avoiding damage to the site whether treatment is passive (avoidance) or active (stabilization, interpretation, and other measures). Data recovery pertains to sites that are significant for their information only, and covers actions such as mapping, excavation, and surface collection that adequately gather that information. No action is planned for those sites that were deemed not significant in the 1993 Bishop Museum inventory report, such as sites that had been so badly damaged as to eliminate the possibility of determining their original form or salvaging meaningful data.
>
> After the re-surveys of the road corridor and project site, short-term site preservation measures will be implemented, such as establishing protective buffers and emergency stabilization. Then, data recovery and long-term preservation measures will be implemented. During construction, monitoring by an approved archeologist will occur. In their July 5, 2006 comment letter on the EISPN, OHA requested that "an archaeological monitor be on-site during all excavation and ground disturbances for this project." The archaeological mitigation plan has been submitted to the State Historic Preservation Division (SHPD) for review. The monitoring plan submitted to SHPD includes a provision for an archaeological monitor to be on-site during all construction activities, including excavation and/or ground disturbances.
>
> The Preservation Plan, Burial Treatment Plan, Monitoring Plan, and Data Recovery Plan are contained in Appendix H. By letter February 13, 2007, SHPD has approved the Data Recovery Plan contained in Appendix H. The other three plans will be submitted in a revised form to SHPD in the near future. The Archaeological Plan in the Draft EIS has been replaced in its entirety by the four aforementioned plans.

Traditional gathering rights and access will not be restricted during construction, except as necessary to ensure safety. In the event access is prevented for safety reasons alternate access routes will be provided.

Finally, MPL and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during the construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected from further damage. The contractor shall immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary. ~~The Moloka'i Burial Council will also be notified of any newly found burials.~~ Should a possible burial be encountered that cannot be planned around, SHPD and OHA will be consulted prior to any testing of the burial.

APPLICANT'S TRACK RECORD

47. *The success of any mitigation measures is dependent on the track-record of the applicant. Furthermore, decisionmakers operating under HRS Chapter 205 are supposed to consider the representations and commitments made by the petitioner in securing a boundary. It therefore is absolutely essential for the EIS to discuss problems the developer may have had in the past in fulfilling commitments and representations. ¶The EIS should fully discuss the nature of all litigation that relates to promises or representations made, the claims that were made and the final disposition of all such cases. The discussion should be even-handed and not rely on self-serving statements. ¶To what degree have promises in other EAs and EISes, or applications for government approvals for projects that Moloka'i Ranch been kept? Have all the mitigation measures mentioned in these documents been implemented? Have there been any violations of the law, citations or warnings issued by government agencies to Moloka'i Ranch?"* (page 12-13)

Response: We agree that as part of the decision making process on the Lā'au Point State Land Use District Boundary Amendment (Docket No. A06-764), the State Land Use Commission (LUC) will consider the representations and commitments made by the petitioner, MPL, for this project. The LUC has the authority to impose project specific conditions to ensure a petitioner's representations and commitments are implemented.

We disagree that a discussion on the applicant's "track record" is warranted in the EIS, since the current owners of MPL have not previously applied for a boundary amendment, and therefore, do not have a "track record" to discuss.

MPL knows of no violations of the law or citing or warnings that have been issued against it, in relation to its operations, as far as is known by current management. As far as current management is aware, it has met all the terms of its previous agreements with State, county and other regulators.

MITIGATION MEASURES

48. *The Hawaii Supreme Court has held that the public trust doctrine allows government agencies to issue permits only if the agencies must "ensure that the prescribed measures are actually being implemented." Kelly v. 1250 Oceanside Ptnrs, 111 Haw. 205, 231(2006) (internal citations and marks omitted). This duty cannot be met if agencies' monitoring and enforcement programs are*

understaffed. Please fully discuss how the public can be assured that any proposed mitigation measures will be performed and will be effective. Please describe the county and state government's monitoring and enforcement programs so that we can be assured that promises made will be kept. How much staff do the State Health Department, County Public Works Department and County Planning Department have to ensure that promises are kept? How often can they be expected to visit the site? (page 13)

Response: The proposed action is for a change in land use; we are not currently asking for permits.

49. *The applicant should identify all proposed mitigation measures in a consolidated list. These measures should be written in plain language that is easily enforceable when incorporated into a permit.* (page 13)

Response: The executive summary, which includes mitigation measures, is provided at the beginning of the EIS. We believe the executive summary provides an adequate consolidation of the proposed mitigation measures, and that adding a list, as you suggested, would be redundant.

OTHER ISSUES

50. *Who is building the houses: MPL or lot owners? In other words, is MPL selling lots, or lots with houses?* (page 13)

Response: MPL will be selling lots. The lot owners would build their own houses.

51. *The EIS should disclose the current electrical capacity on the island and whether this development will necessitate an expansion. ¶It should disclose whether an indirect impact will be an increase in electrical rates. It should disclose who pays for the extension of electric lines to the site.* (page 13)

Response: To address your comment, Section 4.9.5 of the Final EIS will be revised to include the following:

At full build-out, if all 200 lots contain a residence, estimated electrical demand would range from 110,400 to 183,000 kilowatt-hours (kWh) monthly, depending on the residence's air conditioning usage (see Table 8 below). This estimate is based on the use of solar water heaters, as required by the CC&Rs.

Table 8. Electrical Demand

	200 Residences	
	Electric Demand per month (kWh)	**Electric demand per year (kWh)**
No a/c	110,400	1,324,200
With room a/c	139,800	1,676,400
With central a/c	183,000	2,194,200

Electrical, telephone, and cable distribution systems will be extended underground from Kaluako'i. Underground utilities will be as close to the road center as possible to avoid

multiple impact corridors. At its eastern terminus, this underground distribution system will be connected to the existing overhead system servicing Hale O Lono Harbor to provide an alternative means of serving the project.

In their June 29, 2006 comment letter on the EISPN, Maui Electric Company (MECO) stated that the project's anticipated electrical load demand will have a substantial impact to MECO's system and an electrical line extension and other substantial upgrades may be necessary to accommodate the project. As project design progresses, as recommended by MECO, MPL's electrical consultant will submit electrical drawings and a time schedule to MECO so that electrical service can be provided on a timely basis.

Moloka'i has 12.0 Megawatts (MW) of firm generating capacity. Peak load for 2005 was 6.4 MW. The existing system has capacity to accommodate this project.

52. *When the applicant states that 'a net 5 percent of the sale revenue' will go to the CDC, what exactly does that mean? Who determines the net? What factors go into determining the net? If no profit is generated from this project, does the CDC get any money? The issue of how the CDC will be funded is important because MPL keeps raising the funding of the CDC as benefit of the project. The EIS cannot, on the one hand, promote the benefits of the project without, on the other hand, describing the mechanism by which these benefits will accrue. If the sale of a LLC rather than land effectively allows the conveyance of land without the collection of the promised money to the CDC, some of the EIS promised benefits are illusory.* (page 13-14)

Response: MPL is in complete agreement with these sentiments. The profitability or otherwise of the Lā'au Point project bears no relationship to funds generated from the project for the CDC. The funds that are allocated from the project result from the sale proceeds of the 200 lots to be sold.

To address your comment in the Final EIS, Section 2.1.9 (Moloka'i CDC) has been revised to include the following:

In addition to land for housing, MPL will gift the CDC with the following assets that can be used for community development:

- A 5-acre parcel in central Kaunakakai zoned light industrial, which will be available for development in 2011 when the lease to the current lessee, the Junior Roping Club, expires.
- A 3.2-acre parcel adjacent to the Community College, which will be sold to the Maui Community College at market value. The proceeds from this sale would go to the CDC, which would add to the organization's funding for community projects such as construction of affordable housing.
- $100,000 from the sale by MPL of a 5-acre site to the County for a new Kaunakakai Fire Station (contained within the 1,100 site above Kaunakakai).
- Endowment from the Lā'au Point project as a sustainable form of CDC funding, which will be structured as follows:
    - ~~A~~ An initial funding of the CDC arises from a net 5 percent of the sale revenue of all 200 lots in Lā'au Point. The value of this revenue is estimated to be $10 million over five years.
    - ~~A percentage, yet to be determined, of subsequent revenue when lot, or lot and house, is re-sold.~~ Future and perpetual income for the CDC comes from

second and subsequent sale of lots or lots and houses, as a percentage (half a percent) of all future net sale proceeds from sellers of Lā'au Point properties will be diverted for CDC use. This will provide the CDC with a perpetual income. This provision to allocate income from subsequent lot sales will be provided for in the CC&Rs in the form of a perpetual and unchangeable covenant (Master Plan Covenant). The CC&Rs will require the percentage fee to be paid to the CDC at closing directly out of escrow.

Table 2 below lists the assets and sources of income for the CDC as set forth in the Plan.

Table 2. Moloka'i CDC Revenue Stream

Proposed Donations	Revenue Stream
1,100 acres above Kaunakakai town	Land for affordable housing
Land currently occupied on a short-term lease by the Junior Roping Club (4.18 acres) that is County-zoned industrial.	Land to either develop or realize in cash on sale.
The funds ($100,000) to be received from the County from the purchase of land for the new Kaunakakai Fire Station.	$100,000 in late 2007 or 2008.
The funds received from the University of Hawai'i from the future purchase of 3.213 acres designated for community college expansion.	Funds will be at market valuation of the property at the time of sale.
Five percent of the net proceeds from the initial sales of lots in the proposed 200-lot Lā'au Point subdivision (likely to be in excess of $10 million).	A total of $10 million over the period of the sale of the lots, anticipated to be a 5-year period.
A 0.5 percent (a half a percent) of all future lot and house sales in the Lā'au Point development, (giving the CDC a perpetual income forever).	A continuous income stream as lots, or lots and houses are resold.

53. *Despite Mr. Witten's assurances, there is no guarantee -- and no explanation of any mechanism to ensure -- that profits from this development will be used for hotel revitalization. (page 14)*

Response: MPL will sign a binding agreement with the Land Trust enforcing the provisions of the Master Plan upon approval of the Lā'au Point project.

MPL is committed to the implementation of the Master Plan and its relevant provisions, including the re-opening of the Kaluako'i Hotel. MPL and the Moloka'i Land Trust, as the representative of the Moloka'i community as envisaged under the Master Plan, and the organization that will enforce many of its provisions, are currently preparing agreements to this effect.

The many agreements that encompass the Master Plan are detailed and complicated in their provisions. It is anticipated the agreements covering all aspects of the Master Plan, will be available at LUC hearings. Some of these are:

- Master Plan overall agreement document.
- Agricultural easement and Rural Landscape Reserve agreements.
- Lā'au Point CC&Rs
- Lā'au Point expanded Conservation District lands easement to the Land Trust agreement.
- Shoreline Access and Management Plan (proposed to be included in the Final EIS.

The agreement covering the donation of the first piece of land, the 1,600 acre parcel between 'Īlio Point and Mo'omomi, is a confidential document between the Moloka'i Land Trust and MPL, but the essence of its timing and provisions are outlined in the Final EIS.

54. The EIS should discuss any risks posed by earth slippage that Lā'au homeowners would face. The EIS should include a discussion of the soil type and slope an whether development has taken place in similar types of environments in this state. Attached to this letter is a map showing that vertisols are located at Lā'au. Vertisols are clay-rich soils that shrink and swell with changes in moisture content. During dry periods, the soil volume shrinks, and deep wide cracks form. The soil volume then expands as it wets up. This shrink/swell action creates serious engineering problems and can damage buildings and roads (page 14)

Response: Laboratory soil testing on samples of the site soils indicate that the expansiveness varies considerably. Most of the soils should be classified as low to moderately expansive with highly expansive soils only in localized areas. More importantly, the soil layer is thin, generally less than two feet thick. Therefore, adverse effects of expansive soils on foundations can be readily mitigated by removal.

Since the Draft EIS publication, a Geotechnical Engineering Reconnaissance (Survey) was completed by Geolabs, Inc., in the project area. This Survey has been appended to the Final EIS. In the Final EIS, Section 3.3 will be revised to include the following summary:

> **3.3.4 Geotechnical Engineering Reconnaissance**
>
> A Geotechnical Engineering Reconnaissance (Survey) was performed by Geolabs, Inc., in July and August of 2007 within the project area. The Survey, which is provided as Appendix D, provides a general study of the predominant soil characteristics of the project area.
>
> A review of aerial photographs combined with site reconnaissance and laboratory testing of selected soil samples, indicates that the predominant soil at the project site is represented by a reddish brown to brown colored silty clay with a typical shrink-swell potential of less than about two to four percent, which is considered to be of generally low expansion potential. Based on an evaluation of the existing site conditions, these soils reside over approximately 70 to 80 percent of the land area within the project limits. The remaining 20 to 30 percent of the land area within the project limits may contain generally isolated and discontinuous deposits of expansive, dark grayish brown colored clay, which may be classified as a true vertisol containing a higher percentage of montmorillite clay mineralogy.

> In summary, the predominant surface soils encountered during reconnaissance consists of reddish brown to brown silty clays (CH) representing residual soil material derived from the weathering of basaltic rock. In general, these soils appear to have a low expansion potential. Reddish brown to brown clayey soils (CH) with sand are encountered mainly in alluvial depositional environments, which appear generally confined to topographic low elevations such as depressions and drainage ravines. These soils appear to have a low to moderate expansion potential.
>
> Finally, the dark brown to grayish brown clay (CH) soil is encountered as isolated inland deposits and discontinuous deposits along the lower elevation coastal regions at the southern portion of the project site. These soils may have a relatively high expansion potential. With the exception of the northernmost portions of the project site (northerly of Kamāka'ipō Gulch), basalt rock formation is encountered at the ground surface and partly exposed at the ground surface mixed with the soils mentioned previously.

55. Will the applicant make any commitment to keeping all inadvertently discovered burials in place? Please answer this question: yes or no. (page 14)

Response: Yes. As stated in the archaeological Burial Treatment plan of (Appendix E of the Draft EIS), construction will be planned to avoid any burials or suspected burials recorded in previous studies and during the supplemental road corridor survey. Therefore, it is very unlikely that any burials will be disturbed. Should it prove extremely difficult to plan around a possible burial, then (as a last resort) that feature may be tested to determine its actual function. If it is in fact a human burial, then it will be covered, and preserved in place. Human remains encountered during such a test will not be removed, photographed, or collected.

