

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer KS

Date 20 April 2007 System Waipio Multiway Location/Station _____

Quad/Substation _____

GPS N _____ W _____ # of Trials _____

Time in 9:15 Time out 10:00 Random: YES NO

Salinity(ppt) _____ pH _____ Cond.(ms/cm) _____ D.O.(mg/L) _____

Temp.(c) _____ Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
00p1 akupa	6.6cm		
Opae beha'a	5.5cm		
beha'a	5.0cm		
beha'a	6.0cm		
beha'a	6.9cm		
beha'a	6.4cm		
beha'a	4.2cm		
beha'a	4.5cm		
beha'a	4.6cm		
beha'a	2.9cm		
beha'a	2.5cm		
beha'a	3.2cm		
beha'a	6.3cm		
beha'a	3.0cm		
beha'a	2.0cm		
beha'a	6.0cm		
beha'a	6.2cm		
beha'a	3.0cm		
beha'a	4.7cm		
beha'a	4.5		
beha'a	5.6cm		
beha'a	2.1cm		
beha'a	3.0		
beha'a	2.6		
akupa	10cm		

Species	SPPcode	FL(mm)	Tag "Y"
1 beha'a	4cm		
2 beha'a	6cm		
3 ahoi hole	2.2cm		
4 beha'a	1.5cm		
5 Molly	4.2cm		
6 Molly	5.0cm		
7 Molly	7.0cm		
8 Molly	6.5cm		
9 Molly	5.0cm		
10 Molly	8.0		
11 Molly	5.0		
12 Molly	6.4		
13 Molly	4.7		
14 Molly	5.1		
15 Molly	4.6		
16 Molly	3.9		
17 Molly	7.0		
18 Molly	7.0		
19 Molly	5.5		
20 Molly	5.7		
21 Molly	5.5		
22 Molly	4.4		
23 Molly	4.5		
24 Molly	6.3		
25 Molly	8.0		

more on back _____

NOTES:

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer KS

Date 20 April 2007 System WAIPIO MULI WAI Location/ Station _____

Quad/ Substation _____

GPS N _____ W _____ # of Trials _____

Time in 9:15 Time out 10:05 Random: YES NO

Salinity(ppt) _____ pH _____ Cond.(ms/cm) _____ D.O.(mg/L) _____

Temp.(c) _____ Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
<u>Mole</u>		4	
		3	
		5.5	
		4.5	
		3	
		4.5	
		5	
		6.5	
		5.5	
		6.5	
		5	
		5.75	
		5	
		3	
		4.5	
		4.5	
		4.5	
		4	
		4.5	
		3	
		3.5	
		3	
		3.5	
		5	
		4.5	

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Species	SPPcode	FL(mm)	Tag "Y"
		4.5	
		5.5	
		5	
		3	
		5	
		3.5	
		2	
		5	
		7	
		7	
		4	
		2	
		5.5	
		5.5	
		3.5	
		3	
		4.5	
		6	
		5.5	
		2	
		4	
		3.5	
		5.5	
		5.5	
		4	

more on back _____

NOTES:

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer Kamehanda

Date 20 Apr. 2007 System Walpio Mulwaj Location/Station _____ Quad/Substation _____

GPS N _____ W _____ # of Trials _____

Time in 9:05 Time out 10:05 Random: YES NO

Salinity(ppt) 11 pH 7.65 / 7.77 Cond.(ms/cm) 1156 / 46.3 D.O.(mg/L) 8.07 / 5.61 turb. 5.7 / 2.1

Temp.(c) 22.12 / 14.57 Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
Molly		4 1/2	
		6	
		6	
		2 1/2	
		5	
		4	
		4	
		3	
		7	
		5	
		6	
		3	
		3	
		6	
		5 1/2	
		6	
		3 1/2	
		1 1/2	
		2 1/4	
		2 5/8	
		2 3/4	
		1 1/4	
		1 1/2	
		2	
		2 1/4	

Species	SPPcode	FL(mm)	Tag "Y"
Molly		2 7/8	
		2 1/2	
		2 3/4	
		2 1/8	
		1 5/16	
		1 7/8	
		2 3/4	
		1	
		2 1/4	
		1 1/2	
		1 5/8	
		1 5/8	
		1 1/8	
		1 1/4	
		2 1/8	
		1 1/4	
		1 3/8	
		1 1/8	
		1 3/8	
		2 1/2	
		1 1/2	
		1 3/16	
		1 3/8	
		1 3/4	
		1 1/4	

more on back _____

NOTES:

RECAP

Obser KS

GPS N _____ W _____ # of Trials _____

Time in 9:15 am Time out _____ Random: YES NO

Salinity(ppt)_____ pH_____ Cond.(ms/cm)_____ D.O.(mg/L)_____

Temp.(c) _____ Net Dia / Mesh Size _____

Water condition: *FLAT* *WHITE WATER* Tide Stage

Bottom cond: DETRITUS SED SAND GRAVEL BOULDER BEDROCK

Weather _____ Secchi (cm) _____ Depth(cm) _____

	Species	SPPcode	FL(mm)	Tag "Y"
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

more on back

NOTES:

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer _____

Date 4-25-07

System _____

Location/ Wailoa Str. Quad/

Station muliwai Substation _____

waipio

GPS N _____ W _____

of Trials _____

Time in _____

Time out _____

Random: YES NO

Salinity(ppt) _____

pH _____

Cond.(ms/cm) _____

D.O.(mg/L) _____

Temp.(c) _____

Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER

Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
molly		6.5	
		7.1	
		6.8	
		7.4	
		8.1	
		7.4	
		7.2	
		8.3	
		5.9	
		7.1	
		7.8	
		6.9	
		7.5	
		7.0	
		7.4	
		5.7	
		7.2	
		5.5	
		5.9	
		5.1	
		6.7	
		5.5	
		6.5	
		5.9	
		5.6	

Species	SPPcode	FL(mm)	Tag "Y"
molly		7.3	
		7.4	
		6.2	
		7.1	
		5.3	
		6.1	
		5.4	
		6.7	
		4.0	
		6.5	
		5.0	
		5.9	
		5.5	
		6.9	
		6.9	
		6.9	
		7.5	
		7.0	
		6.2	
		4.5	
		5.5	
		6.0	
		5.1	
		6.0	
		5.9	

more on back _____

NOTES:

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer Kanu

Date 4/25/2007 System _____ Location/Wailoa Station Muliwai Quad/Substation _____

GPS N _____ W _____ # of Trials _____

Time in 9:27 Time out _____ Random: YES NO

Salinity(ppt) _____ pH _____ Cond.(ms/cm) _____ D.O.(mg/L) _____

Temp.(c) _____ Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

^{cm}

Species	SPPcode	FL (mm)	Tag "Y"
Aholehole		2	
'Opae		5	
Aholehole		2.5	
'Opae		3.3	
'Opae		8.5	
Mullet		2.6	
Aholehole		2.5	
" "		2.6	
'Opae		5.9	
Aholehole		2.5	
Mullet		2.5	
Aholehole		2.8	
" "		2.5	
" "		2.5	
Mullet		2.0	
Aholehole		2.9	
" "		2.5	
" "		2.8	
" "		2.5	
" "		2.3	
Nakea		11.5	
'Opae		3.5	
Ahole		2.5	
Nakea		3.5	
" "		4.0	

^{cm}

Species	SPPcode	FL(mm)	Tag "Y"
1 MULLET		2.5	
2 "		2	
3 "		3	
4 Hinana		4.5	
5 " "		3.5	
6 Ahole		2.5	
7 'Opae		3.5	
8 Hinana		2.5	
9 Akupa		12.5	
10 Akupa		7.0	
11 Hinana		4.0	
12 'Opae		3.5	
13 "		2.4	
14 " oihana		6.5	
15 'Opae		4.0	
16 Akupa		5.6	
17 'Opae		4.0	
18 "		5.5	
19 "		5.0	
20 "		5.5	
21 "		4.3	
22 "		3.4	
23 "		4.0	
24 "		4.5	
25 "		3.0	

more on back _____

NOTES:

	Species	SPPcode	FL (mm)	Tag "Y"
1	'opae		3.3	
2	"		5.0	
3	Hapawai		2.2	
4	'opae		3.2	
5	"		5.0	
6	"		2.4	
7	"		3.1	
8	"		3.0	
9	"		4.0	
10	"		4.0	
11	"		4.4	
12	"		3.9	
13	"		3.0	
14	'opu Naniha		4.1	
15	Ahole		2.2	
16	Hinana		4.5	
17	Naniha		3.9	
18	"		5.0	
19	Nakea		3.9	
20	Hinana		2.5	
21	Nakea		17.5	
22	hapawai		2.5	
23	'opae		4.5	
24	"		4.1	
25	"		4.0	
26	"		3.8	
27	hapawai		2.0	
28	'opae		3.5	
29	"		3.9	
30	"		4.5	
31	"		4.5	
32	"		5.5	
33	"		5.5	
34	"		1.5	
35	"		6.0	
36	"		5.5	
37	"		3.9	
38	"		4.6	
39	"		5.1	
40	AKUPA		14.7	
41	Akupa		9.1	
42	'opae		5.7	
43	"		6.8	
44	"		6.0	
45	"		3.3	
46	Hapawai		2.4	
47	'opae		4.5	
48	"		4.0	
49	"		5.1	
50	"		5.1	

Species	SPPcode	FL(mm)	Tag "Y"
'opae	6.0		
"	5.0		
"	4.9		
"	5.0		
"	4.0		
"	4.3		
"	3.5		
"	4.5		
"	6.5		
"	5.3		
"	3.7		
"	4.7		
Naniha	3.2		
'opae	5.4		
"	5.3		
"	3.4		
Molly		6.2	
"		6	
"		6.5	
"		5.0	
"		4.4	
"		5.0	
"		5.1	
"		4.2	
"		4.5	
"		5.6	
"		2.4	
"		4.4	
"		4.4	
"		3.5	
"		4.8	
"		5.7	
"		1.4	
"		4.4	
"		2.5	
"		6.7	
"		4.8	
"		4.0	
"		5.5	
"		4.4	
"		4.5	
"		3.7	
"		4.9	
"		4.5	
"		4.5	
"		4.5	
"		4.5	
"		5.2	
"		5.9	
"		6.7	
"		4.8	
"		5.7	
"		5.3	

Species	SPPcode	FL (mm)	Tag "Y"
Molly		8.0	
"		6.8	
"		5.0	
"		4.5	
"		4.8	
"		4.2	
"		3.7	
"		4.5	
"		3.9	
"		4.1	
"		3.9	
"		5.5	
"		4.4	
"		6.1	
"		4.1	
"		5.0	
"		4.6	
"		4.4	
"		4.1	
"		1.3	
"		5.1	
"		7.0	
"		7.4	
"		6.6	
"		4.0	
"		4.4	
"		2.7	
"		3.1	
"		2.9	
"		2.5	
"		5.4	
"		4.5	
"		4.9	
"		6.4	
"		6.7	
"		5.0	
"		4.5	
"		7.3	
"		4.1	
"		6.0	
"		4.5	
"		4.3	
"		4.5	
"		4.4	
"		6.3	
"		5.0	
"		5.2	
"		5.2	
"		4.2	
'opu Naniha		4.1	

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer Kano

Date April 25, 2007 System _____ Location/ Wailoa Quad/ Muliwai Substation _____

GPS N _____ W _____ # of Trials _____

Time in _____ Time out _____ Random: YES NO

Salinity(ppt) _____ pH _____ Cond.(ms/cm) _____ D.O.(mg/L) _____

Temp.(c) _____ Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
Molly		4.6	
		2.3	
		5.2	
		5.5	
		2.8	
		5.7	
		5.0	
		4.6	
		4.5	
		4.1	
		5.2	
		4.7	
		5.0	
		7.0	
		1.5	
		5.1	
		5.0	
		5.5	
		4.5	
		6.2	
		4.2	
		5.8	
		4.1	
		3.4	

Species	SPPcode	FL(mm)	Tag "Y"
1 Molly		4.6	
2		5.1	
3		4.5	
4		2.3	
5		8.0	
6		5.5	
7		5.5	
8		6.8	
9		6.7	
10		5.1	
11		5.1	
12		5.5	
13		5.3	
14		5.0	
15		3.4	
16		4.6	
17		4.2	
18		5.0	
19		4.5	
20		4.0	
21		5.3	
22		5.6	
23		4.7	
24		5.7	
25		5.0	

more on back _____

NOTES:

