

**State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources**

01 JUN 2001 09:42

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PETITION TO AMEND INTERIM INSTREAM FLOW STANDARDS

KOLEA (East)/PUNALAU STREAM (East), EAST MAUI

Instructions: Please print in ink or type and send completed petition with attachments to the Commission on Water Resource Management, P.O. Box 821, Honolulu, Hawaii 96809. Petition must be accompanied by a non-refundable filing fee of \$25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. PETITIONER

Firm/Name Na Moku 'Aupuni o Ko'olau Hui c/o Native Hawaiian Legal Corporation
 Contact Person Alan Murakami, Attorney Ph: 521-2302
 Address 1164 Bishop Street, Honolulu, Hawai'i 96813

2. STREAMFLOW DATA

USGS stream gaging station 16535000, 16529000 Period of Record Data to follow.
Gages Inactive
 Location/Reach SEE ATTACHED
 (Attach a USGS map, scale 1"=2000', and a property tax map showing diversion location referenced to established property boundaries.)

TABLE 1. PERIOD OF RECORD AVERAGE MONTHLY STREAMFLOW WITHIN THE AFFECTED STREAM REACH, IN CFS

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
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STREAMFLOW DATA TABLES TO FOLLOW.

Annual Median flow in cfs =

TABLE 2. PROPOSED AVERAGE MONTHLY STREAMFLOW DIVERSION FROM AFFECTED STREAM REACH, IN CFS

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
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NONE. UNDETERMINED; SUFFICIENT FOR TARO FARMING AND/OR GATHERING.

Annual Median flow in cfs =

RESTORATION

TABLE 3. AVERAGE MONTHLY STREAMFLOW IN AFFECTED STREAM REACH AFTER ~~Restoration~~ (min release flow), IN CFS

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
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NATURAL STREAMFLOW EXCEPT FOR EXERCISE OF APPURTENANT WATER RIGHTS.

Annual Median flow in cfs =

3. EXISTING INSTREAM AND OFFSTREAM WATER USES FOR ENTIRE STREAM REACH

TMK	OWNER	USE
		RESEARCH IN PROGRESS.

(If more space is necessary, attach an extended list following above format)

4. ANTICIPATED IMPACTS ON STREAM AND BASIS FOR SUCH IMPACTS:

RESTORATION OF INSTREAM NATURAL HABITAT AND BIOTA, AND BENEFICIAL APPURTENANT AND GATHERING USES.

(Attach supporting documentation, plans, letters, etc.)

NATIVE HAWAIIAN LEGAL CORPORATION

Alan Murakami

Signature

Alan Murakami Partner
 Attorney for Na Moku 'Aupuni o Ko'olau Hui

May 24, 2001

Date

For Official Use

Date Received

SEE ATTACHED

KOLEA

DVSTAT - DAILY VALUES STATISTICAL PROGRAM

STATION ID - 16535000
 HAIPUAENA DIV DITCH AT KOLEA GL NR KEANAE, MAUI
 PARAMETER CODE - 00060 DISCHARGE
 STATISTIC CODE - 00003 MEAN

CLASS	VALUE	TOTAL	ACCUM	PERCT	CLASS	VALUE	TOTAL	ACCUM	PERCT	CLASS	VALUE	TOTAL	ACCUM	PERCT
1	0.00	0	7670	100.00	13	0.23	3	7618	99.32	25	2.70	1311	3858	50.30
2	0.02	0	7670	100.00	14	0.29	9	7615	99.28	26	3.30	1118	2547	33.21
3	0.03	7	7670	100.00	15	0.35	17	7606	99.17	27	4.10	544	1429	18.63
4	0.04	0	7663	99.91	16	0.43	44	7589	98.94	28	5.00	379	885	11.54
5	0.05	1	7663	99.91	17	0.53	39	7545	98.37	29	6.10	228	506	6.60
6	0.06	1	7662	99.90	18	0.65	115	7506	97.86	30	7.50	159	278	3.62
7	0.07	0	7661	99.88	19	0.79	153	7391	96.36	31	9.20	56	119	1.55
8	0.08	4	7661	99.88	20	0.97	147	7238	94.37	32	11.00	48	63	0.82
9	0.10	11	7657	99.83	21	1.20	427	7091	92.45	33	14.00	13	15	0.20
10	0.13	12	7646	99.69	22	1.50	416	6664	86.88	34	17.00	2	2	0.03
11	0.15	10	7634	99.53	23	1.80	1042	6248	81.46	35	0.00	0	0	0.00
12	0.19	6	7624	99.40	24	2.20	1348	5206	67.87					