While it is advised that any burial be preserved in place, there is a small possibility that doing so would not be a good idea. One example would be if lineal or cultural descendants were to request its reinterrment elsewhere, either out of concern for its safety and stability, or to remove it from close proximity to a sewer line or the like. Another instance in which data recovery of a site or movement of human remains could be the best path is when preservation in place would cause worse impacts wherever the road or construction is rerouted. Preservation in place should remain the preferred option, but not when it defies the overall aim of preservation.

If testing does not encounter human remains, the feature will be subject to data recovery according to the procedures and standards described in the Data Recovery Plan (also located in Appendix E of the Draft EIS). If, during the course of the project, human burials are inadvertently discovered, work in the vicinity will be halted while the archaeologist determines if they are likely to have been in place for more than 50 years. If not, the matter comes under the jurisdiction of local police, who will be notified. If so, the SHPD Burials Program will be consulted. The preferred treatment will be to leave any burials in the location they were found, and avoid any further disturbance.

As stated in our response to #46 above, Section 4.1 (Archaeological Resources) of the Final EIS will be revised as follows:

Finally, MPL and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during the construction activities, work will cease immediately in the immediate vicinity of the find and the find will be protected from further damage. The contractor shall immediately contact the State Historic Preservation Division, which will assess the significance of the find and recommend appropriate mitigation measures, if necessary. ~~The Moloka'i Burial Council will also be notified of any newly found burials.~~ Should a possible burial be encountered that cannot be planned around, SHPD and OHA will be consulted prior to any testing of the burial.

RESPONSE TO COMMENTS

56. *As the Hawai"i Supreme Court has observed, the "applicant must respond in writing and address all concerns and questions before proceeding with the development of the EIS. Once this phase of the process is complete, the applicant then begins preparation of the EIS." Sierra Club v. Office of Planning, 109 Haw. 411, 415 (2006)(emphasis added). See also, HAR § 11-200- 15(D), -22(C) and -23. ¶The applicant ignored or discounted many of the questions asked. These questions must be answered prior to the acceptance of the EIS. These questions include all the questions asked in this letter, our previous letter, as well as others' letters (including the specific financial questions of Steve Morgan and DeGray Vanderbilt).* (page 14)

Response: We respectfully disagree with this statement. We understand our duty to respond to comments. See HAR § 11-200-22(c). We have endeavored to respond in good faith to your comments, as well as to all of the other comments that we have received, as fully and completely as possible.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Attachments:
Revised Section 4.9.2 (Water)
Revised Section 7.5 (Unresolved Issues)
Revised Section 2.3.6 (Covenants)
Revised Section 3.7 (Fauna)
June 21, 2007 NOAA correspondence
Revised Section 4.9.1 (Drainage)

cc: Anthony Ching, State Land Use Commission

Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

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February 22, 2007

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Re: COMMENTS ON DEIS FOR LĀ`AU POINT

Dear Messrs. Nicholas, Witten, Ching and Ms. Salmonson:

The Native Hawaiian Legal Corporation is submitting these additional comments on behalf of Moloka'i Homestead Farmers Alliance and Wayde Lee to supplement the comments we submitted to you on February 1.

1. Development Potential North of Existing Resort

The EIS must thoroughly discuss MPL's development plans for the area north of the existing Kaluakoi resort. There are many sites there zoned for hotels and multi-family units. This issue must be thoroughly discussed for two reasons.

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First, development in this area could potentially involve fewer infrastructure costs while generating sufficient income to subsidize the Kaluakoi resort (ostensibly the purpose of the Lā`au development). In other words, this is an alternative to development at Lā`au that needs to be thoroughly discussed.

Second, given the potential density of projects in this area, together with other existing entitlements, development in this area – together with Lā`au – could have enormous cumulative impacts – particularly in the amount of water consumed. HAR §11-200-2 provides:

> "Cumulative impact" means the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

2. MPL's Economic Hardship

Much is made of MPL's financial situation in the EIS. Please reconcile (in plain English) these claims with the statement in your corporate disclosure: "The Molokai Properties operation continued to remain cash-positive in 2005/2006 by the further sale of non-strategic lots in subdivisions that were developed in the 1980's and 1990's and by keeping a strict control on costs."

3. Monk Seal

Residents report that monk seals are always at Lā`au. On February 15, 2006 I saw five. Where else in this state (besides the Northwest Hawaiian Islands) can one see monk seals on a regular basis? The EIS must include the opinion of a real marine biologist, experienced with monk seals, who discloses the probable impact of development in the area on the monk seals.

4. Brackish Water

MPL proposes to use brackish water for irrigation. The EIS should disclose the salt content of this brackish water from the Kākalahale well; the tolerance of agriculture (and golf courses) to brackish water; and the long-term impact of accumulated salts in the soil from using brackish (i.e. salty) water for irrigation.

Sincerely,

David Kimo Frankel
Staff Attorney

Molokai Properties Limited

November 1, 2007

David Kimo Frankel
Native Hawaiian Legal Corporation
1164 Bishop Street, Suite 1205
Honolulu, Hawai'i 96813

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Frankel:

Thank you for your second letter dated February 22, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS). Below, we respond to your comments.

1. *Development Potential North of Existing Resort: The EIS must thoroughly discuss MPL's development plans for the area north of the existing Kaluakoi resort. There are many sites there zoned for hotels and multi-family units. This issue must be thoroughly discussed for two reasons. ¶First, development in this area could potentially involve fewer infrastructure costs while generating sufficient income to subsidize the Kaluakoi resort (ostensibly the purpose of the Lā'au development). In other words, this is an alternative to development at Lā'au that needs to be thoroughly discussed. ¶Second, given the potential density of projects in this area, together with other existing entitlements, development in this area — together with La'au — could have enormous cumulative impacts — particularly in the amount of water consumed. HAR §11-200-2 provides: ¶"Cumulative impact" means the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

Response: As stated in the *Community-Based Master Land Use Plan for Molokai Ranch* (provided as Appendix A in the Draft EIS; hereafter referred to as "Master Plan"), MPL has no plans to develop the entitled lots north of the Kaluako'i Hotel. However, as stated clearly in the Master Plan, some of those lands may be needed at some distant time in the future for extending the Kaluako'i Hotel if demand requires it; some land for a Cultural Center adjacent to the hotel; and some land for community housing for Kaluako'i Hotel staff. At this point, there are no plans to do that, but MPL believes it should be up-front about this remote possibility. Also under its Water Plan, MPL has no water available for such a remote possibility.

The Master Plan also states that if ever there is a demand for a second golf course on Moloka'i, (and replacing the Moloka'i Community Plan-approved golf course below the Lodge at Maunaloa), then it should be sited in this area.

These Kaluako'i parcels are within the Special Management Area (SMA) and any type of construction there would be subject to approval by the Moloka'i Planning Commission. Desalinated water would be needed in this case.

Molokai Properties Limited dba Molokai Ranch • 745 Fort Street Mall • Suite 600 • Honolulu, Hawaii 96813 •
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In terms of the potential of developing entitled lots north of Kaluako'i, please refer to Section 6.0 (Alternatives) in the Draft EIS, which examined a number of options for development of these areas as an alternative to the proposed Lā'au development; in particular, refer to Section 6.4.5 Kaluako'i Rural Subdivision and Golf Course; and Section 6.4.6 Kaluako'i Resort Condo Units. These alternatives were rejected because they used far more water than was available to MPL and created excessive population increases.

2. *MPL's Economic Hardship: Much is made of MPL's financial situation in the EIS. Please reconcile (in plain English) these claims with the statement in your corporate disclosure: "The Molokai Properties operation continued to remain cash-positive in 2005/2006 by the further sale of non-strategic lots in subdivisions that were developed in the 1980's and 1990's and by keeping a strict control on costs."*

Response: MPL has stated quite clearly that it is cash negative from its operations-Lodge and Beach Village, Golf Course, island maintenance, property taxes, insurance, etc., as outlined in the Economics report (provided as Appendix J of the Draft EIS). From this report, it can be seen that MPL, since 2001, has been "cash negative from its operations," plus the need to spend money on replacement capital equipment, prior to the sale of land, of more than $40 million. By selling land, MPL has been able to realize cash to offset those operating losses and remain cash positive. MPL has been able to prevent seeking funds from its parent company by keeping ahead of this "cash burn" by selling parcels of lands, particularly subdivided lots in Maunaloa and at Kaluako'i. However, MPL will eventually have no more subdivided lots to sell to offset its losses.

Since 2002, MPL has made huge cost improvements, such as reductions in losses at the Lodge and Beach Village. However, increases in insurance costs, property taxes and energy costs have offset those gains. Entities such as NHLC will be well aware of cost increases in these areas.

Because of the huge cash drain that MPL previously imposed on its parent company (MPL has accumulated cash losses—known as net operating losses or NOL's – in excess of $90 million), MPL's parent company, BIL, will no longer support on-going losses.

In this event, and if this "cash negative from operations" situation continues in a similar manner, MPL will need to sell all its land to offset its operational losses or close its loss making operations and sell its land to the highest bidder in a piecemeal way to realize cash for its shareholders. This scenario was previously discussed in Section 6.2 of the Draft EIS.

3. *Monk Seal: Residents report that monk seals are always at Lā'au. On February 15, 2006 I saw five. Where else in this state (besides the Northwest Hawaiian Islands) can one see monk seals on a regular basis? The EIS must include the opinion of a real marine biologist, experienced with monk seals, who discloses the probable impact of development in the area on the monk seals.*

Response: The density of monk seals generally increases northward through the Main Hawaiian Islands (MHI) to the Northwestern Hawaiian Islands where their primary breeding colonies exist. The largest concentration of monk seals in the MHI is on Ni'ihau. Moloka'i has relatively few monk seals, although the population in the MHI appears to be increasing.

We consulted with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service about the monk seal population at Lā'au Point. In a subsequent letter (dated June 21, 2007) to their comment letter on the Draft EIS, NOAA NMFS stated: "NMFS believes it would not be necessary to conduct a survey at the site to ascertain that Lā'au Point is important monk seal habitat, as that is already known." For your convenience and reference, a copy of this correspondence is attached.

The shoreline access management plan (SAMP) contains a plan and recommendations developed in consultation with the National Oceanic and Atmospheric Administration (NOAA) Monk seal program and elements were taken directly from their draft *Recovery Plan for the Hawaiian Monk Seal* (November 2006). The SAMP reiterates the rules required to ensure non-disturbance of Monk seal habitat and the promotion of Lā'au Point as an area for Monk seals to frequent and "haul out."

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding monk seals, Section 3.7 (Fauna) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 3.7 (Fauna)."

4. *Brackish Water: MPL proposes to use brackish water for irrigation. The US should disclose the salt content of this brackish water from the Kākalahale well; the tolerance of agriculture (and golf courses) to brackish water; and the long-term impact of accumulated salts in the soil from using brackish (i.e. salty) water for irrigation.*

Response: To address this comment, the following information has been added to Section 4.9.2 of the Final EIS:

> Water from Kakalahale Well is considered "slightly brackish" with chloride levels of approximately 400 mg/L. In contrast, seawater is about 19,500 mg/L, the County's Kawela Shaft (a drinking water source) has chlorides of about 200 mg/L, and MPL's Well 17 has consistent chloride levels of 40 mg/L
>
> Types of crops that could be irrigated with water of these chloride levels include: asparagus, date palm, sugarbeet, alfalfa, broad bean, onion, turnip, cabbage, lettuce, carrot (source: CTAHR <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/pnm17.pdf>).

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Attachment:
June 21, 2007 Correspondence from NOAA
Revised Section 3.7 (Fauna)

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

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VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED & FACSIMILE TRANSMITTAL

February 23, 2007

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Re: Comments on MPL's Lā'au Point Draft Environmental Impact Statement

Aloha kakou:

Pursuant to Hawai'i Administrative Rules § 11-200, this letter comments on PBR Hawai'i's December 2006 Draft Environmental Impact Statement (DEIS) for Lā'au Point Moloka'i on behalf of the Save Lā'au 'Ohana, a hui of community members who are committed to preserving and protecting this cultural kīpuka. Our goal in sharing this mana'o is to identify issues where your DEIS fails to fulfill the letter and spirit of applicable laws. After reading our letter, we hope that you will agree that it is simply inappropriate to develop Lā'au and will abandon your plans for this area. If you elect to pursue your development, in reviewing and responding to our comments, we hope that you will make every effort to bring your proposed project into compliance with applicable laws, and to meaningfully address issues of concern for our group and the larger Moloka'i community before seeking any additional project approvals.

In 1974, our State Legislature enacted Hawai'i Revised Statutes (HRS) chapter 343, which is also known as the Hawai'i Environmental Policy Act (HEPA). HEPA's fundamental purpose is to establish a comprehensive review process for projects like yours, which will

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 2 of 11

significantly impact Hawai'i's natural and cultural treasures. This process was specifically designed to "ensure that environmental concerns are given appropriate consideration in decision-making along with economic and technical considerations" and to do so early-on in the decisionmaking process to help determine whether or not a project should move forward. HRS § 343-1. Hawai'i Administrative Rules (HAR) § 11-200 establishes the framework for EIS procedures and contents for the accepting authority (in this case, the Land Use Commission), the applicant, and the public.

Your final EIS must "convey the information in a form easily understood, both by members of the public and by public decision-makers, giving attention to the substance of the information conveyed rather than to the particular form, or length, or detail of the statement." HAR § 11-200-19. You also must respond, in writing, to each of the comments received during the review period and incorporate the comments and responses in any final EIS. Your response to comments must include: (1) a point-by-point analysis of the validity, significance, and relevance of comments; and (2) discussion regarding how each comment was evaluated and considered in planning and/or modifying the proposed action. Your responses must also explain why any specific comments or suggestions were rejected. HAR § 11-200-22. This analysis of and response to comments like ours must take place before you proceed with any final EIS. Sierra Club v. Office of Planning, 109 Haw. 411, 415 (2006) ("applicant must respond in writing and address all concerns and questions before proceeding with the development of the [final] EIS. Once this phase of the process is complete, the applicant then begins preparation of that] EIS.").

Below, we detail several significant areas where your DEIS is inadequate. First, Moloka'i Properties Limited (MPL) claims that the development of Lā'au Point is necessary to reopen the Kaluako'i hotel. But, MPL and its parent company have made millions of dollars over the last two years in land sales alone and already possess the capital necessary to refurbish the hotel. The truth of the matter is that this renovation is simply being dangled in front of our community as a tradeoff for the Lā'au Point development.