	Species	SPPcode	FL (mm)	Tag "Y"
1	Molly		53	
2	"		4.2	
3	"		7.7	
4	"		50	
5	"		59	
6	"		4.2	
7	"		6.7	
8	"		5.4	
9	"		4.5	
10	"		50	
11	"		4.6	
12	"		5.5	
13	"		5.3	
14	"		56	
15	"		4.5	
16	"		36	
17	"		3.4	
18	"		3.5	
19	"		76	
20	"		31	
21	"		5.5	
22	"		5.1	
23	"		30	
24	"		23	
25	"		50	
26	"		4.5	
27	"		9.1	
28	"		60	
29	"		3.6	
30	"		3.2	
31	"		36	
32	"		7.1	
33	"		6.5	
34	"		4.3	
35	"		5.5	
36	"		4.6	
37	"		4.1	
38	"		56	
39	"		4.7	
40	"		4.9	
41	"		4.5	
42	"		2.9	
43	"		4.6	
44	"		2.7	
45	"		7.3	
46	"		70	
47	"		5.1	
48	"		3.5	
49	"		4.9	
50	"		5.5	

Species	SPPcode	FL(mm)	Tag "Y"
Molly		50	
"		46	
"		6.3	
"		50	
"		50	
"		3.7	
"		46	
"		46	
"		3.5	
"		46	
"		4.4	
"		4.3	
"		4.7	
"		53	
"		3.7	
"		4.2	
"		50	
"		3.3	
"		50	
"		3.4	
"		4.5	
"		30	
"		26	
"		3.5	
"		2.7	
"		3.5	
"		38	
"		30	
"		3.3	
"		4.4	
"		2.4	
"		4.7	
"		2.5	
"		4.4	
"		2.3	
"		40	
"		40	
"		3.5	
"		3.5	
"		3.5	
"		2.5	
"		46	
"		4.1	
"		4.7	
"		3.6	
"		3.6	
"		3.2	
"		2.7	
"		2.5	

Species	SPPcode	FL (mm)	Tag "Y"
Molly		36	
"		2.4	
"		2.2	
"		26	
"		1.7	
"		26	
"		4.1	
"		3.5	
"		4.2	
"		5.1	
"		3.3	
"		3.5	
"		3.6	
"		3.5	
"		2.2	
"		1.5	
"		3.2	
"		3.4	
"		3.0	
"		3.5	
"		3.3	
"		2.7	
"		2.2	
"		2.7	
"		2.1	
"		4.5	
"		40	
"		30	
"		3.0	
"		0.2	
"		3.5	
"		3.7	
"		5.4	
"		3.5	
"		3.5	
"		2.6	
"		3.6	
"		4.1	
"		3.2	
"		2.3	
"		2.9	
"		2.1	
"		2.5	
"		4.3	
"		4.5	
"		40	
"		2.3	
"		3.5	
"		3.7	
"		4.9	

FIELD TRIALS

RECAP _____

Standard Sample _____ Marquesan Sample _____ Nursery Habitat _____

Observer _____

Date 4/25/07

System _____

Location/ Wapio
Station Muliwai
warjona str.

Quad/
Substation _____

GPS N _____ W _____

of Trials _____

Time in _____

Time out _____

Random: YES NO

Salinity(ppt) _____

pH _____

Cond.(ms/cm) _____

D.O.(mg/L) _____

Temp.(c) _____

Net Dia / Mesh Size _____

Water condition: FLAT WHITE WATER

Tide Stage _____

Bottom cond: DETRITUS _____ SED _____ SAND _____ GRAVEL _____ BOULDER _____ BEDROCK _____

Weather _____ Secchi (cm) _____ Depth(cm) _____

Species	SPPcode	FL (mm)	Tag "Y"
<u>Akupa</u>		<u>20cm</u>	
"		<u>9cm</u>	
"		<u>10cm</u>	
<u>aldehyde</u>		<u>4cm</u>	
"		<u>5.5cm</u>	
"		<u>4cm</u>	
"		<u>5.5cm</u>	
"		<u>4cm</u>	
<u>molly</u>		<u>9cm</u>	
"		<u>7.5cm</u>	
"		<u>6.5cm</u>	
"		<u>6.4cm</u>	
"		<u>6.4cm</u>	
"		<u>5.1cm</u>	
"		<u>6.7cm</u>	
"		<u>6.8cm</u>	
"		<u>8.1cm</u>	
"		<u>7cm</u>	
"		<u>6cm</u>	
"		<u>6cm</u>	
"		<u>6.1cm</u>	
"		<u>4.7cm</u>	
"		<u>4.8cm</u>	
"		<u>5.6cm</u>	
"		<u>5.8cm</u>	