DURATION CURVE STATISTICAL CHARACTERISTICS FOR ...
 STATION ID: 16535000 HAIPUAENA DIV DITCH AT KOLEA GL NR KANAAE, MAUI
 PARAMETER CODE = 00060
 STATISTIC CODE = 00003 MEAN

DURATION DATA VALUES ARE INTERPOLATED FROM DURATION TABLE:
 DATA ARE NOT ANALYTICALLY FITTED TO A PARTICULAR STATISTICAL DISTRIBUTION,
 AND THE USER IS RESPONSIBLE FOR ASSESSMENT AND INTERPRETATION.

ADDITIONAL CONDITIONS FOR THIS RUN ARE:
 STATISTICS ARE BASED ON LOGARITHMS (BASE 10).
 NUMBER OF VALUES IS REDUCED FOR EACH NEAR-ZERO OR ZERO VALUE.

NUMBER OF VALUES = 19 (NUMBER OF NEAR-ZERO VALUES = 0)
 LISTING OF DATA FOLLOWS:

PERCENT OF TIME VALUE EQUALED OR EXCEEDED	DATA VALUE	(LOG =
95.0	0.91	-0.03956)
90.0	1.33	0.12453)
85.0	1.60	0.20526)
80.0	1.84	0.26552)
75.0	1.99	0.29890)
70.0	2.14	0.32989)
65.0	2.28	0.35828)
60.0	2.42	0.38454)
55.0	2.57	0.40930)
50.0	2.71	0.43305)
45.0	2.89	0.46030)
40.0	3.06	0.48594)
35.0	3.24	0.51015)
30.0	3.48	0.54108)
25.0	3.75	0.57408)
20.0	4.02	0.60475)
15.0	4.56	0.65904)
10.0	5.34	0.72774)
5.0	6.85	0.83583)