Second, the DEIS' examination of freshwater resources is wholly inadequate because it fails to provide necessary data and analysis. This is a fatal flaw given the Hawai'i Supreme Court's recent decision in In re Wai'ola o Moloka'i, 103 Hawai'i 401 (2004), which mandates that applicants such as MPL demonstrate that withdrawals from the Kakalahale well will not impact the Department of Hawaiian Homelands' (DHHL) existing reservations. As set forth in more detail below, on this basis alone we urge MPL to suspend any further action or investment of resources in this effort unless and until you are able to establish that you have a source of water sufficient to support all phases of your proposed project .

As also set forth below, your DEIS fails to adequately analyze cumulative impacts, effects on the marine environment (specifically class AA waters), and impacts on native Hawaiian traditional and customary rights and practices.

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 3 of 11

I. Developing Lā'au Is Not Necessary To Generate The Capital To Refurbish The Kaluako'i Hotel And Resort Property

In 2001, MPL purchased the lands that comprise the proposed Lā'au Point development and adjacent areas, which total approximately 7,000 acres. In the same year, MPL also assumed ownership of the abandoned Kaluako'i hotel and resort property. MPL has publicly stated that developing 200 luxury lots at Lā'au is necessary to "empower Moloka'i residents to implement their community strategic plan and, thereby, control their own destiny, inter alia, by re-opening the Kaluako'i hotel."

In addition to claiming that profits from developing Lā'au are necessary to refurbish Kaluako'i, MPL affirmed that without this development, Moloka'i Ranch lands would be "split-up and sold, or parent company Brierly Investments (BIL) would sell MPL because it would never be economically viable." MPL also noted that the community would face "the resultant prospect of never again being able to have the opportunity of planning its future," unless the consensus could be reached on the plan.[1] MPL made public statements that the shareholders of its parent company, BIL, were "unwilling to take on additional risk on Molokai," in reference to the cost of repairs required to re-open the Kaluako'i hotel.

Despite MPL's representations, there is no guarantee that the profits from developing Lā'au will actually be used to refurbish the hotel. Moreover, basic information regarding MPL's investments on Moloka'i reveal that developing Lā'au is not an economic necessity:

(1) MPL purchased the existing Kaluako'i hotel and golf course for approximately $9 million in December 2001. The sale also included the remaining unsold residential lots in Pāpōhaku Ranchlands and Moana Makani subdivisions, large acreage zoned rural that can accommodate approximately 400 or more future homes, and five beachfront hotel sites.[2]

(2) MPL sold over $34 million dollars worth of residential lots in the past three years. Although its original purchase price was $9 million, it still retains the core properties that were included in the initial sale – namely, the existing hotel and golf course, and future beachfront hotel sites.[3] MPL investors had extremely low land acquisition costs at Kaluako'i, coupled with land sales of only a small portion of the original Kaluako'i acquisition. MPL investors reaped a 275% increase in the value of their portfolio (over approximately five years or less), without sacrificing any core holdings from their original purchase.

[1] "Consensus reached on the plan" refers most directly to the consensus for approval of the Lā'au Point Development.
[2] Information obtained from TMK Hawai'i dba Hawaiian Information Service LLC.
[3] Id.

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 4 of 11

(3) Although MPL claims that it suffers ongoing losses at its Moloka'i Ranch subsidiary, any such losses are not related to MPL's core businesses, which include hotel, resort, and real property development and sales.[4]

(4) In 2001, MPL purchased approximately 7,000 acres, including the parcels targeted for development at Lā'au Point, for approximately $6 million dollars. MPL estimates total development costs including infrastructure, roadways, and utilities to approach the $72 million dollar range (exclusive of ongoing and forward-looking maintenance costs). Based on current market analyses, the planned 200 lot residential development at Lā'au, will conservatively gross over $300 million in sales.[5]

Contrary to its own claims that MPL's investors are "unwilling to take on additional risk on Moloka'i," MPL is planning one of the world's longest ocean-front developments. Ironically, this demonstrates that MPL's investors are willing to tolerate high-risk ventures, just not the smaller capital risk of re-opening the Kaluako'i hotel.

Evidently, MPL investors consider the relative reward-to-risk analysis for the Lā'au project more appealing and a better potential for profit than the Kaluako'i hotel project. This is alarming, because it demonstrates that even an extremely high-risk project such as Lā'au has a better potential for profit than does the Kaluako'i hotel. If the hotel is not economically self sufficient, will MPL close the property? Or, will MPL propose more residential developments to help keep the hotel open?

The information above calls into question MPL's statements alleging the "critical importance" and "urgency to reach consensus" regarding the Lā'au development. Through short-term profits from land sales in West Molokai, MPL already has the resources to re-open Kaluako'i without sacrificing additional capital from its investor base. The Lā'au development is not about corporate philanthropy; rather, it's about more corporate profit.

II. The DEIS Wholly Fails To Consider Impacts On Water Resources

A. Moloka'i lacks sufficient water to support current uses and future expansion at Lā'au.

The DEIS fails to adequately consider critical information regarding Moloka'i's ground and surface water resources. Moloka'i is a Sole Source Aquifer (59 FR 23063) under Section 1424(e) of the Safe Drinking Water Act. Sole Source Aquifers are designated by EPA (Safe Drinking Water Act, Section 1427) as the "sole or principal" source of drinking water for an area.

[4] DEIS at 167.
[5] Information based on Comparative Market Analysis (CMA) using Multiple Listing Service (MLS). West Maui and rural oceanfront areas of O'ahu were compared to determine values. Although there are few oceanfront lots of two acres that have sold on prime ocean frontage in rural areas of O'ahu and Maui, the minimum value of lots on prime ocean-frontage range between $4 million and $8 million. The lots at Lā'au Point would have minimum market values that range from approximately $1.5 million to $3 million, based on MPL development standards at today's market prices.

Because it has only a single aquifer, Moloka'i's drinking water supply is inherently limited. In addition, water use and withdrawals in one part of the aquifer affect water quality and discharge in other areas. Current demand is already taxing remaining supply, and water quality has decreased as pumping has increased. A 2006 study by the United States Geological Survey (USGS) documents current conditions on Moloka'i:

> "Because of increased demand for water associated with growing population, projected increases in demand over the next few decades, and rising salinity of the water pumped from some existing wells, the County of Maui Department of Water Supply is currently considering drilling additional wells to replace or supplement existing wells on the island of Molokai, Hawai'i. Redistributed and additional ground-water withdrawals will affect ground-water levels, discharge of ground water to the nearshore environment, and, possibly, salinity of the water pumped from existing wells."

USGS Scientific Investigations Report 2006-5177 at 1.

Based on threats to Moloka'i's water resources, in 1992, the State Commission on Water Resource Management designated the entire island a Ground Water Management Area (GWMA). Moloka'i is the only GWMA in Hawai'i that encompasses an entire island. This means that all new or changing uses of ground water will be strictly regulated through water use permits. At the date of designation, Moloka'i's population was expected to grow 20% from 1990 to 2000. Increased water withdrawals over that period led to rising chloride levels in many of the wells. As noted by USGS, by 2006, the Maui County Board of Water Supply was forced to consider drilling more wells to increase supply and better distribute pumping. In addition to shortages in the County system, there is currently a moratorium on new water meters for agricultural users serviced by the Molokai Irrigation System (MIS). Evidently, there is not enough water in MIS' system to service its users, so no more meters will be allowed.

The bottom line is that the Water Commission's designation of Moloka'i's sole source aquifer as a GWMA, USGS's 2006 report, and MIS's moratorium on water meters raise serious questions about whether there is enough water on Moloka'i now to supply current uses, let alone future expansion as is proposed by your DEIS for Lā'au Point. Moreover, the increased use of existing or new wells, including the wells potentially available to serve the proposed project, will affect ground water levels and the discharge of water into nearshore marine waters, which are critical to support traditional and customary native Hawaiian rights and practices in this area, as discussed below. Any final EIS must examine and address these critical issues.

B. The DEIS fails to analyze impacts on native Hawaiian rights, practices, and culture.

In Wai'ola, the Hawai'i Supreme Court determined that many native Hawaiians who live on Moloka'i, such as the members of Save Lā'au 'Ohana, engage in traditional and customary practices, namely, gathering limu and fishing in nearshore areas to help feed their families. Practitioners, including members of the Save Lā'au 'Ohana, testified that these resources require fresh water, which would be significantly reduced if Wai'ola's Water Use Permit Application

were granted. Moreover, any such reductions will adversely affect traditional practices, including gathering rights. The Court further ruled that an applicant bears the burden of proving that its use will not abridge or deny native Hawaiian traditional and customary rights. In re Wai'ola O Moloka'i, Inc., 103 Hawai'i 401. In this case, you have failed to affirmatively demonstrate that the withdrawal of water as proposed in your DEIS will not negatively affect traditional and customary rights and practices guaranteed by Hawai'i's Constitution.

The DEIS also fails to analyze how increased pumping from the Kakalahale well will impact discharge to nearshore waters. Based on the analysis and data in the USGS report, "discharge to [some] fishponds and springs decreases in response to increased withdrawal." USGS Report at 47. You have neglected to provide sufficient analysis for the LUC to satisfy its duty to protect our traditional and customary rights:

> In order to fulfill its duty to preserve and protect customary and traditional native Hawaiian rights to the extent feasible, the LUC, in its review of a petition for reclassification of district boundaries, must – at a minimum – make specific findings and conclusions as to the following: (1) the identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area; (2) the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist.

Ka Pa'akai O Ka 'aina v. Land Use Commission, 94 Haw. 31, 47 (2000).

In addition to reducing the discharge of fresh water to nearshore areas and impacting limu and fisheries, plopping 200 luxury homes and their residents on Lā'au will severely hamper if not effectively destroy the ability of native Hawaiians to continue to exercise traditional practices in and around this area. Hawaiian culture extends far beyond physical practices, such as catching fish or gathering limu. In order to exercise traditional customs in a pono manner, practitioners require the space and privacy to carry out ceremonies, rituals, and spiritual practices that are the foundation for and heart of Hawaiian culture. Without this spiritual aspect, our practices become empty. Put simply, traditional practices lose their mana if millionaire residents are peeping through their windows and snapping photos. Your proposed development of Lā'au will rob this sacred place of its spiritual integrity and discourage many local practitioners from even attempting traditional practices in this area. These impacts must be considered in your final EIS.

C. The DEIS does not analyze impacts on DHHL's reservation.

In Wai'ola, the Hawai'i Supreme Court also determined that the Water Commission's decision to grant a new water use permit for 655,928 gallons of water per day (gpd) from the Kamiloloa aquifer violated DHHL's reservation rights as guaranteed by the Hawaiian Homes Commission Act ("HHCA"), State Constitution, and Water Code. For administrative purposes, the Commission divided the Moloka'i GWMA into distinct hydrologic units and aquifer systems.

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 7 of 11

However, because each unit is hydrologically connected, pumping in one system affects the water levels in adjacent aquifers. DHHL has a 2.905 mgd water reservation in the Kualapu'u aquifer, which is adjacent to the Kamiloloa aquifer. The Court determined that the Water Commission's actions could not divest DHHL of its duty to protect its reservation. Thus, the applicant bore the burden of establishing that its proposed use (to withdraw from Kamiloloa aquifer system) would not interfere with DHHL's reservation of water in the Kualapu'u aquifer.

In this case, you bear the same burden and must establish that your water use will not impact DDHL's reservation. Your Water Plan Analysis provides:

> As discussed above, implementation of the Water Plan will require a finding by the Water Commission that the withdrawal of 1 mgd of brackish water from the Kakalahale Well will not impact DHHL's existing wells in Kualapu'u, nor jeopardize DHHL's ability to access its reservation in the Kualapu'u Aquifer.

DEIS Appendix P at 23. Your DEIS concedes the possibility that withdrawing 1 mgd from Kakalahale may negatively impact DHHL's existing wells, yet fails to provide the required analysis or consider the environmental and cultural effects of negatively impacting DHHL's wells or reservations. On this basis alone, the LUC should reject any final EIS unless and until this burden has been satisfied.

D. Use of the Kakalahale well will affect ground water levels and salinity in other wells.

MPL's DEIS makes blanket assertions that lack any scientific basis and are contradicted by established data. For example, MPL claims that "drawing water from the Kakalahale well will have no impact on the yield of the Kualapu'u aquifer." DEIS Appendix A (Water Plan) at 119. This assertion is unsupported by any analysis.

On the contrary, USGS Scientific Investigations Report 2006-5177 establishes:

> "If water is pumped from one well, it will affect salinity of nearby wells. Also, it will affect discharge of fresh water to stream mouths and fishponds, upon which fish rely."

Id. at 4, 47. If MPL has information or analysis to support its assertion that drawing water from Kakalahale will have no impact on Kualapu'u, that information should have been included in the DEIS. Regardless, this deficiency must be addressed in any final EIS and must be resolved before MPL proceeds any further with its development plans.

E. MPL has failed to demonstrate how it will transport the water from Kakalahale.

MPL claims that it WILL NOT transmit the Kakalahale brackish water to the West Side of Moloka'i via the Moloka'i Irrigation System. DEIS Appendix P at 119. MPL offers only that it is "currently investigating transmission alternatives." Importantly, before water from the Kakalahale well could be used for the proposed project, MPL would have to obtain a water use permit from the State Water Commission for this specific use. MPL also contends that it will use

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 8 of 11

existing pipeline easements across DHHL's Ho'olehua lands to transmit Kakalahale water. These contingency plans fail for two reasons: First, the majority of the existing pipelines are already at or near capacity and in use for transmission purposes; and second, the limited lines that are available for transmission are six inch lines, which are incapable of transporting the amount of water in question. Any final EIS must analyze how water will be transported from Kakalahale to Lā'au, as well as the environmental and/or cultural impacts of such a proposal. MPL's empty claims that they are "investigating transmission alternatives" to get water from the Kakalahale well to Lā'au Point is simply inadequate.

F. A one percent build rate per year at Lā'au Point is misleading and inaccurate.

The proposed build-out rates and corresponding water use proposed for Lā'au Point do not accurately forecast water demand for this project. MPL claims that the build-out rate at Pāpōhaku Highlands is 1% per year, based on the fact that after 20 years, only 20% of the lots have had houses constructed on them. MPL also projects that if all 200 homes at Lā'au are sold in year one at a conservative price of $1.5 million, then only two lots will have homes built on them by the end of year two. This is unrealistic and fails to account for the fact that last year, the build out rate at Pāpōhaku Highlands was closer to 9%. Moreover, the target buyer for a house at Lā'au differs in almost every aspect from lower-end residential buyers in other projects, such as the one at Pāpōhaku. Buyers with the capacity to purchase a lot in Lā'au will have significantly more disposable income and the corresponding ability to build as soon as they want. The DEIS failed to address the likelihood that the build rate will be greater than one percent per year – perhaps closer to last year's 9% build out rate at Pāpōhaku Highlands – and how any related infrastructure needs, such as water, will be met. Any final EIS must include this analysis.

