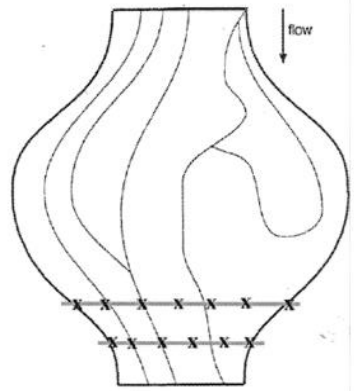
Stream Name	Hi'ilawe	**Stream Mapping Data Sheet**
Date	4/19/2006	
Start Time	11:00 am	
GPS reading (0 m)	N. 20.10674° W. 155.59634°	
GPS reading (100 m)		
Observers	Honu, sierra, kirstie, keoni, Polani, Kawika, Jared, Iliana	
Comments	It's a beautiful day...	-22 meters Elevation



Transect # 1	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	~~8 m~~ 7.7	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.3	0.7	0.9	1.1	1-2	2-2	2-2	4-3	0-1					
Water Speed	S	S	M	M	M	M/F	M	S	S					
Substrate Size	S/M	M	M	S	L	L	L	L	L					
Other maj. feat.	stream edge	Bolder		Debris	Bolder				stream edge					

Transect # 2	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.1	0	0.1	0	0.55	0.9	1.35	2.4	0.65	0.85				
Water Speed	S	0	S	0	M	F	F	F	F	M				
Substrate Size	S	L	S	L	L	M	M/L	M	L	M				
Other maj. feat.	stream edge	bolder		bolder						stream edge				

Transect # 3	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	~~8 m~~ 7.2	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.25	1.26	1.6	1.6	1.5	1.1	0.8	0.65	0.1					
Water Speed	S	S	F	F	F	F	M	S	S					
Substrate Size	M	S	L	L	ML	L	SM	SM	S					
Other maj. feat.	stream Edge								stream edge					

Transect # 4	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	~~10 m~~ 9.9	11 m	12 m	13 m
Est. Depth	0.3	0.4	0.45	0.85	1.4	1.4	1.57	1.65	1.75	0.95	2.5			
Water Speed	S	S	S	S	M	F	M	F	F	S	S			
Substrate Size	S	S	S	S/M	S/M	L	L	L	S/M	S	S/L			
Other maj. feat.	stream edge							Bolder			stream edge Bolder			

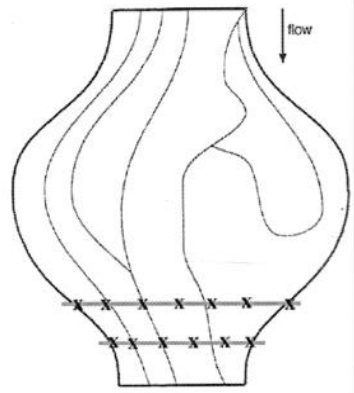
living plants

Transect # 5	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	~~9 m~~ 8.4m	10 m	11 m	12 m	13 m
Est. Depth	0.5	0.45	2.05	1.6	1.45	2.15	0	1.0	0.5	0.3				
Water Speed	S	S	F	F	M	F	0	F	S	S				
Substrate Size	M/L	L	M/L	L	M/L	S/M	L	M	S	S				
Other maj. feat.	stream edge	bolder					bolder		stream	stream edge				

Transect # 6	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)

Stream Name	Hi'ilawe	**Stream Mapping Data Sheet**
Date	4-19-06	
Start Time	1:16 pm	
GPS reading (0 m)	20.110629° N	
GPS reading (100 m)		
Observers	Kamalani, Hiile, Iini, J.R.	
Comments	Jacob, Leialoha, Kalaekoa Kai.	



RB = RIVER BANK
SB = STREAM BANK
BB = BIG BOULDER

Transect # 6	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	~~9~~ 8.85 m	10 m	11 m	12 m	13 m
Est. Depth	0.1	0.45	1.35	1.75	2.0	1.0	1.5	0.35	0.5	0.1				
Water Speed	S	S-M	M	M-F	F	F	m	m	S	S				
Substrate Size	M-L	L	M	M	L	L-M	M-S	S-M	S	S				
Other maj. feat.	SB					N	N	N	RB	RB				

Transect # 7	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	1.0	1.35	0.9	1.55	0.5	1.6	0.9	0.8	0.45	0.1				
Water Speed	S	S	SM	M	M	FM	SM	MS	S	S				
Substrate Size	S	SM	SM	BM	L	M	S	S	M	S				
Other maj. feat.	SB				BB					SB				

Transect # 8	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.1	1.2	1.25	1.7	1.65	0	1.5	0.3	0	0.5	0.4	0.55		
Water Speed	S	S	S	F	F	0	M-F	S	0	S	M	S		
Substrate Size	L	S	S	M	L	L	M-L	L	L	S	L	L		
Other maj. feat.	SB					BB			BB			RB		

