

**EAST MAUI INTERIM INSTREAM FLOW STANDARDS (Stream listed from West to East)**

Stream Name	Interim IFS Amounts				Restoration Amounts <sup>1,2</sup>				Amount EMI diverted <sup>3,4</sup>				Flow calculations based on USGS flow values for target habitat restoration <sup>5</sup>						Altitude feet	Notes on Interim IFS Location
	Wet Season		Dry Season		Wet Season		Dry Season		before IIFS was set		after IIFS was set		Natural (Undiverted)		Minimum flow for H90		Divertible flow remaining			
	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd	cfs	mgd		
Honopou – Site A	2.00	1.29	(Annual)		1.87	1.21	(Annual)		Unknown		Unknown		--	--	Unknown		Unknown		383	IIFS is located on Honopou Stream downstream of Haiku Ditch. IIFS is located on Honopou Stream near 40 feet elevation. Target habitat restoration values for Honopou Stream were not included in the USGS study (Gingerich, 2005), thus values are unknown.
Honopou – Site B	0.72	0.47	(Annual)		--	--	(Annual)		Unknown		Unknown		--	--	Unknown		Unknown		40	
Huelo (Puolua)	0.89	0.57	(Annual)		0.89	0.57	(Annual)		Unknown		Unknown		--	--	Unknown		Unknown		420	IIFS is located on Huelo (Puolua) Stream downstream of Haiku Ditch. IIFS is located on Hanehoi Stream downstream of Haiku Ditch. IIFS is located upstream of Lowrie Ditch and diversion for Huelo community. Target habitat restoration values for Hanehoi and Huelo Streams were not included in the USGS study (Gingerich, 2005), thus values are unknown.
Hanehoi – Site B	0.63	0.41	(Annual)		0.63	0.41	(Annual)		Unknown		Unknown		--	--	Unknown		Unknown		420	
Hanehoi – Site C	1.15	0.74	(Annual)		1.15	0.74	(Annual)		Unknown		Unknown		--	--	Unknown		Unknown		690	
Waikamoi	2.80	1.81	0	0	2.60	1.68	0	0	5.40	3.30	2.50	1.62	6.60	4.27	4.20	2.72	2.40	1.55	550	IIFS is located below the Manuel Luis Ditch diversion, just above Hana Highway, and below the confluence of Waikamoi and Alo Streams.
Alo	--	--	--	--	--	--	--	--	1.50	0.97	1.50	0.97	--	--	--	--	--	--	--	One measurable IIFS established for Waikamoi Stream below the confluence with Alo Stream
Wahinepee	0.50	0.32	(Annual)		--	--	(Annual)		Unknown		Unknown		0.90	0.58	0.58	0.38	0.32	0.21	575	IIFS is located just above Hana Highway, as designated on October 8, 1988
Puohokamoa	0.40	0.26	(Annual)		--	--	(Annual)		8.40	5.43	8.40	5.43	8.40	5.43	5.40	3.49	3.00	1.94	565	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Manuel Luis Ditch diversion.
Haipuaena	0.10	0.06	(Annual)		--	--	(Annual)		4.40	2.84	4.40	2.84	4.30	2.78	2.80	1.81	1.50	0.97	510	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Manuel Luis Ditch diversion.
Punalau/Kolea	0.20	0.13	(Annual)		--	--	(Annual)		3.90	2.52	3.90	2.52	3.90	2.52	2.50	1.62	1.40	0.91	40	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Manuel Luis Ditch diversion.
Honomanu	0	0	(Annual)		--	--	(Annual)		2.80	1.81	2.80	1.81	2.80	1.81	1.80	1.16	1.00	0.65	20	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Spreckels Ditch diversion.
Nuaailua	3.10	2.00	(Annual)		--	--	(Annual)		0.28	0.18	0.28	0.18	0.28	0.18	0.18	0.12	0.10	0.07	110	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Spreckels Ditch diversion.
Piinaau	Status quo		--	--	--	--	(Annual)		Unknown		Unknown		Unknown		Unknown		Unknown		110	IIFS is located just above Hana Highway. No flow data; landslide also complicates estimates.
Palauhulu	5.50	3.56	(Annual)		0.70	0.45	(Annual)		3.40	Unknown 2.20	2.7	1.75	3.40	2.20	2.20	1.42	1.20	0.78	80	IIFS is located just above Hana Highway, upstream from its confluence with Piinaau Stream. Flow estimate is directly downstream of the Koolau Ditch diversion.
Ohia (Waianu)	4.60	2.97	(Annual)		--	--	(Annual)		--	--	--	--	4.70	3.04	3.00	1.94	1.70	1.10	195	Just above Hana Highway, as designated on October 8, 1988
Waiokamilo	4.9	3.17	(Annual)		--	--	(Annual)		0	0	0	0	3.90	2.52	2.50	1.62	1.40	0.91	420	Between Koolau Ditch and its confluence with Kualani Stream