G. MPL shows a high water use during construction yet neglects to identify a source.

MPL mistakenly estimates the build rate at Lā'au Point will be 1% per year. Yet, MPL expects that even this extremely low build rate will require 50,000 to 1,500,000 gpd. DEIS Appendix A (Water Plan) at 120. Erosion protection and control measures will require an additional 50,000 to 100,000 gpd. Construction is projected for two years with erosion control lasting for 7 to 12 years. The DEIS fails to identify where this 100,000 to 1,600,000 gpd of water will come from or analyze any potential or cumulative impacts on natural and cultural resources due to the source or transmission of this water. Any final EIS must account for this omission.

H. MPL fails to identify a source for the water for its proposed public parks.

While the DEIS' Water Plan acknowledges that the public parks at Lā'au Point will require both potable and non-potable water, it neglects to identify the source of such water. DEIS Appendix A (Water Plan) at 120. The final EIS must identify a source and analyze any potential or cumulative impacts on the natural and cultural resources due to the source and/or transmission of this water.

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 9 of 11

I. The relationship between residency and water use is unclear.

MPL claims that only 40% of Pāpōhaku homeowners will be residents. There is no ascertainable relationship between residency or non-residency and water use. A home could be used as a vacation-rental with high-occupancy rates and water use significantly higher than if the home was occupied by a "resident." Moreover, people with more than one home do not necessarily use less water when they are at Lā'au Point. These analyses are unrealistic and make no economic sense, nor do they address how much water will ultimately be needed for this development. For purposes of our comment letter, we used MPL's estimates to chart how much water will be needed at 100% occupancy:

Water Usage of Other Proposed Projects		
Residence/Condominium	current*	potential*
Pāpōhaku Ranchlands/ Moana Makani (no subdivision)	306	612
Pāpōhaku Ranchlands/ Moana Makani (subdivision exercised)		1,538
Rural Zoning/ North of Resort Area		400
Multi Family Zoning Areas**	400	800
Single Family Zoning Area		200
Sub-total	*706*	*3,550*
Water Usage: 600 gallons per day for one house ***	423,600	2,130,000
Hotel Zoning/ Resort Area	current*	potential*
Potential Hotels sights		5
Sub-total	*0*	*5*
Water Usage: 33400 gallons per day for one hotel	0	167,000
TOTAL	**423,600**	**2,297,000**
*We assume that the current & potential lots are occupied 100% of the time. "Current" is defined as projects proposed as of February 2007. "Potential" is defined as potential projects as well as current projects. The total water usage "potential" does not assume maximum water usage.		
**There are currently four multi family zoned areas. We assume each area has 100-200 houses.		
***For the water demand calculation, we used the rates provided in MPL's Water Plan in Appendix A. **We note, however, that current homes in the Kaluako'i area use approximately 3,000 gad, or more than five times the rate estimated by MPL for Lā'au.**		

J. Water conservation at Kaluako'i does not relate to Lā'au Point.

The Master Plan in section 6.10 (included in the DEIS as Appendix A) fails to explain how water conservation at Kaluako'i will affect water conservation at Lā'au Point. There is no proposed base rate, conservation rate, or gallons per day rationed for Lā'au Point in the Master

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 10 of 11

Plan or DEIS. The only hint of this vital information is contained in the small print narrative for the graph on page 121 of the Master Plan. Why Lā'au Point is estimated to use 600 gallons per day – as compared with the 1,000 -5,000 gallons per day estimated for Kaluako'i – is not explained and does it make any sense. Any final EIS for Lā'au Point must address and define the water needs and projections for the entire project.

K. The DEIS lacks a serious basis for claiming that water consumption will be moderated.

"MPL believes a combination of low occupancy, water conservation education, xeriscaping and tiered water rates will moderate water consumption by these homeowners." DEIS at 81. Believing that millionaires who can afford to buy luxury beachfront homes as a second or third house (Water Plan at 119) will conserve water due to education and a higher water rate is amusing, but fails to rise to the specificity required in an EIS. MPL's tiered water rates are also likely have an insignificant effect on water conservation given the overall capacity necessary to purchase property and build a house at Lā'au. These shortcomings must be addressed in any final EIS.

L. The contingency plan is inadequate.

The contingency plan in Appendix A: Community-Based Master Land Use Plan for Molokai Ranch is inadequate because it fails to provide practicable alternatives. The final EIS must better examine the impacts of current alternatives (including brackish water and desalinization) and explore other options. As just one example, the final EIS must examine the impacts of using brackish water on the chloride content of soils, agricultural operations, and ground water supplies.

III. The DEIS Fails To Adequately Consider Impacts On The Marine Environment

The State of Hawai'i identified the waters around Lā'au Point as class AA, which is the most protective classification for marine waters.

> It is the objective of class AA waters that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected.

HAR § 11-54-3(c)(1). Furthermore, § 11-54-1 (c) mandates that:

> Where high quality waters constitute an outstanding national resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

The DEIS neglects to adequately address potential impacts on Class AA waters and their designated uses, including increased erosion and sedimentation from the development of five

Save Lā'au 'Ohana's Comment Letter Regarding MPL's Lā'au Point DEIS
February 23, 2007
Page 11 of 11

miles of pristine coastline and the maintenance of 200 luxury lots on land abutting pristine waters. For example, the DEIS does not adequately examine any nonpoint source pollution resulting from this development and corresponding impacts on coral reefs, water quality, and fisheries. What erosion control techniques will be implemented and how will these techniques maintain and protect Lā'au's outstanding water quality and ecological and cultural significance? How will your proposed development impact the nearshore environment? This development will have significant impacts on the marine environment and any final EIS must honestly and thoroughly address these impacts, mitigate them, and consider alternatives to the development. As already detailed in section IIB, all impacts to the marine environment must be considered, including impacts on natural and cultural resources and the traditional and customary native Hawaiian practices reliant upon those resources.

IV. CUMULATIVE IMPACTS

The DEIS fails to sufficiently examine cumulative impacts resulting from this proposed project. Any final EIS must consider and analyze

> the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

HAR §11-200-2. Since MPL has made Lā'au Point a part of Moloka'i's master planning effort, any final EIS must necessarily examine all cumulative impacts of the master plan, including future developments such as the re-opening of the Kaluako'i hotel. In 2005, Moloka'i had an average daily visitor count of 955 (Hawaii's Comprehensive Wildlife Conservation Strategy) without the Kaluako'i hotel. What are the impacts of additional tourists at the hotel? Any final EIS must address this issue.

V. CONCUSION.

Mahalo for this opportunity to comment on your draft EIS. Given the serious inadequacies of both your EIS and proposed development, especially regarding the impacts on Moloka'i's limited water resources, we urge you to abandon your plans to develop Lā'au and focus MPL's time and resources elsewhere. In the event that you decide to push on, we expect that you will respond, in writing, to each of the issues raised in this comment letter.

'O au iho nō.

Walter Ritte
Save Lā'au 'Ohana

Molokai Properties Limited

November 1, 2007

Walter Ritte
Save Lā'au 'Ohana
[no address provided]

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Ritte:

Thank you for your letter dated February 23, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS). We would like to respond to your comments.

1. *I. Developing Lā'au Is Not Necessary To Generate The Capital To Refurbish The Kaluako'i Hotel And Resort Property ¶If the hotel is not economically self sufficient, will MPL close the property? Or, will MPL propose more residential developments to help keep the hotel open?*

Response: The intent is for the hotel to be self-sufficient. MPL will adhere to the commitments made in the *Community-Based Master Land Use Plan for Molokai Ranch* (provided as Appendix A in the Draft EIS; hereafter referred to as "Master Plan").

2. *II. The DEIS Wholly Fails to Consider Impacts On Water Resources¶A. Moloka'i lacks sufficient water to support current uses and future expansion at Lā'au. The DEIS fails to adequately consider critical information regarding Molokai's ground and surface water sources. Molokai is a Sole Source Aquifer (59 FR 23063) under Section 1424(e) of the Safe Drinking Water Act. Sole Source Aquifers are designated by the EPA (Safe Drinking Water Act, Section 1427) as the "sole or principal" source of drinking water for an area.*

Response: The Sole Source Aquifer program was established under §1424(e) of the Safe Drinking Water Act of 1974 as a program to protect ground water sources. This program prohibits Federal financial assistance for projects that might contaminate an aquifer that has been designated by EPA as a sole or principal source of drinking water for an area.

"Sole or principal" means that the aquifer is needed to supply 50% or more of the drinking water for the aquifer service area, and that the volume of water which could be supplied by alternative sources is insufficient to replace the sole source aquifer should it become contaminated.

For purposes of the Sole Source Aquifer program, an "aquifer" may be a part of an aquifer, an entire aquifer, or an aquifer system. An aquifer system may be designated a "sole source aquifer" if all aquifers in the system are hydrogeologically connected.

The petition to designate the entire island of Molokai as a sole source aquifer was filed by Sarah Sykes in 1993. The petition acknowledged that aquifer boundaries are not known and proposed a "broad-brush agreement that there is basically only one hydrogeologically-linked aquifer underlying Moloka'i."

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Proposed projects with Federal financial assistance that have the potential to contaminate sole source aquifers are subject to EPA review by a ground water specialist. Examples of projects that might be subject to review include highways, wastewater treatment facilities, construction projects that involve storm water disposal, public water supply wells and transmission line, agricultural projects that involve the management of animal waste, and projects funded through Community Block Grants. Project reviews can result in:

- EPA requirements for design improvements, ground water monitoring programs, maintenance and educational activities that would not otherwise occur; or
- District technical assistance, by identifying specific activities that may lead to ground water contamination. In addition, technical assistance usually involves site-specific coordination of ground water protection activities among State and local environmental and public health protection agencies.

To reiterate, no Federal financial assistance is contemplated for any part of the Lā'au Point project and therefore the Sole Source Aquifer program is not applicable to Lā'au Point.

In response to your comment above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Moloka'i's 'Sole Source Aquifer' Designation."

3. *Because it has only a single aquifer, Molokai's drinking water supply is inherently limited. In addition, water use and withdrawals in one part of the aquifer affect water quality and discharge in other areas. Current demand is already taxing remaining supply, and water quality has decreased as pumping has increased.*

Response: To meet its potable water needs, MPL has committed to using only existing sources in amounts that are already permitted. In other words, a determination has already been made that the use of 1.018 mgd from Well 17 and water collected in Molokai Ranch's Mountain Water System will not interfere with DHHL's existing permits and reservation.

In response to your comments above, as well as to address other questions and concerns received regarding water issues, Section 4.9.2 (Water) in the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the sections of the attachment titled, "Explanation of Moloka'i Aquifer Systems Geology," "Prior Studies by USGS on the Capacity of the DHHL Wells," and "Additional Information on the Kākalahale Well."

4. *Based on threats to Molokai's water resources, in 1992, the State Commission on Water Resource Management designated the entire island a Ground Water Management Area (GWMA). Molokai is the only GWMA in Hawaii that encompasses an entire island. This means that all new or changing uses of ground water will be strictly regulated through water use permits.*

Response: Criteria for designating a ground water management area are set forth in HRS § 174C-44. The Water Commission will designate a groundwater management area if:

1) Actual water use or "authorized planned use" will cause the maximum rate of withdrawal from that groundwater source to reach ninety percent of the sustainable yield;
2) The Department of Health determines that there is actual or threatened water quality degradation;
3) The Water Commission believes, based on evidence of excessively declining groundwater levels, that regulation is necessary to preserve the ground water supply for the future;
4) Existing withdrawals of groundwater are endangering the stability or optimum development of the ground water body due to upconing or encroachment of salt water. Although the amount of water withdrawn may be well within the sustainable yields, the rates, times, spatial patterns, or depths of the withdrawals may nevertheless degrade the water source;
5) Chloride contents of existing wells are increasing to levels which materially reduce the value of their existing uses;
6) There is excessive and preventable waste occurring;
7) There are serious disputes about the use of groundwater resources; or
8) Water development projects that have received other governmental approvals would result in any of the above conditions.

The entire island of Moloka'i was designated as a groundwater management area for a combination of reasons. There is no indication that current withdrawals are threatening the health of any of the aquifers. Rising salinity levels in some of the wells appear to be localized phenomena associated with particular wells and not an indication of general aquifer degradation.

The total sustainable yield for groundwater resources on Moloka'i, which is established by the Water Commission, is 81 mgd. For planning purposes, the Moloka'i Water Working Group used 33.5 mgd as the developable yield of potable water on the island. Of the 81 mgd, less than 10 mgd is currently used.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Moloka'i Designated a Ground Water Management Area."

5. *At the date of designation, Molokai's population was expected to grow 20% from 1990 to 2000. Increased water withdrawals over that period led to rising chloride levels in many of the wells. As noted by USGS, by 2006, the Maui County Board of Water Supply was forced to consider drilling more wells to increase supply and better distribute pumping.*

Response: Rising salinity in certain Moloka'i wells appear to be related to local phenomena associated with particular wells. In particular, the concentrated pumpage of the two DHHL wells (Well Nos. 0801-01 & 02), the County DWS well (Well No. 0801-03) appear to be the cause of chloride rise in these wells.

The DHHL and DWS wells are closely grouped and poorly located relative to each other. All three wells have upgradient/downgradient effects when the DWS well is running while one or the other of the DHHL wells is also operating. A 20 mg/L chloride rise – to levels of about 100 mg/L – in the DHHL wells was an almost immediate response to the start of pumping of the

DWS Kualapu'u well in 1991. Chloride levels appear to have been stabilized in all three wells at the higher level.

Well 17 has been in use from 1952 to the present. There has never been a chloride response in the DHHL wells since they began operating in 1961 and 1981, or in DWS well since it began operating in 1991as a result of pumping the Well 17, even during periods of extended (continuous) pumpage of Well 17 at a 1750 gpm pumping rate (2.5 mgd). The fact that chloride levels for Well 17 have remained stable at about half (or less) the levels in the DHHL and DWS wells is further evidence that pumpage of Well 17 is not producing a chloride response in the DHHL/DWS wells, and vice versa.