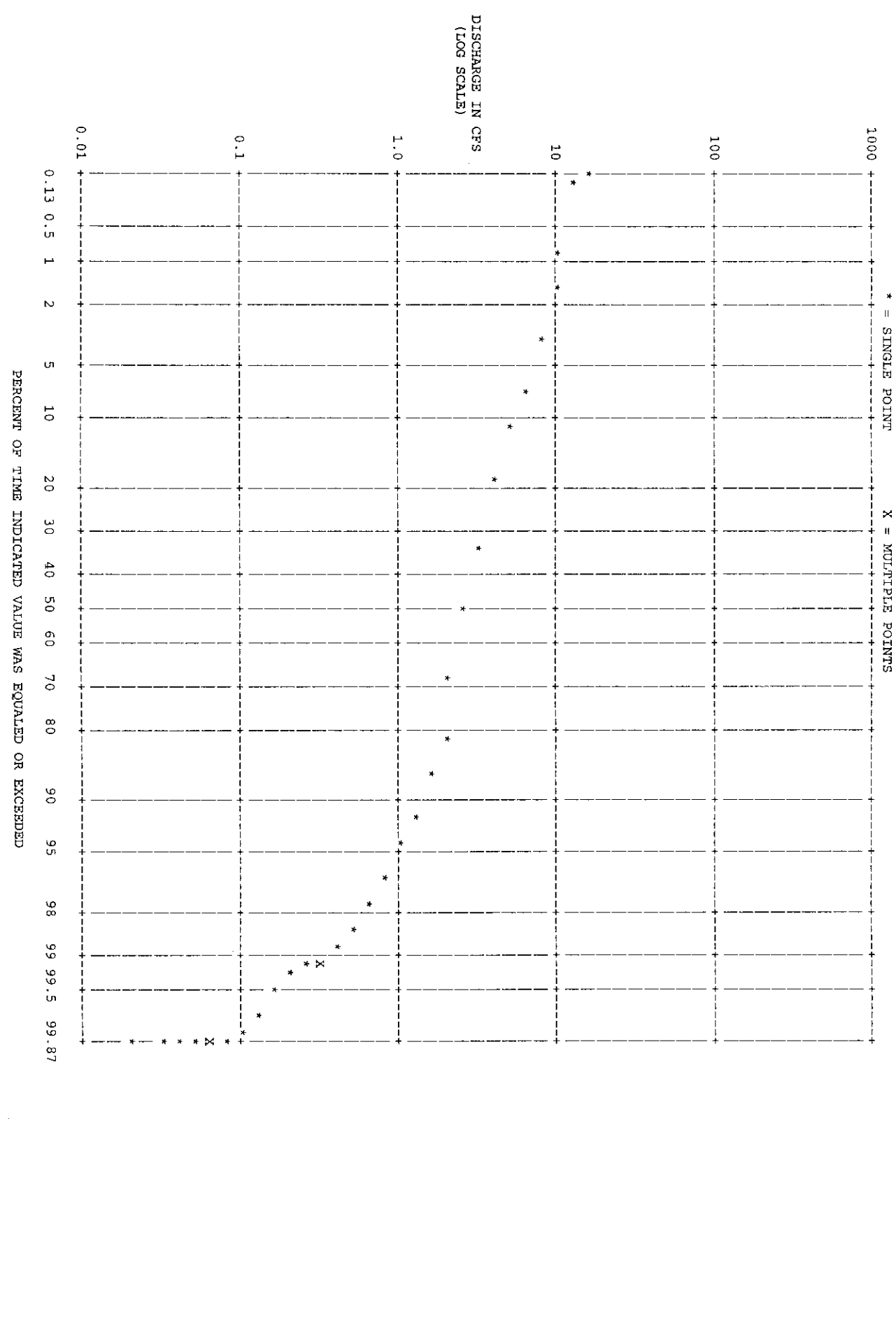
MEAN OF LOGS = 0.42993

STANDARD DEVIATION OF LOGS = 0.21162 (VARIABILITY INDEX - SEE USGS WSP 1542-A)

COEFFICIENT OF VARIATION = 0.49223

COEFFICIENT OF SKEW = -0.23405

LOG-NORMAL DURATION PLOT FOR PERIOD OCT TO SEP (YEARS 1938 - 1960)
 STATION ID: 16535000 HAIPUAENA DIV DITCH AT KOLEA GL NR KEANAE, MAUI
 PARAMETER CODE - 00060 DISCHARGE
 STATISTIC CODE - 00003 MEAN



DVSTAT - DAILY VALUES STATISTICAL PROGRAM

STATION ID - 16535000
 HAIPUKANA DIV DITCH AT KOLEA GL NR KEANAE MAUI
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LOWEST MEAN VALUE AND RANKING FOR THE FOLLOWING NUMBER OF CONSECUTIVE DAYS
 FOR PERIOD OCT TO SEP