Species	SPPcode	FL(mm)	Tag "Y"
<u>molly</u>		<u>6.1cm</u>	
"		<u>7.7cm</u>	
"		<u>6.2cm</u>	
"		<u>7.1cm</u>	
"		<u>6cm</u>	
"		<u>6cm</u>	
"		<u>6.2cm</u>	
"		<u>6.5cm</u>	
"		<u>6.6cm</u>	
"		<u>6.4cm</u>	
"		<u>7.8cm</u>	
"		<u>7.9cm</u>	
"		<u>6.4cm</u>	
"		<u>5.5cm</u>	
"		<u>5.2cm</u>	
"		<u>5.3cm</u>	
"		<u>6.5cm</u>	
"		<u>6.2cm</u>	
"		<u>4.1cm</u>	
"		<u>6.1cm</u>	
"		<u>5cm</u>	
"		<u>5cm</u>	
"		<u>5.2cm</u>	
"		<u>4.2cm</u>	
"		<u>4.5cm</u>	

more on back _____

NOTES:

CM

	Species	SPPcode	FL (mm)	Tag "Y"
1	molly		8	
2	"		6.2	
3	"		6	
4	"		6.2	
5	"		5.5	
6	"		5.5	
7	"		4.2	
8	"		5.3	
9	"		6.2	
10	"		4.2	
11	"		5.0	
12	"		5.2	
13	"		4.3	
14	"		4.5	
15	"		4.5	
16	"		4.2	
17	"		6	
18	"		4.5	
19	"		5.0	
20	"		6.5	
21	"		6	
22	"		5.0	
23	"		6.2	
24	"		6	
25	"		6.3	
26	"		6.5	
27	"		5	
28	"		5	
29	"		4	
30	"		6.5	
31	"		5	
32	"		5.0	
33	"		5.2	
34	"		5.5	
35	"		5.5	
36	"		5.5	
37	"		6.2	
38	"		6.2	
39	"		5.2	
40	"		6	
41	"		4.3	
42	"		4.2	
43	"		7	
44	"		4.3	
45	"		5.8	
46	"		6.0	
47	"		5.8	
48	"		5.5	
49	"		5.5	
50	"		5.0	

Species	SPPcode	FL(mm)	Tag "Y"
molly	4	5.2	
"		6.3	
"		4.4	
"		5.2	
"		4	
"		6	
"		5.2	
"		6.2	
"		3.3	
"		5.2	
"		1.9	
"		7.2	
"		5	
"		2	
"		3.3	
"		2.3	
"		5.2	
"		3.6	
"		4.2	
"		2.3	
"		5	
"		7	
"		2	
"		5	
"		3	
"		5.2	
"		5	
"		2.3	
"		4.4	
"		5.2	
"		2.7	
"		3.3	
"		5.2	
"		6.3	
"		4.2	
"		5.8	
"		6.3	
"		5.3	
"		6.2	
"		2.4	
"		4.4	
"		4.8	
"		2.6	
"		2.8	
"		4.4	
"		4	
"		4.2	
"		2.9	
"		4.2	
"		2.9	
"		4	
"		4.2	
"		2.9	
"		6	
"		4.2	

Species	SPPcode	FL (mm)	Tag "Y"
molly		1.1	
"		2.2	
"		3.2	
"		4.6	
"		7.8	
"		2.8	
"		4.6	
"		3.8	
"		4.2	
"		4.3	
"		3.4	
"		1.2	
"		3.4	
"		4.2	
"		3.4	
"		6.2	
"		4.2	
"		1.1	
"		4.8	
"		7.8	
"		3.2	
"		3.2	
"		3.4	
"		5.3	
"		2.3	
"		4.4	
"		2.0	
"		2.6	
"		4.2	
"		2	
"		3.2	
"		2.7	
"		3.4	
"		2.2	
"		1.6	
"		2.8	
"		1.6	
"		1.1	
"		1.5	
"		4.1	
"		4.2	
"		3.5	
"		3.9	
"		3.4	
"		2.9	
"		2.7	
"		3.7	
"		2.2	
"		3.0	
"		2.3	

Mean Velocity¹ = 6/10ths Depth
Surface Velocity² = 6/10ths Depth x 2
Bottom Velocity³ = 6/10ths Depth / 2

[illegible]

DIVISION OF AQUATIC RESOURCES GRH 2/02

SITE PICTURE

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