The rising chloride levels in Kawela Shaft and 'Ualapu'e Shaft appear to be the result of localized phenomena, and the USGS and Maui County are exploring redistributing and increasing withdrawals to other locations, including locations within the Kawela and 'Ualapu'e aquifers.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Prior Studies by USGS on the Capacity of the DHHL Wells."

6. *In addition to shortages in the County system, there is currently a moratorium on new water meters for agricultural users serviced by the Molokai Irrigation System (MIS). Evidently, there is not enough water in the MIS' system to service its users, so no more meters will be allowed.*

Response: MPL is not privy to the reasons for such a moratorium. The State Department of Agriculture's *Agricultural Water Use and Development Plan*, December 2003 (Revised December 2004), includes a chapter on challenges and solutions for the MIS.

7. *The bottom line is that the Water Commission's designation of Moloka'i's sole source aquifer as a GWMA, USGS's 2006 report, and MIS's moratorium on water meters raise serious questions about whether there is enough water on Moloka'i now to supply current uses, let alone future expansion as is proposed by your DEIS for Lā'au Point.*

Response: MPL believes that there is ample ground and surface water to meet DHHL's and the County's needs while still supporting MPL's plans for all of its lands. MPL's Water Plan does not adversely affect either DHHL's or the County's ability to develop the water resources they need for future uses.

MPL has committed to using only existing sources, at currently permitted amounts, to meet all of the potable water needs for its current water customers and MPL's future developments proposed under the Master Land Use Plan. A new non-potable source is being proposed. Currently permitted uses for potable water from Well 17 include more than 600,000 gpd for irrigation uses. When non-potable water from the Kākalahale Well becomes available, those irrigation uses that are now supplied with potable water will utilize the new non-potable source, thus freeing up sufficient potable water to meet the demands of the Lā'au Point development.

The Kākalahale Well, the proposed new source of non-potable water, is situated where it is unlikely to have a measurable impact on the existing DHHL and DWS wells in Kualapu'u. First, the Kākalahale Well is down- and across-gradient from the DHHL and DWS wells. Second, the Kākalahale Well is approximately 12,200 feet (2.31 miles) away from the DHHL and DWS wells; at that distance, it is unlikely that pumping 1 mgd will create a measurable effect. Third, there are known subsurface intrusives between the Kākalahale and DHHL/DWS well sites, namely Pu'u Kākalahale and Pu'u Luahine, which are barriers to ground water flow.

The Kākalahale Well was developed in 1969 as a drinking water well for the Kaluako'i Resort. However, due to the brackish quality of the water, the well was never put into production. Relative to its distance inland, chlorides of the Kākalahale Well are anomalously high. This anomaly is explained, however, by the presence of upgradient subsurface intrusives, i.e., the subsurface "plumbing" of Pu'u Kākalahale, which function as barriers to normal mauka-to-makai flow of groundwater. The upgradient intrusives, which create the brackish result in the Kākalahale Well, also function to limit the effect of pumping the Kākalahale Well on other wells upgradient of the intrusives, such as the DHHL and DWS wells in Kualapu'u.

Additionally, it is highly unlikely that withdrawing 1 mgd from the Kākalahale Well will have an adverse impact DHHL's ability to access its reservation amount from the Kualapu'u aquifer. For DHHL to develop its 2.905 mgd reservation in the Kualapu'u aquifer, new and appropriately spaced wells east of the existing DHHL/DWS well field will be required. All of these new wells will be upgradient of the known subsurface intrusives, Pu'u Kākalahale and Pu'u Luahine. These subsurface intrusives create a barrier to groundwater flow, benefiting wells that are upgradient of the intrusives and adversely impacting the wells downgradient of the intrusives. They also limit the impact that wells on one side of the intrusives have on wells on the other side of the intrusives.

The Kākalahale Well will be down- and across-gradient, and on the downstream side of known intervening intrusive structures, from any wells that DHHL is likely to develop to access any part of its 2.905 mgd reservation. Therefore, an adverse impact on future DHHL wells is highly unlikely.

Additionally, desalinization is an alternative source of water that becomes increasingly viable with technological advances.

To ensure water availability to all, MPL, DHHL, and Maui County DWS are working cooperatively to coordinate future water development plans with the assistance of the USGS. It is anticipated that by proper placement of wells, the needs of DHHL, the County, and MPL for the foreseeable future can all be met at reasonable costs to the respective parties.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown as shown on the attachment titled, "Revised Section 4.9.2 (Water)."

8. *Moreover, the increased use of existing or new wells, including the wells potentially available to serve the proposed project, will affect ground water levels and the discharge of water into nearshore marine waters, which are critical to support traditional and customary native Hawaiian rights and practices in this area, as discussed below. Any final EIS must examine and address these critical issues.*

Response: It is not disputed that withdrawals from any basal aquifer on Moloka'i will affect ground water levels and alter ground water discharge at the shoreline. The issues that must be addressed are whether these impacts – to existing wells or to shoreline discharges – are harmful to natural resources or to humans who depend on these resources.

A discussion of the impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u, the DHHL reservation in Kualapu'u Aquifer, increasing chlorides in existing wells, and ground water discharge along shoreline was previously provided in response to #3 above.

In addition, please refer to the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Additional Information on the Kākalahale Well."

9. *B. The DEIS fails to analyze impacts on native Hawaiian rights, practices, and culture.¶The Court further ruled that an applicant bears the burden of proving that its use will not abridge or deny native Hawaiian traditional and customary rights. In re Wai'ola O Moloka'i. Inc., 103 Hawai'i 401. In this case, you have failed to affirmatively demonstrate that the withdrawal of water as proposed in your DEIS will not negatively affect traditional and customary rights and practices guaranteed by Hawai'i's Constitution.*

Response: Pages 130 – 131 of the Cultural Impact Assessment (Appendix F of the Draft EIS) discusses with regard to the potential cultural impact of withdrawing 1 mgd of brackish water from the Kākalahale well, in part, as follows:

> • **Impact on the Ocean**
> Marine resources need infusion of fresh water to spawn. The findings in the Waiola Case provide relevant information on the potential impact of the pumping of 1,000,000 gallons of brackish water a day can have on the marine resources makai of Kākalahale. The findings were based on the pumping of 1.25 mgd of ground water and thus the impact would be less than that projected in the Waiola Case.
>
> Ground-water models showed that pumping 1.25 mgd of ground water would reduce ground-water flux to the nearshore area by about 3% to 15%. At that magnitude, the resultant change in salinity in the fishponds would be virtually indistinguishable from the initial values.
>
> Native Hawaiians gather limu and other marine resources all along the southern and eastern coastline of Molokai, including the shoreline area of the Kamiloloa Aquifer. They do not confine their gathering activities to areas within their ahupua'a of residence.

Appendix P of the Draft EIS, discusses the water plan in greater detail.

As a first step in finding solutions for the sustainable use of water on Moloka'i, MPL met in September 2006 with the major managers of water resources on the island - Department of Hawaiian Homelands (DHHL), the County of Maui; Kawela Plantation Homeowners, the United States Geological Services (USGS) and the Commission on Water Resource Management. At the meeting, the USGS agreed to conduct a comprehensive modeling analysis of the water resources of the island in order to determine the annual sustainable yield.

10. *The DEIS also fails to analyze how increased pumping from the Kakalahale well will impact discharge to nearshore waters. Based on the analysis and data in the USGS report, "discharge to [some] fishponds and springs decreases in response to increased withdrawal." USGS Report at 47. You have neglected to provide sufficient analysis for the LUC to satisfy its duty to protect our traditional and customary rights.*

Response: We responded to this comment in #8 above. In addition, please refer to the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Additional Information on the Kākalahale Well."

11. *In addition. to reducing the discharge of fresh water to nearshore areas and impacting limu and fisheries, plopping 200 luxury homes and their residents on Lā'au will severely hamper if not effectively destroy the ability of native Hawaiians to continue to exercise traditional practices in and around this area. Hawaiian culture extends far beyond physical practices, such as catching fish or gathering limu. In order to exercise traditional customs in a pono manner, practitioners require the space and privacy to carry out ceremonies, rituals, and spiritual practices that are the foundation for and heart of Hawaiian culture. Without this spiritual aspect, our practices become empty. Put simply, traditional practices lose their mana if millionaire residents are peeping through their windows and snapping photos. Your proposed development of Lā'au will rob this sacred place of its spiritual integrity and discourage many local practitioners from even attempting traditional practices in this area. These impacts must be considered in your final EIS.*

Response: Extraordinary measures will be taken by the Moloka'i Land Trust in cooperation with the homeowners, to work with the longtime residents of Maunaloa and longtime ranch cowboy and employee families to protect subsistence hunting and fishing. These measures will also protect the quality of the cultural sites, complexes and resources.

During the planning process for the Master Plan, the persistence of subsistence on Moloka'i was of central significance. The Cultural Impact Assessment report (Appendix F of the Draft EIS) refers to the measures outlined in the Master Plan to protect subsistence fishing and hunting in the proposed development area (page 113) as follows:

> ***Subsistence Fishing and Hunting***
> The recognition of Native Hawaiian subsistence rights, and protecting for the community, the hunting and fishing resources of the island, by:
> - Seeking to establish a subsistence fishing zone from the coast to the outer edge of the reef or where there is no reef, out a quarter mile from the shoreline along the 40 mile perimeter of the property.
> - Ending commercial hunting, and allowing only the community to hunt on the property.
> - Ensuring access to the shoreline will be available only by foot.

The report provides details of the plan to protect subsistence fishing and gathering from p. 118 through 121 and to protect subsistence hunting from p. 121 through p. 122. In addition, access will be managed to protect subsistence resources as discussed in section 5.2 - pp. 116 - 118 as follows:

5.2 Access and Trails
Subsistence fishermen and gatherers felt very strongly that opening access to the general public would lead to the depletion of marine resources. They observed that when Hale O Lono was opened the lobsters went. Subsistence fishers and gatherers involved in developing the master land use plan and the informants interviewed for this report were concerned if the area is opened up, that the community will keep going into the area until there is nothing left. They honestly believe that if access to the area is opened up every 1500 feet, the resources will be gone. More people are fishing now than before. There are more fishermen with better equipment. It will be ruined if vehicles are allowed to access the area every 1500 feet. The subsistence fishers and gatherers felt that the walk will be and important measure to better protect the area. They also felt that the provision of two access points and parking at either end of the development will afford sufficient access for subsistence fishers and gatherers.

Informants felt that overnight surf casting and pole fishing could be allowed but that camping should not be allowed in the reserve area. This is the policy implemented by The Nature Conservancy at their Mo'omomi Preserve.

Guidelines in the Community-Based Master Land Use Plan for Molokai Ranch
General Access

- Access on both MPL and Moloka'i Land Trust lands will be managed.
- Hawaiian Access Rights be enshrined on the property titles for both MPL lands and Land Trust lands.
- Non-Hawaiian access will be determined by the landowner.
- Hunting methods (rifle or bow) and game seasons are as confirmed on the Hunting Map.

Access and Use of Cultural Sites

- Sites can be accessed to fulfill traditional and customary Native Hawaiian responsibilities for cultural, religious, and subsistence purposes.
- Education and training activities can be organized through the kahu or the resource manager.
- In some cases access may be seasonal, such as during the non-hunting season, rainy/muddy season.
- Use of sites and related protocols will vary according to use of the particular site, including but not limited to:
- Monitoring its condition - integrity, boundary and buffer, setting access routes, relation to overall complex or nearby sites and resources. Sites should be assessed once a year during the dry season.
- Work to stabilize and restore sites. A plan for the stabilization and restoration of selected sites should be developed and approved by the State Historic Preservation Office.

- Rededicated for specific spiritual and cultural purposes. Identify sites which have been in continuous use, those which have been rededicated and those which shall be rededicated.
- Access and use of sites should follow protocols established by the Kahu and resource manager.
- Protocols should address manner of approach, entry, use, and exit of site; chants seeking entry and granting entry to sites; appropriate ho'okupu; chants and procedures to stabilize sites.
- Kahu and stewardship resource persons should train stewards in mo'olelo, protocols and responsibilities of stewardship for each site.
- There will be no commercial tours within the boundaries of Nā'iwa (Manawainui-Kahanui) and Ka'ana-Pu'u Nana (Kalaipahoa-'Amikopala) wahi pana.

CC&Rs

- Design a measure to restrict access to foot only between Dixie Maru and Hale O Lono in order to conserve resources, with an acknowledgement of Native Hawaiian gathering rights as defined by law for subsistence purposes, in a designated subsistence management area.
- CC&Rs to reflect community-driven access plan. Walking access only from each end of the subdivision to restrict area for subsistence. No access from road above subdivision in order to restrict for subsistence gathering to ensure that resources are not depleted.
- No parking all through the roads, to prevent parking and access other than at each end which will enhance the subsistence nature of access.

Additional Recommended Guidelines:
Community participants and informants reaffirmed that the Maunaloa community shall be integrally involved in the management and monitoring of access within the Kaluako'i ahupua'a. They also suggest the following additional guidelines.

- Emergency access to the shoreline through the rural-residential subdivision can be afforded for ocean rescues.
- To accommodate kupuna and those with a disability, have a golf cart available to assist their access.
- Do not allow camping in the public access and park area, although access for overnight fishing and surf casting should be allowed. The Nature Conservancy policy which allows overnight fishing can serve as a guideline.

The Cultural Impact Assessment report also provides details of the Master Plan to protect subsistence fishing and gathering from pages 118 through 121 and to protect subsistence hunting from pages 121 through p. 122.

12. *C. The DEIS does not analyze impacts on DHHL's reservation. ¶Your DEIS concedes the possibility that withdrawing 1 mgd from Kakalahale may negatively impact DHHL's existing wells, yet fails to provide the required analysis or consider the environmental and cultural effects of negatively impacting DHHL's wells or reservations. On this basis alone, the LUC should reject any final EIS unless and until this burden has been satisfied.*

Response: We respectfully disagree with this conclusion. To meet its potable water needs, MPL has committed to using only existing sources in amounts that are already permitted. In other words, a determination has already been made that the use of 1.018 mgd from Well 17 and water collected in Molokai Ranch's Mountain Water System will not interfere with DHHL's existing permits and reservation.

A discussion of the impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u, and the DHHL reservation in Kualapu'u Aquifer was previously provided in response to #3 above.

MPL has been working diligently with DHHL and the County of Maui Department of Water Supply (DWS) to find water solutions for Moloka'i's future needs.

Since September of 2006, MPL has attempted to join with DHHL and the DWS in having USGS perform a comprehensive model for the Moloka'i aquifers. USGS is to move forward with a joint study, the terms of which are currently under discussion with all parties.