WATER YEAR	1	3	7	14	30	60	90	120	183
1939 1939	1.70 21	1.90 21	2.30 21	2.50 21	3.24 21	3.56 21	3.70 21	4.07 21	4.15 21
1940 1940	.70 9	.73 9	.76 8	.89 8	1.34 11	2.08 13	2.20 10	2.39 11	2.77 14
1941 1941	.74 10	.76 10	.96 10	1.13 10	1.25 10	1.88 10	2.09 9	2.26 9	2.68 11
1942 1942	.42 3	.42 3	.43 3	.44 3	.50 2	.69 2	1.22 1	1.34 1	1.72 1
1943 1943	.45 4	.47 4	.49 4	.51 4	.64 3	1.06 4	1.38 3	1.41 2	1.72 2
1944 1944	.65 6	.68 7	.71 7	.72 6	.81 5	1.26 5	1.69 4	1.77 4	1.77 3
1945 1945	.65 7	.67 6	.68 6	.75 7	1.08 7	1.50 7	1.87 6	2.04 6	2.25 6
1946 1946	.91 11	.96 11	1.14 13	1.17 11	1.22 9	1.43 6	1.97 7	1.85 5	2.22 5
1947 1947	.29 2	.31 2	.32 2	.34 2	.66 4	.92 3	1.73 5	2.13 7	2.49 8
1948 1948	1.10 14	1.33 17	1.39 15	1.59 15	2.15 19	2.48 17	3.06 18	2.93 17	3.55 18
1949 1949	1.20 16	1.20 14	1.20 14	1.26 12	1.77 14	2.13 14	2.98 16	3.15 18	3.11 16
1950 1950	1.20 17	1.30 16	1.51 17	1.80 19	2.05 15	2.91 19	3.37 20	3.56 20	3.92 20
1951 1951	1.30 18	1.37 18	1.50 16	1.79 18	2.14 18	2.53 18	2.72 15	2.92 15	3.18 17
1952 1952	1.10 15	1.20 15	1.51 18	1.66 16	2.39 20	2.92 20	3.25 19	3.44 19	3.64 19
1953 1953	.56 5	.56 5	.61 5	.66 5	.89 6	1.61 8	2.29 12	2.32 10	2.72 13
1954 1954	.67 8	.70 8	.84 9	1.03 9	1.16 8	1.77 9	2.08 8	2.22 8	2.33 7
1955 1955	.91 12	1.03 12	1.08 11	1.28 13	1.67 13	1.97 11	2.99 17	2.92 16	3.05 15
1956 1956	.030 1	.030 1	.053 1	.088 1	.12 1	.22 1	1.28 2	1.65 3	1.80 4
1957 1957	.99 13	1.06 13	1.13 12	1.33 14	1.63 12	2.00 12	2.27 11	2.43 12	2.51 9
1958 1958	1.30 19	1.40 19	1.57 19	1.74 17	2.12 17	2.33 16	2.39 13	2.46 13	2.68 12
1959 1959	1.50 20	1.60 20	1.71 20	1.86 20	2.09 16	2.29 15	2.42 14	2.47 14	2.58 10

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HIGHEST MEAN VALUE AND RANKING FOR THE FOLLOWING NUMBER OF CONSECUTIVE DAYS
 FOR PERIOD OCTO TO SEP

