



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
 Stream Protection and Management Branch

FIELD INVESTIGATION REPORT
FI2008111803 (East Maui, Lakini and Kualani)

Date of Field Investigation:	November 18, 2008	Time (24-hour):	1030 - 1500
CWRM Staff:	Ed Sakoda, Dean Uyeno, and Chui Ling Cheng		
Individuals Present:	DAR - Skippy Hau; Wailua Valley - Ed Wendt and Carl Wendt		
Hydrologic Unit:	Waiokamilo (6055)		
Stream Name:	Kualani Stream		

Findings:

The purpose of the field visit was to get a better understanding of the Lakini taro patch, its auwai, and Kualani Stream. At 1030 hours, CWRM staff, Skippy, Ed and Carl Wendt arrived at the Hana Highway bridge that crosses Waiokamilo Stream and Kualani Stream. Staff took photographs of both streams upstream and downstream from the bridge. The streams had high flows from the heavy rain*. Downstream from the bridge, Kualani Stream is diverted at Dam 4 for the Na Moku Project taro loi. Kualani Stream continues to flow downstream from the bridge for about 80 feet and then merges with Waiokamilo Stream. Staff walked down Wailua Road from Hana Highway to see the auwai for the Na Moku Project. Water that exits the Na Moku Project taro lois, continues under Wailua Road to more taro fields in the valley.

The next destination was the Lakini taro patch. Kikokiko Falls on Waiokamilo Stream could be seen while walking up the taro patch from Hana Highway. At the end of Lakini is Dam 1 where Kualani Stream is diverted for the taro patch. Dean Uyeno and Ed Wendt continued to hike up Kualani Stream from the dam for another 200 feet. The streambank was heavily vegetated with California grass. Photos were taken at the point where water diverted from Waiokamilo Stream (at Dam 2) enters Kualani Stream. Dean continued further upstream past the inflow from Waiokamilo, however the area was heavily overgrown with California grass and difficult to continue further. Kualani Stream is relatively small, however water was flowing beneath the California grass. Upon their return, the group walked to the concrete diversion box near Lakini. Water outflow from Lakini flows under Hana Highway to a concrete junction box which distributes the water into an Upper Ditch, Lower Ditch, and a third ditch for the Wailua taro patches. At the time of this visit, water to the Upper Ditch was blocked off by a wooden board. Carl Wendt indicated that normal water flow is insufficient to meet the water needs to taro loi serviced by the upper ditch.

At approximately 1330, everyone arrived at Wailua Valley State Wayside. Following Ed and Carl Wendt, CWRM staff and Skippy hiked mauka along the service road to Wailua Valley in search of Kualani Stream. The service road continues in an open pasture where Kualani Stream crosses. That part of the stream is very narrow and overgrown with vegetation. Then, everyone hiked into the forest and found Kualani Stream. Dean Uyeno, Chui Ling Cheng, and Skippy Hau continued to hike upstream along Kualani Stream to Kualani Falls. CWRM staff was not able to take GPS coordinates of the waterfall because the satellite signal was blocked by the mountain. From the waterfall, CWRM staff and Skippy hiked downstream and met up with the rest of the group. The group continued to hike downstream until the stream reaches the open pasture near the service road.

Staff left Wailua Valley State Wayside at 1500 hours, and continued to document high flows in Wailuanui Stream. Refer to Field Investigation Report FI2008111804 (East Maui, Wailuanui, high flow) for more information.

*Heavy rain fell on East Maui on the morning of Nov. 18. USGS rain gage (Station 204916156083701) in West Wailuaiki near Keanae recorded 1.8 inches of rain on Nov 18, and 0.82 inches on Nov. 19. Most of the rain fell on the early morning of Nov. 18, between 12AM and 3:30AM. The nearest USGS active stream gage with real-time data is located on West Wailuaiki Stream (Station 16518000). At approximately 12:00AM on Nov. 18, discharge in West Wailuaiki Stream began to increase from 2.7CFS to a peak flow of 2,010 CFS at 9:45AM. By Nov. 26, streamflow returned to 3.7 CFS. Refer to FI2008111801 (East Maui, Palauhulu, high flow) for real-time rainfall and discharge graphs.