USGS has recently undertaken a two-dimensional modeling exercise of the Kualapu'u and adjacent aquifers for the Army Corps of Engineers. This study included modeling of the impact of the Kākalahale Well on the DHHL wells. The results, which were outlined in a briefing to all interested parties in late June, indicate that the pumping of 1.0 mgd from the Kākalahale Well would have a negligible effect on the DHHL wells and the Kualapu'u aquifer as a whole. This study is extremely conservative in nature.

The Draft EIS does not include an analysis of the environmental and cultural effects of negatively impacting DHHL's wells or reservations because, by law, MPL is not permitted to do so. Should it be determined that withdrawal of 1 mgd from the Kākalahale Well will adversely impact DHHL's existing wells or its ability to develop its reservation in the Kualapu'u aquifer, MPL will seek to develop alternative sources of water to meet its needs.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)."

13. D. Use of the Kakalahale well will affect ground water levels and salinity in other wells. ¶If MPL has information or analysis to support its assertion that drawing water from Kakalahale will have no impact on Kualapu'u, that information should have been included in the DEIS. Regardless, this deficiency must be addressed in any final EIS and must be resolved before MPL proceeds any further with its development plans.

Response: As set forth in the responses to your questions above, we disagree that use of the Kākalahale well will affect ground water levels and salinity in other wells. All of MPLs information and analysis in this regard is set forth above and in the Draft EIS. We therefore feel that the issue has been sufficiently addressed.

The Water Commission has established separate sustainable yields for each aquifer system. The Kākalahale Well is within the Kamiloloa aquifer; therefore a withdrawal of 1 mgd from the Kākalahale Well will not affect the remaining sustainable yield of the Kualapu'u aquifer.

Separate and apart from the issue of sustainable yields, however, water withdrawals from a well can affect existing wells in the Kualapu'u aquifer and DHHL's ability to withdraw its reservation amount from the Kualapu'u aquifer.

A discussion of the impact of withdrawing 1 mgd from Kākalahale Well on existing DHHL and DWS wells in Kualapu'u, and the DHHL reservation in Kualapu'u Aquifer was previously provided in response to #3 above. Additional discussion is included in the attachment titled, "Revised Section 4.9.2 (Water)."

14. E. MPL has failed to demonstrate how it will transport the water from Kakalahale. ¶These contingency plans fail for two reasons: First, the majority of the existing pipelines are already at or near capacity and in use for transmission purposes; and second, the limited lines that are available for transmission are six inch lines, which are incapable of transporting the amount of water in question. Any final EIS must analyze bow water will be transported frau' Kakalabale to Lā'au, as well as the environmental and/or cultural impacts of such a proposal. MPL's empty claims that they arc "investigating transmission alternatives" to get water from the Kakalahale well to Lā'au Point is simply inadequate.

Response: MPL will be seeking to transmit the Kākalahale brackish water to the West End in a separate pipe and not mix it, prior to transmission, with its existing potable water from Well 17.

MPL will not seek approval to use the MIS system for this water transmission, as stated in the Master Plan and its Water Plan, contained as Chapter 6 within the Master Plan.

MPL intends to seek permission from DHHL, under its current easement agreement, to increase the size of one of its existing two pipes in the easement area to facilitate this transmission.

Under the joint easement agreement with DHHL, both parties need to seek approval from the other for amendments to their existing agreed pipe sizes, but the agreement notes that this approval "cannot be unreasonably withheld."

MPL has initially raised this issue with DHHL, along with a range of issues aimed at ensuring benefits to both parties from future water plans for the island.

To reflect the above information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." The response to this specific comment is incorporated into the attachment. See the section of the attachment titled, "Additional Information on the Kākalahale Well."

15. F. A one percent build rate per year at Lā'au Point is misleading and inaccurate. ¶The proposed build-out rates and corresponding water use proposed for Lā'au Point do not accurately forecast water demand for this project... The DEIS failed to address the likelihood that the build rate will be greater than one percent per year — perhaps closer to last year's 9% build out rate at Pāpōhaku

Highlands — and how any related infrastructure needs, such as water, will be met. Any final EIS must include this analysis.

Response: We believe that our estimated are accurate as they are based on a long-term analyses rather than single year estimates that may be inaccurate over the long-term. We doubt that there is a likelihood that build-out will vary from our projections. Regardless, infrastructure for the project will be constructed prior to build-out.

16. *G. MPL shows a high water use during construction yet neglects to identify a source. MPL mistakenly estimates the build rate at Lā'au Point will be 1% per year. Yet, MPL expects that even this extremely low build rate will require 50,000 to 1,500,000 gpd. DEIS Appendix A (Water Plan) at 120. Erosion protection and control measures will require an additional 50,000 to 100,000 gpd. Construction is projected for two years with erosion control lasting for 7 to 12 years. The DEIS fails to identify where this 100,000 to 1,600,000 gpd of water will come from or analyze any potential or cumulative impacts on natural and cultural resources due to the source or transmission of this water. Any final EIS must account for this omission.*

Response: Water for construction will be from the identified sources at Well 17, the Ranch Mountain system, and Kākalahale Well. Generally, water is applied for based on long-term needs. Water can then be used for construction and dust control while construction is ongoing. When construction is completed, all of the water used for construction will then be used for long-term domestic uses (if potable water) or irrigation.

17. *H. MPL fails to identify a source for the water for its proposed public parks. ¶While the DEIS' Water Plan acknowledges that the public parks at Lā'au Point will require both potable and non-potable water, it neglects to identify the source of such water. DEIS Appendix A (Water Plan) at 120. The final EIS must identify a source and analyze any potential or cumulative impacts on the natural and cultural resources due to the source and/or transmission of this water.*

Response: As with other components of the Lā'au Point project, and, indeed, all components of the Master Plan, potable water for the parks will be supplied from Well 17 and treatment of surface water from Molokai Ranch's mountain water system. Non-potable water will be provided by the mountain water system and the proposed Kākalahale Well. Alternatively, non-potable water may be from reclaimed effluent, reclaimed water from the Pālā'au Shrimp Farm, or desalinated brackish or salt water.

18. *I. The relationship between residency and water use is unclear. ¶MPL claims that only 40% of Pāpōhaku homeowners will be residents. There is no ascertainable relationship between residency or non-residency and water use. A home could be used as a vacation-rental with high-occupancy rates and water use significantly higher than if the home was occupied by a "resident." Moreover, people with more than one home do not necessarily use less water when they are at Lā'au Point. These analyses are unrealistic and make no economic sense, nor do they address how much water will ultimately be needed for this development.*

Response: We note that you refer to "Pāpōhaku homeowners" and we believe you meant "Lā'au Point homeowners."

As discussed in Section 2.3.6 of the Draft EIS, vacation rentals will not be allowed at Lā'au Point. In addition, the CC&Rs will contain water covenants. To minimize water demands, MPL

will use a number of different strategies. Conservation rates that provide financial incentives to customers to conserve water have already begun to be implemented and the effectiveness of these rates have already been manifested. Additionally, covenants on Lā'au Point lots will limit further subdivision of the lots, restrict disturbance of each lot to no more than 30 percent (approximately 1/2-acre), require catchment systems for each residence for irrigation use, and require drip irrigation systems, double flush toilets, and other water conservation devices. To reflect this information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." See the section of the attachment titled, "Lā'au Project Issues."

In addition, Section 2.3.6 (Covenants) of the Final EIS will be amended to include the following:

- **Landscaping and irrigation.** ~~Landscaping~~ Common area irrigation systems ~~will be from~~ will utilize re-use water (treated effluent) from the wastewater treatment plant. ~~or collected in catchments systems;~~ Residential catchment systems may provide landscape irrigation to individual lots and homes. Drinking water will not be used for irrigation of any landscaped areas. ~~only~~ Only drip systems will be permitted for both common area and residential landscaping. Landscaping will be restricted to appropriate native and Polynesian species that are drought-tolerant and suitable for coastal locations; xeriscaping aims to reduce water use.
- **Storage tank.** All houses will be required to have at least a 5,000-gallon storage tank for water captured from roofs.
- **Water covenants.** Requirement of a dual-water system split into safe drinking and non-drinking water; safe drinking water will be limited to 500-600 gpd, or 96,000 gallons per day for potable water in the entire subdivision. Homes will be required to use double flush toilets and specially-designed showerheads for water conservation.

19. *J. Water conservation at Kaluako'i does not relate to Lā'au Point. ¶The Master Plan in section 6.10 (included in the DEIS as Appendix A) fails to explain how water conservation at Kaluako'i will affect water conservation at Lā'au Point There is no proposed base rate, conservation rate, or gallons per day rationed for Lā'au Point in the Master Plan or DEIS. The only hint of this vital information is contained in. the small print narrative for the graph on page 121 of the Master Plan. Why Lā'au Point is estimated to use 600 gallons per day — as compared with the 1,000 -5,000 gallons per day estimated for Kaluako'i — is not explained and does it make any sense. Any final EIS for Lā'au Point must address and define the water needs and projections for the entire project.*

Response: The estimated use of 600 gpd for each Lā'au Point residence relates to potable water use only. Additional non-potable water is anticipated for irrigation uses.

Residences at Lā'au Point, unlike the existing Kaluako'i residences, will be required to use a dual water system (potable and non-potable). Moreover, a number of covenants will be attached to the Lā'au lots that will ensure conservation of potable water. These covenants include:

- Restrictions on further subdivision of lots
- Disturbance of lot limited to no more than 30% (approx. ½acre)
- Restrict water use for irrigation (landscaping)
    - Require re-use and collection/storage systems for catchments
    - Only drip systems permitted for irrigation

- Require all houses to have at least a 5,000-gallon storage tank for water captured from roofs (could be used for irrigation)
- Covenants on drinking water use – designed to ensure an overall maximum drinking water daily use of 500-600 gpd
    - Double flush toilets
    - Specially designed shower heads for conservation
    - Must use dual water system (potable and non-potable)

Water conservation measures at Kaluako'i will impact the overall water use for the West End of the Island. Water conservation measures in one area impact water availability for other areas.

To reflect this information in the Final EIS, as well as to address other questions and concerns regarding water issues, Section 4.9.2 (Water) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)." See the section of the attachment titled, "Lā'au Project Issues."

20. K. The DEIS lacks a serious basis for claiming that water consumption will be moderated. ¶"MPL believes a combination of low occupancy, water conservation education. xeriscaping and tiered water rates will moderate water consumption by these homeowners." DEIS at 81. Believing that millionaires who can afford to buy luxury beachfront homes as a second or third house (Water Plan at 119) will conserve water due to education and a higher water rate is amusing, but fails to rise to the specificity required in an EIS. MPL's tiered water rates are also likely have an insignificant effect on water conservation given the overall capacity necessary to purchase property and build a house at Lā'au. These shortcomings must be addressed in any final EIS.

Response: We respectfully disagree with your comment. The target market for Lā'au Point are people who respect the unique character of the site and of Moloka'i, and who support conservation, cultural site protection, and coastal resource management. Brochures, sales material, and other promotional documents will be reviewed by the Land Trust or the EC for accuracy and adherence to their principles. The intent for Lā'au Point is for it to be a community for people that demonstrate the value of mālama'aina (caring for, protecting, and preserving the land and sea). The project "must be the most environmentally planned, designed, and implemented large lot community in the State." This statement precedes the covenant document determined by the Land Use Committee that will place many restrictions on lot owners. We believe Lā'au Point will participate in water conservation because it will be ingrained in the community character.

Conservation rates are but one means of moderating water consumption. Covenants attached to the Lā'au lots will ensure conservation of water. See #18 and #19 above.

21. L. The contingency plan is inadequate. ¶The contingency plan in Appendix A: Community-Based Master Land Use Plan for Molokai Ranch is inadequate because it fails to provide practicable alternatives. The final EIS must better examine the impacts of current alternatives (including brackish water and desalinization) and explore other options. As just one example, the final EIS must examine the impacts of using brackish water on the chloride content of soils, agricultural operations, and ground water supplies.

Response: Brackish or desalinated water is proposed to be used for irrigation over aquifers which do not currently contain potable quality water. Therefore, there will not be any adverse impact on ground water supplies. Additionally, only plants that can tolerate elevated salinities will be selected.

22. III. The DEIS Fails To Adequately Consider Impacts On The Marine Environment ¶The DEIS neglects to adequately address potential impacts on Class AA waters and their designated uses, including increased erosion and sedimentation from the development of five miles of pristine coastline and the maintenance of 200 luxury lots on land abutting pristine waters. For example, the DEIS does not adequately examine any nonpoint source pollution resulting from this development and corresponding impacts on coral reefs, water quality, and fisheries. What erosion control techniques will be implemented and how will these techniques maintain and protect Lā'au's outstanding water quality and ecological and cultural significance? How will your proposed development impact the nearshore environment? This development will have significant impacts on the marine environment and any final EIS must honestly and thoroughly address these impacts, mitigate them, and consider alternatives to the development. As already detailed in section IIB, all impacts to the marine environment must be considered, including impacts on natural and cultural resources and the traditional and customary native Hawaiian practices reliant upon those resources.

Response: To address your specific comments above in the Final EIS, as well as to address other questions and concerns regarding the marine environment, Section 3.8 (Marine Environment) of the Final EIS will be revised as shown on the attachment titled, "Revised Section 3.8 (Marine Environment)."

The baseline marine biological survey indicates that the area is not particularly unique or sensitive. It is accustomed to episodic inundations of sediment-laden "red water," which the proposed action will reduce. Appendix D of the Draft EIS contains the complete marine biological and water quality baseline survey report. According to their letter dated February 15, 2007, the State Department of Land and Natural Resources, Division of Aquatic Resources confirmed that the methodology of the marine surveys were adequate.

23. IV. Cumulative Impacts ¶Since MPL has made Lā'au Point a part of Moloka'i's master planning effort, any final EIS must necessarily examine all cumulative impacts of the master plan, including future developments such as the re-opening of the Kaluako'i hotel. In 2005, Moloka'i had an average daily visitor count of 955 (Hawaii's Comprehensive Wildlife Conservation Strategy) without the Kaluako'i hotel. What are the impacts of additional tourists at the hotel? Any final EIS must address this issue.

Response: We concur that the DEIS must address cumulative impacts, the secondary and non-physical effects of a proposal and the socio-economic consequences of a proposed action. We have made a good faith effort to prepare an EIS in compliance with Chapter 343 and the underlying regulations found in HAR §11-200-1 et. seq. We concur that the Draft EIS must address cumulative impacts, the secondary and non-physical effects of a proposal and the socio-economic consequences of a proposed action. We have done so to the greatest extent possible in this EIS.