Kualani (Hamau)	Status quo		--	--	--	--	(Annual)		Unknown		Unknown		Unknown		Unknown		Unknown		--	Tributary of Waiokamilo Stream
Wailuanui	3.05	1.97	(Annual)		2.05	1.33	(Annual)		4.50	2.91	2.45	1.58	4.50	2.91	2.90	1.88	1.60	1.03	620	IIFS is located at Hana Highway below the confluence of East and West Wailuanui Streams. Flow estimate (4.50 cfs) combines the natural streamflow of West and East Wailuanui Streams directly downstream of the Koolau Ditch diversions.
Waikani Stream	Status quo		--	--	--	--	(Annual)		--	--	--	--	Unknown		Unknown		Unknown		--	Waikani Waterfall is on Wailuanui Stream
West Wailuaiki	3.80	2.46	0.40	0.26	3.80	2.46	0.40	0.26	6.00	3.88	2.20	1.42	6.00	3.88	3.80	2.46	2.20	1.42	1,235	IIFS is located just above Hana Highway. Flow estimate is directly downstream of the Koolau Ditch diversion
East Wailuaiki	3.70	2.39	0.20	0.13	3.70	2.39	0.20	0.13	5.80	3.75	2.10	1.36	5.80	3.75	3.70	2.39	2.10	1.36	1,235	IIFS is located just above Hana Highway. Flow estimate is directly downstream of the Koolau Ditch diversion
Kopiliula	0.50	0.32	(Annual)		--	--	(Annual)		5.00	3.23	5.00	3.23	5.00	3.23	3.20	2.07	1.80	1.16	1,270	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Koolau Ditch diversion.
Puakaa	0.60	0.39	(Annual)		--	--	(Annual)		1.10	0.71	1.10	0.71	1.10	0.71	0.70	0.45	0.40	0.26	1,235	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Koolau Ditch diversion.
Waiohue	3.20	2.07	0.10	0.06	3.20	2.07	0.10	0.06	5.00	3.23	1.80	1.16	5.00	3.23	3.20	2.07	1.80	1.16	1,195	IIFS is located just above Hana Highway. Flow estimate is directly downstream of the Koolau Ditch diversion.
Paakea	1.50	0.97	(Annual)		--	--	(Annual)		0.90	0.58	0.90	0.58	0.90	0.58	0.58	0.38	0.32	0.21	1,265	IIFS is located just above Hana Highway, as designated on October 8, 1988. Flow estimate is directly downstream of the Koolau Ditch diversion.
Waiaaka	0	0	(Annual)		--	--	(Annual)		0.77	0.50	0.77	0.50	0.77	0.45	0.49	0.32	0.28	0.18	1,235	IIFS is located at Hana Highway, as designated on October 8, 1988.
Kapaula	0.20	0.13	(Annual)		--	--	(Annual)		2.80	1.81	2.80	1.81	2.80	1.81	1.80	1.16	1.00	0.65	1,194	IIFS is located just above Hana Highway, as designated on October 8, 1988.
Hanawi	0.10	0.06	(Annual)		0.10	0.06	(Annual)		4.60	2.97	4.50	2.91	4.60	2.97	2.90	1.88	1.70	1.10	1,315	Below EMI's main Hanawi diversion (Intake K-3)
Makapipi	0.93	0.60	(Annual)		0.93	0.60	(Annual)		1.30	0.84	0.37	0.24	1.30	0.84	0.83	0.54	0.47	0.30	935	Just above Hana Highway
<b>Total</b>	--	--	--	--	18.21	11.77	5.61	3.63	70.73	45.72	52.52	33.94	76.95	47.34	49.26	31.88	27.69	17.92	--	

**EXPLANATION FOR EAST MAUI INTERIM IFS**

- Restoration amounts and amount EMI diverted for each stream are based on BFG<sub>50</sub> statistics from USGS studies, where unavailable Q<sub>70</sub> was used. It is assumed that Q<sub>70</sub> and BFG<sub>50</sub> represent median base flow conditions in the stream.
- Total restoration amounts do not consider amounts pertaining to Honopou and Hanehoi and its tributary Huelo (Puolua) streams as data is limited for these streams.
- The total amount EMI diverted reflects conditions when streamflow is maintained mostly by groundwater contributions. During normal conditions, the total amount EMI diverted should be calculated from total median flow or TFG<sub>50</sub> statistics to include contributions of rainfall.
- The total amount EMI diverted is not the total amount diverted by the entire EMI system as the streams displayed in the table is only a subset of the streams that EMI diverts from East Maui.
- Flow calculations are based on the *Summary of median base flow and potential habitat at median base flow in diverted stream reaches, northeast Maui, Hawaii*, provided by USGS and usually represent flow conditions directly downstream of diversions (i.e., values may differ from selected IIFS locations).

Civil No. 19-1-0019-01 (JPC)  
**Defendant A&B/EMI's Exhibit AB-164**  
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