Image Listing: (Attach PDF of image contact sheet)

<u>File Name:</u>	<u>Brief Description:</u>
20081118015	Waiokamilo Stream downstream from Hana Highway.
20081118017	Waiokamilo Stream downstream from Hana Highway.
20081118019	Waiokamilo Stream upstream from Hana Highway.
20081118021	Waiokamilo Stream upstream from Hana Highway.
20081118022	Kualani Stream downstream from Hana Highway.
20081118024	Kualani Stream upstream from Hana Highway.
20081118026	Kualani Stream upstream from Hana Highway.
20081118028	Bridge on Hana Highway that crosses Waiokamilo Stream and Kualani Stream.
20081118029	Dam 4 of the auwai for the Na Moku Project, downstream from Hana Highway.
20081118030	Kualani Stream and the auwai for the Na Moku Project, downstream from Hana Highway but upstream from Dam 4.
20081118031	Auwai for the Na Moku Project, downstream from Hana Highway.
20081118032	Kualani Stream and the auwai for the Na Moku Project, downstream from Hana Highway but upstream from Dam 4.
20081118033	Auwai for the Na Moku Project, downstream from Hana Highway.
20081118034	Confluence of Kualani Stream and Waiokamilo Stream downstream from Hana Highway.
20081118038	Auwai for the Na Moku Project, downstream from Hana Highway.
20081118045	Lakini taro patch.
20081118049	Dam 1 upstream of the Lakini taro patch. Kualani Stream flows into the auwai for Lakini.
20081118051	Kualani Stream upstream of Dam 1.
20081118052	Kualani Stream upstream of Dam 1.
20081118055	Kualani Stream upstream of Dam 1.
20081118057	Kualani Stream upstream of Dam 1.
20081118058	Kualani Stream upstream of Dam 1.
20081118059	Concrete diversion box downstream of Hana Highway.
20081118061	Concrete diversion box downstream of Hana Highway.
20081118065	Taro patches in Wailua Valley.
20081118066	Kikokiko Falls on Waiokamilo Stream.
20081118068	Kualani Stream upstream from Hana Highway.
20081118070	Kualani Stream upstream from Hana Highway, on the way to Kualani Falls.
20081118071	Kualani Stream upstream from Hana Highway, on the way to Kualani Falls.
20081118072	Kualani Falls on Kualani Stream.
20081118075	Kualani Falls on Kualani Stream.

GPS Listing:

Shapefiles: (List file names of all shapefiles created and a brief description of each)

<u>File Name:</u>	<u>Brief Description:</u>
FI20081117wp.shp	Waypoints recorded during the field visit from Nov. 17-19, 2008.

Waypoints: (List all waypoints in decimal degrees and provide a brief description of each)

<u>WP No.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Brief Description:</u>
009	20.84859886	-156.13569514	Dam 4 on Kualani Stream to divert water to the Na Moku Project
010	20.84718358	-156.13481705	Water from the Na Moku Project auwai flows under Wailua Road
011	20.84544727	-156.1391966	Downstream auwai outflow from Lakini taro patch
012	20.84506379	-156.13927924	Upstream auwai outflow from Lakini taro patch
013	20.84485651	-156.13977679	Main auwai intake to Lakini taro patch that splits to upper and lower taro patches
014	20.8444613	-156.14018273	Dam 1 on Kualani Stream diverting water for Lakini taro patch
015	20.84361129	-156.14040786	Inflow to Kualani Stream from Waiokamilo Stream
016	20.84523194	-156.13900892	Concrete diversion box below Hana Highway
017	20.8388057	-156.14144512	Kualani Stream crossing the service road

Attachments:

- Brief Description:**
 1. Image Contact Sheet

Recommendations:

Flagging tape of a different color. Staff used yellow flagging tape to mark the trail to Kualani Stream. However, the tape cannot be easily distinguished from the trees in the forest.

IMAGE CONTACT SHEET



20081118015.JPG



20081118017.JPG



20081118019.JPG



20081118021.JPG



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20081118024.JPG



20081118026.JPG



20081118028.JPG



20081118029.JPG



20081118030.JPG



20081118031.JPG



20081118032.JPG

IMAGE CONTACT SHEET



20081118033.JPG



20081118034.JPG



20081118037.JPG



20081118038.JPG



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20081118049.JPG



20081118051.JPG



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20081118058.JPG



20081118059.JPG

IMAGE CONTACT SHEET



20081118061.JPG



20081118065.JPG



20081118066.JPG



20081118068.JPG



20081118070.JPG



20081118071.JPG



20081118072.JPG



20081118075.JPG