First, the Lā'au Point project was analyzed. The environmental impacts and benefits of this project have been addressed based upon the construction of this project in West Moloka'i.

Second, the Lā'au Point project has been addressed as one component that permits other actions to take place such as (1) the reopening of the Kaluako'i Hotel and (2) affordable housing projects elsewhere. To the extent that the EIS must discuss the impacts of re-opening of the Kaluako'i Hotel, this re-opening is roughly to the same extent that the hotel was operating a few years ago such that the impacts of the hotel at that time are already known.

The impact of not increasing tourism on the island is more relevant as most tourism establishments and tour operators are in serious financial difficulties. This is evidenced by the continual change in ownership at Hotel Molokai, the lack of retained earnings to fund capital improvements, and the losses sustained by the Molokai Lodge and Beach Village.

The impact of the re-opening of the Kaluako'i Hotel will produce no more of an impact than when it was open up until 2001, providing jobs and a stable economy on the West End of the Island, including a viable Maunaloa elementary school and a viable commercial heart for Maunaloa.

Third, the Lā'au Point project is also a part of the *Community Based Master Land Use Plan for Molokai Ranch* (Master Plan). To this extent, each component of the Master Plan really facilitates each other component of the Master Plan. In an overall context, the Master Plan preserves and protects large amounts of acreage on the West end of Moloka'i. The development of Lā'au Point to some degree facilitates this protection and preservation.

Cumulative impacts are restricted to those future actions that are reasonably foreseeable. MPL's development plans are clearly outlined in the Master Plan. MPL has not proposed any new development for Kaluako'i, Maunaloa, or Pāpōhaku that is not addressed already in the Master Plan. Therefore, your speculation on unplanned future development cannot be said to be reasonably foreseeable for the purposes of this EIS.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Attachments:
Revised Section 4.9.2 (Water)
Revised Section 3.8 (Marine Environment)

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

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To Maui County Planning Department,
And Moloka'I Planning Commission

Feb 22, 2007

Re: DEIS for proposed La'au Point 200 lot/ 500-acre subdivision and related Project District
TMK(s) : (2) 5—1-02:30; 5-1-06:157; 5-1-08:04, 03,06,07,13,14,15, 21 & 25.

From: Sierra Club Maui Group
PO Box 791180, Paia, HI 96779

Thank you for extending the time frame for public comments to be received on this very vital decision regarding Moloka'i's future. The Sierra Club Maui Group would like to ask the Maui County Planning Department and Molokai Planning Commission to seriously consider the long term impacts of granting any amendment to the Molokai Community Plan, as well as the other requested zoning changes, special use permits for a wastewater treatment plant and for the rural-residential subdivision requested by the proposed project. We would further suggest that these impacts are not realistically portrayed in the Draft EIS. We wish to be considered a consulted party on this matter.

Background:
There is a good reason that the State Land Use Commission unanimously agreed that the La`au Point development may have a "significant impact" and therefore warranted the preparation of an EIS. It is now your responsibility to insist that this EIS accurately examines the significant impacts that the proposed project will have on Molokai's water resources, infrastructure capabilities, marine resources, socio-economic conditions and the island's traditional lifestyle.

La'au point is a Wahi Pana (celebrated place) from ancient legends. It is well known that powerful currents sweep this part of the island as well as large storm generated surf and fierce winds, all making its use by swimmers and even inexperienced fishers dangerous. The only moderately safe swimming beach in the area is Kaupoa Beach (where the Molokai ranch has it's Beach "tentalows"). According to John Clark's Beaches of Maui County (p83) "Over the years numerous shipwrecks have occurred on the west end of Molokai, especially around La'au Pt. "

Protection of Marine Resources:
The DEIS claims that marine resources in the area will be better protected and managed under the proposed development plan through buffer areas and regulated access.
The remote location of La'au Point is providing a natural management tool for these resources. The shallow reefs of Penguin Banks, are well known for an abundance of sea life, including and limu kohu , ophihi, pipipi, and aama crab that helps sustain the subsistence life style of Molokai residents.

The DEIS makes the same promises of marine resource protection being compatible with the development of a formerly remote area that the citizens of Maui have heard over the last three decades. If there is one site on Maui or Molokai island that can be shown to have improved marine resource or marine environment conditions as a result of past developments, this study should provide actual independent evidence of it to support its claims being being credible. Without this factual evidence, County planning professionals should question the document's conclusions.

Fresh Water Resources

Molokai has a number of constrains on its fresh water supply including degradation of native watershed areas, geologic capacity and natural weather patterns. There has been a long history on Molokai of the large landowners and county and state policy makers assuming that more fresh water was available than was realistically sustainable. Citizens had to take legal action to insist that the island's water resources were not overtaxed. The DEIS does not see water use for the proposed development as presenting any impacts on the claims of subsistence farmers or others for the same water resources.

This simply does not make any sense. Even with sound water conservation planning going into the design of the proposed development, the needs of large luxury homes is likely to include swimming pools, large capacity fixtures and appliances and other demands on potable water. The water needs of Molokai residents and watersheds should be estimated by an independent source to determine if extra water capacity exists for this style of development.

Socio-economic Conditions

The DEIS refers only to the increased economic opportunities that will be generated by the proposed project and the reopening of the Kaluakoi resort that proceeds from La'au Pt are promised to support. To be fair and accurate, it should compare impacts and benefits from similar developments that have occurred elsewhere to the model that is being proposed for La'au. The Makena area of Maui would be a likely comparison as it was a remote region with rugged roads frequented mostly by fishermen before the Kihei Civic Plan was passed in 1970.

Thirty years have passed and although promises were made to care for cultural sites, fishing grounds, water quality and other natural resources, the loss to the public has been great. In Makena 155 acres were protected as a state beach park and almost 1,500 acres as a Natural Area Reserve but the "improved" access to this once remote area and the growth of exclusive luxury home communities has turned these "protected areas" into over crowded tourist traps in the space of around 15 years.

Local families who once lived and fished in the area have been forced to sell their lands due to escalating taxes and the demands of the new residents now dictate what the future shape of the natural lands will be. Local residents have been herded into a few ~~last~~ last beach areas and a way of life that many enjoyed for generations has been lost. These impacts were discussed in Makena Resort's 1974 plan, but the conclusion was that other economic benefits would outweigh them .

Please don't let the same thing happen to the people and lands of Moloka'i.

Lucienne de Naie.

Lucienne de Naie
Conservation Committee
Sierra Club, Maui Group

Molokai Properties Limited

November 1, 2007

Lucienne de Naie
Sierra Club, Maui Group
P.O. Box 791180
Paia, Hawai'i 96779

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. De Naie:

Thank you for your letter dated February 22, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS). We would like to respond to your comments.

1. *Thank you for extending the time frame for public comments to be received on this very vital decision regarding Moloka'i's future. The Sierra Club Maui Group would like to ask the Maui County Planning Department and Molokai Planning Commission to seriously consider the long term impacts of granting any amendment to the Molokai Community Plan, as well as the other requested zoning changes, special use permits for a wastewater treatment plant and for the rural-residential subdivision requested by the proposed project We would further suggest that these impacts are not realistically portrayed in the Draft EIS. We wish to be considered a consulted party on this matter.*

Response: We acknowledge your comments. To formally be considered a "consulted party," you would have had to request this status during the EISPN comment period. Your comments in this letter, however, will be included in the Final EIS.

Background:

2. *There is a good reason that the State Land Use Commission unanimously agreed that the La'au Point development may have a "significant impact" and therefore warranted the preparation of an EIS. It is now your responsibility to insist that this EIS accurately examines the significant impacts that the proposed project will have on Molokai's water resources, infrastructure capabilities, marine resources, socio-economic conditions and the island's traditional lifestyle. ¶La'au point is a Wahi Pana (celebrated place) from ancient legends. It is well known that powerful currents sweep this part of the island as well as large storm generated surf and fierce winds, all making its use by swimmers and even inexperienced fishers dangerous. The only moderately safe swimming beach in the area is Kaupoa Beach (where the Molokai ranch has it's Beach "tentalows"). According to John Clark's Beaches of Maui County (p83) "Over the years numerous shipwrecks have occurred on the west end of Molokai, especially around La'au Pt."*

Response: The Draft EIS has examined the significant impacts the project will have on Moloka'i's water resources (Section 4.9.2), infrastructure (Section 4.9), marine resources (Section 3.8), socio-economic conditions (Section 4.8), and traditional lifestyle (Section 4.2).

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Protection of Marine Resources

3. *The DEIS claims that marine resources in the area will be better protected and managed under the proposed development plan through buffer areas and regulated access. The remote location of La'au Point is providing a natural management tool for these resources. The shallow reefs of Penguin Banks, are well known for an abundance of sea life, including and limu kohu, ophihi, pipipi, and aama crab that helps sustain the subsistence life style of Molokai residents. ¶The DEIS makes the same promises of marine resource protection being compatible with the development of a formerly remote area that the citizens of Maui have heard over the last three decades. If there is one site on Maui or Molokai island that can be shown to have improved marine resource or marine environment conditions as a result of past developments, this study should provide actual independent evidence of it to support its claims being being credible. Without this factual evidence, County planning professionals should question the document's conclusions.*

Response: The cultural impact assessment (Appendix F of the Draft EIS) provides details of the plan to protect subsistence fishing and gathering from p. 118 through 121. In addition, Access will be managed to protect subsistence resources as discussed in section 5.2 - pp. 116 - 118 as outlined above.

In addition, the Land Trust's Shoreline Access Management Plan (SAMP), a community-based and developed set of guidelines, rules, monitoring programs and general principals for the protection and utilization of the cultural, biological and social resources of Lā'au Point, will ensure protection of the marine resources. While an initial draft is provided as a part of the Final EIS, it is intended as an initial governing document based on current knowledge of the cultural, subsistence and biological resources of the site. From a social standpoint it is intended to foster a harmonious and respectful relationship between current users and subsistence practitioners of the area and Lā'au homeowners and new local users of the area. The SAMP will also be incorporated into the CC&Rs.

To reflect the information above in the Final EIS, as well as to address other questions and concerns regarding shoreline management issues, Section 4.3 (Trails and Access) will be revised as shown on the attachment titled, "Revised Section 4.3 (Trails and Access)," and the SAMP will be included as an Appendix to the Final EIS.

Fresh Water Resources

4. *Molokai has a number of constrains on its fresh water supply including degradation of native watershed areas, geologic capacity and natural weather patterns. There has been a long history on Molokai of the large landowners and county and state policy makers assuming that more fresh water was available than was realistically sustainable. Citizens had to take legal action to insist that the island's water resources were not overtaxed. The DEIS does not see water use for the proposed development as presenting any impacts on the claims of subsistence farmers or others for the same water resources. ¶This simply does not make any sense. Even with sound water conservation planning going into the design of the proposed development, the needs of large luxury homes is likely to include swimming pools, large capacity fixtures and appliances and other demands on potable water. The water needs of Molokai residents and watersheds should be estimated by an independent source to determine if extra water capacity exists for this style of development.*

Response: There is no intent to deny any resident's use of water in order to supply water to the Lā'au Point development. MPL has often reiterated its recognition of DHHL's priority rights to water, which is a priority established by law.

MPL believes that there is ample ground and surface water to meet DHHL's and the County's needs while still supporting MPL's plans for all of its lands. MPL's Water Plan does not adversely affect either DHHL's or the County's ability to develop the water resources they need for future uses.

MPL has committed to using only existing sources, at currently permitted amounts, to meet all of the potable water needs for its current water customers and MPL's future developments proposed under the Master Plan. A new non-potable source is being proposed. Currently, permitted uses for potable water from Well 17 include more than 600,000 gpd for irrigation uses. When non-potable water from the Kākalahale Well becomes available, those irrigation uses that are now supplied with potable water will utilize the new non-potable source, thus freeing up sufficient potable water to meet the demands of the Lā'au Point development.

To ensure water availability to all, MPL, DHHL, and Maui County DWS are working cooperatively to coordinate future water development plans with the assistance of the USGS. It is anticipated that by proper placement of wells, the needs of DHHL, the County, and MPL for the foreseeable future can all be met at reasonable costs to the respective parties.

In response to your comments regarding water issues, as well as to address other questions and concerns received regarding water issues, in the Final EIS Section 4.9.2 (Water) will be revised as shown on the attachment titled, "Revised Section 4.9.2 (Water)."

Socio-economic Conditions

5. *The DEIS refers only to the increased economic opportunities that will be generated by the proposed project and the reopening of the Kaluakoi resort that proceeds from La'au Pt are promised to support. To be fair and accurate, it should compare impacts and benefits from similar developments that have occurred elsewhere to the model that is being proposed for La'au. The Makena area of Maui would be a likely comparison as it was a remote region with rugged roads frequented mostly by fishermen before the Kihei Civic Plan was passed in 1970. ¶Thirty years have passed and although promises were made to care for cultural sites, fishing grounds, water quality and other natural resources, the loss to the public has been great. In Makena 155 acres were protected as a state beach park and almost 1,500 acres as a Natural Area Reserve but the "improved" access to this once remote area and the growth of exclusive luxury home communities has turned these "protected areas" into over crowded tourist traps in the space of around 15 years. ¶Local families who once lived and fished in the area have been forced to sell their lands due to escalating taxes and the demands of the new residents now dictate what the future shape of the natural lands will be. Local residents have been herded into a few last beach areas and a way of life that many enjoyed for generations has been lost. These impacts were discussed in Makena Resort's 1974 plan, but the conclusion was that other economic benefits would outweigh them.*

Response: We do not agree with your comparison of Lā'au Point to the Mākena area of Maui. Unlike Mākena, nobody lives at Lā'au Point now, and therefore, there would be no local families forced out of Lā'au Point. Also, the residents of Maui did not undertake a three-year planning process for the Mākena area as the Moloka'i community did for the Lā'au Point project and the

Community-Based Master Land Use Plan for Molokai Ranch (Master Plan). Positive impacts of the project and Master Plan include the donation of 26,200 acres to a Moloka'i Land Trust and Community Development Corporation, restrictive easements on another 24,000 acres of Molokai Ranch land, preservation of cultural and archaeological sites, increased subsistence gathering access, and permanent parks and open space. Appendix A of the Draft EIS contains the Master Plan in its entirety.