WATER YEAR RANGE	1	3	7	15	30	60	90	120	183
1939 1939	12.0 11	8.97 12	8.24 7	6.88 6	5.91 6	5.21 6	4.98 4	4.98 2	4.81 2
1940 1940	13.0 8	10.0 10	7.10 11	6.20 10	5.52 9	4.48 9	4.02 11	3.62 10	3.47 10
1941 1941	11.0 13	10.1 8	6.94 12	5.54 12	4.87 11	4.29 11	4.13 9	4.03 8	3.39 11
1942 1942	13.0 9	11.7 5	11.4 3	8.49 3	6.71 4	5.07 7	4.10 10	3.32 14	2.79 18
1943 1943	8.20 17	6.00 20	4.89 20	4.45 16	3.61 19	3.08 21	2.83 21	2.72 21	2.51 21
1944 1944	9.90 14	6.53 16	5.03 17	3.75 21	3.50 20	3.15 20	2.98 20	2.96 17	2.78 19
1945 1945	9.40 15	7.73 13	6.57 13	5.83 11	4.67 12	3.60 15	3.13 17	2.81 20	2.91 15
1946 1946	12.0 12	6.60 14	5.09 15	4.77 14	4.39 14	4.00 13	3.38 14	3.31 15	3.09 13
1947 1947	14.0 4	10.6 7	7.14 10	5.49 13	4.60 13	4.07 12	3.96 12	3.51 12	3.50 9
1948 1948	17.0 2	13.3 3	11.7 1	9.79 1	8.47 1	6.64 2	5.58 2	4.97 3	4.52 3
1949 1949	15.0 3	12.1 4	9.16 5	7.77 4	6.80 3	5.36 5	4.95 5	4.32 6	4.02 6
1950 1950	18.0 1	13.6 2	11.3 4	9.53 2	8.32 2	7.29 1	6.41 1	5.89 1	5.40 1
1951 1951	14.0 5	11.1 6	8.24 8	6.71 7	5.80 7	5.49 4	5.10 3	4.84 4	4.38 4
1952 1952	13.0 10	10.1 9	8.53 6	6.63 9	5.24 10	4.82 8	4.53 7	4.36 5	4.31 5
1953 1953	14.0 6	9.67 11	7.84 9	6.69 8	6.29 5	5.68 3	4.77 6	3.94 9	3.54 8
1954 1954	7.00 20	6.23 17	4.97 19	4.41 18	4.00 16	3.77 14	3.58 13	3.61 11	3.38 12
1955 1955	14.0 7	14.0 1	11.5 2	7.73 5	5.76 8	4.35 10	4.41 8	4.24 7	3.91 7
1956 1956	9.00 16	6.57 15	5.51 14	4.58 15	3.83 17	3.50 17	3.36 15	3.35 13	2.70 20
1957 1957	7.30 18	6.23 18	5.09 16	4.37 19	3.75 18	3.37 18	3.05 18	2.92 18	2.83 17
1958 1958	7.30 19	5.60 21	4.69 21	4.44 17	4.05 15	3.55 16	3.28 16	3.19 16	3.00 14
1959 1959	6.70 21	6.03 19	5.01 18	3.95 20	3.42 21	3.16 19	3.02 19	2.87 19	2.89 16

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ANNUAL AND/OR SEMI-ANNUAL VALUES

MEAN VALUE AND RANKING FOR PERIOD INCLUDED IN LOW-VALUE ANALYSIS (OCT-SEP)		MEAN VALUE AND RANKING FOR PERIOD INCLUDED IN HIGH-VALUE ANALYSIS (OCT-SEP)	
WATER YEAR RANGE		WATER YEAR RANGE	
1939 1939	4.33 20	1939 1939	4.33 2
1940 1940	3.28 15	1940 1940	3.28 7
1941 1941	2.85 10	1941 1941	2.85 12
1942 1942	2.26 3	1942 1942	2.26 19
1943 1943	2.00 1	1943 1943	2.00 21
1944 1944	2.25 2	1944 1944	2.25 20
1945 1945	2.64 6	1945 1945	2.64 16
1946 1946	2.49 5	1946 1946	2.49 17
1947 1947	2.88 12	1947 1947	2.88 10
1948 1948	3.68 17	1948 1948	3.68 5
1949 1949	3.61 16	1949 1949	3.61 6
1950 1950	4.45 21	1950 1950	4.45 1
1951 1951	3.74 18	1951 1951	3.74 4
1952 1952	3.76 19	1952 1952	3.76 3
1953 1953	3.13 13	1953 1953	3.13 9
1954 1954	2.82 9	1954 1954	2.82 13
1955 1955	3.26 14	1955 1955	3.26 8
1956 1956	2.41 4	1956 1956	2.41 18
1957 1957	2.67 7	1957 1957	2.67 15
1958 1958	2.85 11	1958 1958	2.85 11
1959 1959	2.68 8	1959 1959	2.68 14