Lā'au Point will continue to be accessible along the shoreline. The area will be managed by the Land Trust, as discussed comment #3 above.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Attachments:
Revised Section 4.3 (Trails and Access)
Revised Section 4.9.2 (Water)

cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII

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February 23, 2007

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Comments on the La`au Point Draft Environmental Impact Statement

Peter Nicholas and Molokai Properties Limited:

The main supporting document to the DEIS, entitled *Community –Based Master Land Use Plan for Molokai Ranch, MPL*, is misleading and non-representative of the Molokai Community in that majority of the Molokai people do not support the development of La`au Point, and therefore do not support the plan as it is currently proposed.

This is extremely important considering MPL CEO, Peter Nicholas, as well as representative leaders of Molokai's community, Molokai Enterprise community have publicly promised, on numerous occasions, that **the La`au Point project would not come to pass** if the community did not support it.

Through Political jockeying and a slanted media campaign costing thousands of dollars, MPL has attempted deceive the greater public into believing that Molokai residents support the Master Land Use Plan.

However, numbers speak louder than words.

In September, 2006, Molokai Dispatch staff conducted a poll in which 100 randomly selected respondents were asked if they could support a Master Plan which included the development of La`au Point. Only 14 respondents said they were in support of the plan (See appendix Figure 1).

In an ongoing online poll, respondents were asked again if they supported a Master Land Use Plan which includes the development of La`au Point. This poll currently shows that 66% percent of respondents do not support the development (See appendix Figure 2).

Also posted in September of 2006, an online poll asked if Molokai community members should be given the chance to vote on issues surrounding the Community Based Master Land Use Plan. 82% of people who vote yes proved that the Molokai community indeed wanted the chance to weight in on the development through a public vote (See appendix Figure 3).

In January, the Molokai Enterprise Community (EC) announced a that public vote that would decide who in the community would become the organization's new board members. The EC is widely known as the community's representative and dealmaker in bartering an approval of the La`au development in trade for thousands of acres of the developer's unused land.

In January the Molokai Dispatch posted an online poll asking residents if they'd vote in an EC candidate who supported the development of La`au Point. 67% said they would rather vote in a candidate who supported alternatives to the development (see appendix figure 4).

EC election results on January 31 precisely showed that 68% of voters selected the candidates who clearly said they supported alternatives. The candidates who clearly supported the development and plan only garnered 32% of the vote (see appendix figure 5).

Finally, in section 4.2.4, facilitator Deviana McGreggor finding also support the fact that residents don't support the plan. Of the non-supports, the subsistence gatherers were found to be among the most vocal:

"Those responsible for the future of the land and natural resources of Molokai must weigh the cultural impacts and the benefits of the proposed development in consultation with the people of Molokai who depend upon these resources for subsistence, cultural, and spiritual purposes. In particular, the kama`aina families who have lived in Maunaloa and the Kaluakoi ahupua`a for generations and the long time employees of Molokai

Ranch and their relatives have been the primary users of these resources and will be the most directly affected by the proposed development.
In general, of those people that were interviewed for the cultural impact assessment and those who came to cultural assessment community meetings, many expressed reservations about the proposed development. There were no enthusiastic advocates and the most vocal were opposed to the development."

There is overwhelming proof that the Molokai Community does not support the development of La`au Point. Both the community's leadership and MPL CEO need to hold their promises to Molokai people and rethink their plans for La`au Point.

Todd Yamashita – Molokai Dispatch Editor in Chief

Todd Yamashita 2/23/07

Figure 1 - MOLOKAI DISPATCH RANDOM TELEPHONE POLLING (100 RESIDENTS) - September 2006

Do you support a Master Land Use Plan for Molokai that includes the Development of La`au Point?

- Yes 14% (14 Respondents)
- Undecided 12% (12 Respondents)
- No 74% (74 Respondents)

Total Respondents: 100

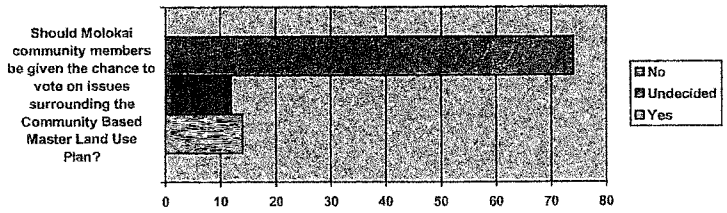


Figure 2 - MOLOKAI DISPATCH ONLINE POLLING - October 2006 to Present

Do you support a Master Land Use Plan for Molokai that includes the Development of La`au Point?

- Strongly Support 17% (37 votes)
- Support 10% (21 votes)
- Neutral or Undecided 7% (16 votes)
- Against 10% (22 votes)
- Strongly Against 56% (120 votes)

Total votes: 216

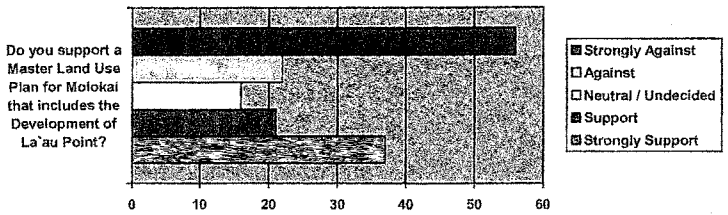


Figure 3 - MOLOKAI DISPATCH ONLINE POLLING - September 2006 to Present

Should Molokai community members be given the chance to vote on issues surrounding the Community Based Master Land Use Plan?

- Yes_____82% (111 votes)
- No_____18% (25 votes)

Total votes: 136

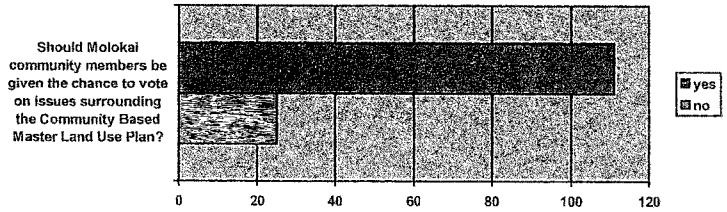


Figure 4 - MOLOKAI DISPATCH ONLINE POLLING - January 2007

How will you vote in the January 31 EC Board Election?

- For a candidate who supports La`au Development_____33% (43 votes)
- For a candidate who supports alternatives to developing La`au Point___67% (89 votes)

Total votes: 132

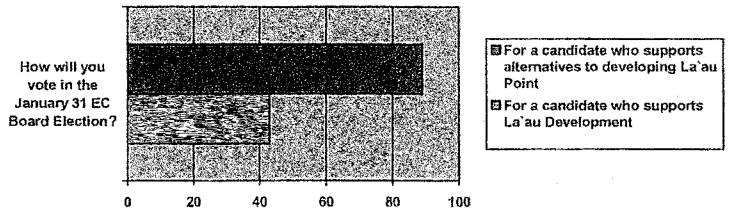
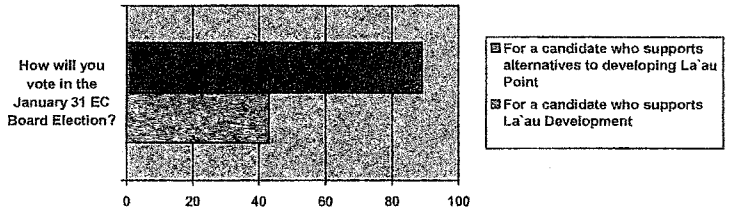


Figure 5 - ENTERPRISE COMMUNITY ELECTION RESULTS - January 31, 2007

Actual results of the January 31 EC election?

- Votes for candidates who openly support the La`au Development_____32% (780 votes)
- Votes for candidates who support alternatives the La`au Development_____68% (1683 votes)

Total votes: 2463 (Voters were allowed two votes each as there were two open seats)



Molokai Properties Limited

November 1, 2007

Todd Yamashita, Editor in Chief
The Molokai Dispatch
P.O. Box 482219
Kaunakakai, Hawai'i 96748

SUBJECT: LĀ'AU POINT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Yamashita:

Thank you for your letter dated February 23, 2007 regarding the Lā'au Point Draft Environmental Impact Statement (EIS).

1. *The main supporting document to the DEIS, entitled Community —Based Master Land Use Plan for Molokai Ranck MPL, is misleading and non-representative of the Molokai Community in that majority of the Molokai people do not support the development of La'au Point, and therefore do not support the plan as it is currently proposed. ¶This is extremely important considering MPL CEO, Peter Nicholas, as well as representative leaders of Molokai's community, Molokai Enterprise community have publicly promised, on numerous occasions, that the La'au Point project would not come to pass if the community did not support it. ¶Through Political jockeying and a slanted media campaign costing thousands of dollars, MPL has attempted deceive the greater public into believing that Molokai residents support the Master Land Use Plan.*

Response: We acknowledge your comments; however, we disagree with your statement stating that we are attempting to deceive the public into believing that Moloka'i residents supporting the *Community-Based Master Land Use Plan for Molokai Ranch* (Master Plan).

There were numerous meetings during the planning process. This community-based planning and involvement is unprecedented for any landowner in the state. We are proud of the achievements that came out of the process, and are thankful of all the hard work and time put in by the participants.

2. *However, numbers speak louder than words. ¶In September, 2006, Molokai Dispatch staff conducted a poll in which 100 randomly selected respondents were asked if they could support a Master Plan which included the development of La'au Point. Only 14 respondents said they were in support of the plan (See appendix Figure 1). ¶In an ongoing online poll, respondents were asked again if they supported a Master Land Use Plan which includes the development of La'au Point. This poll currently shows that 66% percent of respondents do not support the development (See appendix Figure 2). ¶Also posted in September of 2006, an online poll asked if Molokai community members should be given the chance to vote on issues surrounding the Community Based Master Land Use Plan. 82% of people who vote yes proved that the Molokai community indeed wanted the chance to weight in on the development through a public vote (See appendix Figure 3).*

Response: With the diversity of the island, we are aware that not everyone will agree on everything. We also do not consider a random telephone poll of 100 people and online poll to be "overwhelming proof" of anything except the opinion of those specific people.

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3. *In January, the Molokai Enterprise Community (EC) announced a that public vote that would decide who in the community would become the organization's new board members. The EC is widely known as the community's representative and dealmaker in bartering an approval of the La' au development in trade for thousands of acres of the developer's unused land. ¶In January the Molokai Dispatch posted an online poll asking residents if they'd vote in an EC candidate who supported the development of La'au Point. 67% said they would rather vote in a candidate who supported alternatives to the development (see appendix figure 4). ¶EC election results on January 31 precisely showed that 68% of voters selected the candidates who clearly said they supported alternatives. The candidates who clearly supported the development and plan only garnered 32% of the vote (see appendix figure 5).*

Response: We acknowledge your comment about the EC election and results; however, we respectfully disagree with your conclusion that there is a direct correlation between the election results and the project. The EC Board election was not a mandate for the Lā'au Point project.

The election held on January 31, 2007 was for two board members the Moloka'i Enterprise Community (EC) Governance Board. While some candidates ran on platforms that included stances on the proposed development at Lā'au Point, the proposed development at Lā'au Point is not a project of the EC.

The EC facilitated the Master Plan community-based planning process (as discussed in Section 2.1.6 of the Draft EIS), and later voted to support the Master Plan based on the strong recommendation from the Land Use Committee. The EC has also stated that the Master Plan represents the fulfillment at the highest levels of the key principles of the USDA's Empowerment Zone/ Enterprise Community program, which are: 1) Economic Opportunity; 2) Sustainable Community Development; 3) Community-based Partnerships; and 4) Strategic Vision for Change.

A total of 1,284 voters turned out for the January 31, 2007 EC election, casting a total of 2,541 votes (2 votes per person minus 27 abstentions and voided ballots). This turnout, while record-setting for EC elections, represents only 25.6% of Moloka'i residents over 18 (According to the 2000 Census, the Moloka'i population over 18 years of age is 5,015) Bridget Mowat and Leila Stone, who won the two seats and campaigned on an "anti-Lā'au" platform, received a combined 1,683 votes, or 65.5%, equivalent to 841.5 voters. A total of 841.5 voters represent only 16.8% of Molokai's eligible voting age population.

To assume that an election for Board Directors of a private, nonprofit corporation is equivalent to a referendum on the Master Plan or a mandate for the Lā'au Point project, no matter what the candidates' platforms, is not only a misrepresentation of fact on many levels, but can also be seen as an attempt to disenfranchise the other 3,731 eligible Moloka'i residents (74.4%) who did not turn out to vote. The turnout on an actual referendum on the Master Plan could well have had extremely different results.

A community vote on the Master Plan never occurred; there is no provision for one. Regulatory organizations are charged with making the decisions on entitlement issues such as with Lā'au Point. The EC election was for Board Directors that have no such regulatory power.

4. *Finally, in section 4.2.4, facilitator Daviana McGreggor finding also support the fact that residents don't support the plan. Of the non-supports, the subsistence gatherers were found to be among the most vocal: ¶"Those responsible for the future of the land and natural resources of Molokai must weigh the cultural impacts and the benefits of the proposed development in consultation with the people of Molokai who depend upon these resources for subsistence, cultural, and spiritual purposes. In particular, the kama'aina families who have lived in Maunaloa and the Kaluakoi ahupua'a for generations and the long time employees of Molokai Ranch and their relatives have been the primary users of these resources and will be the most directly affected by the proposed development. In general, of those people that were interviewed for the cultural impact assessment and those who came to cultural assessment community meetings, many expressed reservations about the proposed development. There were no enthusiastic advocates and the most vocal were opposed to the development" ¶There is overwhelming proof that the Molokai Community does not support the development of La'au Point. Both the community's leadership and MPL CEO need to hold their promises to Molokai people and rethink their plans for La'au Point.*

Response: Once again, we disagree with your conclusion of "overwhelming proof" that the Moloka'i community does not support the project.

MPL still maintains that the majority of the community, and in particular those from the ahupua'a, do support the Master Plan and its contingent parts.

As with any new proposal, and with change, some people will feel threatened by a change in lifestyle that they fear that change will bring. Many people fought the advent of Kaupoa Camp in the 90s. However, now its establishment has provided jobs for the community, and every quarter, the camp is available at $25 per person per night for the community to enjoy. Many community members take advantage of that offer, including some of the same people who fought the establishment of Kaupoa a decade ago.

Thank you for reviewing the Draft EIS. Your letter will be included in the Final EIS.

Sincerely,

Peter Nicholas
President and CEO
Molokai Properties Limited

Cc: Anthony Ching, State Land Use Commission
Office of Environmental Quality Control
Jeff Hunt, Maui Planning Department
Thomas S. Witten, PBR HAWAII