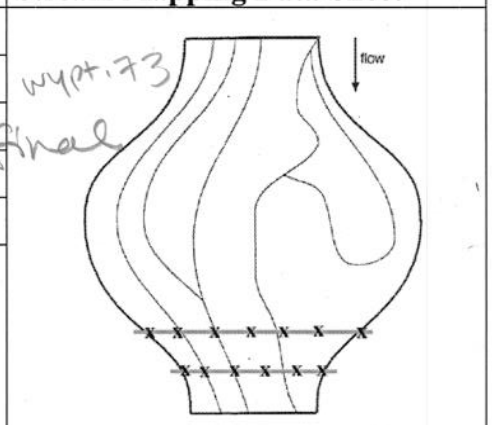
Transect # 9	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	1.5	1	0.3	1.0	0.35	0.55	1.5	1.3	0	0.2	1.0	0	0.05	
Water Speed	S	M	F	MF	S	M	F	F	0	MS	FM	0	S	
Substrate Size	S	M	L	M	L	M	S	L	L	L	S	L	L	
Other maj. feat.	SB								Big rock	Big rock		rock	SB	

Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)

Stream Name	Hi'ilawe	**Stream Mapping Data Sheet**
Date	4/19/06	
Start Time	2 21pm	
GPS reading (0 m)	N 20.10581°	
GPS reading (100 m)	W 155.59570°	
Observers	Nopili	
Comments		



Transect # 10	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.25	0.8	0.7	0.3	1.4	0.5	0.8	1.3	0.6	0.7	1.0	0.9	1.15	1.15
Water Speed	F	M	F	F	F	M	F	F	M	M/F	M	M	M	M
Substrate Size	Detritus	B	M/L	L	L	L	S/M	S/M	S/M	S/M	M/L	M/L	S/M/L	M/L
Other maj. feat.	Stream bank 13-8		Log					Log		Fallen tree				

Transect #	~~0 m~~	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.15	~~0.2~~												
Water Speed	S													
Substrate Size	S													
Other maj. feat.														

Transect # 11	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.2	0.7	1.4	1.5½	1.2½	0.[illegible]	0	0.5	0.5	0.2	0.6	0.9	0.6	0.7
Water Speed	S	M	F	F	F	F	O	M	S	S	S	M	M	M
Substrate Size	S	L	L	L	M	L	L	L	ML	M/L	M/L	M/L	M/L	M/L
Other maj. feat.	SP 14	Bed		Boulder			Boulder							
		Rock	16m											

Transect #	~~0 m~~	~~1 m~~	~~2 m~~	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	1.15	0.9	0											
Water Speed	M	M	O											
Substrate Size	M/L	M/L	L											
Other maj. feat.														

Transect #	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

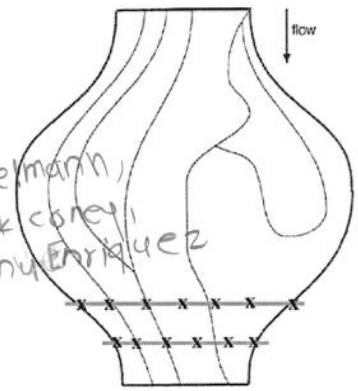
Transect #	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)

Hiilawe

	Tally
Date Collected	4-24-2006
Water Speed (0)	III = 3
Water Speed (Slow)	70
Water Speed (Medium)	42
Water Speed (Fast)	45
Substrate Size (Small)	62
Substrate Size (Medium)	44
Substrate Size (Large)	32

Stream Name	Hiilawe	**Stream Mapping Data Sheet**
Date	4/24/06	
Start Time	12:03	
GPS reading (0 m)	N20.10672°	
GPS reading (100 m)		
Observers KS	Makaiwa Tong, Cara Bertelmann, Nick Corey, Keanu Enriquez	
Comments	GPS: W155.596300 sub: submerged	



Transect # 1	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.25	0.6	0.45	1.2	1.9	2.25	2.0	1.15						
Water Speed	S	SM	SM	M	M	MF	MF	S						
Substrate Size	S	S	L	M	M	M	S	M						
Other maj. feat.	stream edge							stream edge						

Transect # 2	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	~~9 m~~ 0.5	10 m	11 m	12 m	13 m
Est. Depth	0.1				0.75	0.6	1.5	1.1	1.25	0.9				
Water Speed	S				F	F	F	F	F	MF				
Substrate Size	S				M	L	L	L	L	M				
Other maj. feat.	stream edge	Boulder	rock	Boulder						stream edge				

Transect # 3	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	~~8 m~~ 7.8	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.3	0.8	1.5	1.7	1.3	1.3	0.6	0.15	0.15					
Water Speed	S	S	m	mf	f	f	f	F	S					
Substrate Size	S	M	S	L	SM	L	L	L	M					
Other maj. feat.	Stream edge								Stream edge					

Transect # 4	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	~~10 m~~ 9.9	11 m	12 m	13 m
Est. Depth	0.1	0.5	0.2	0.85	0.9	1.55	1.45	1.95	1.7	0.8	0.25			
Water Speed	S	S	S	S	S.M	S	M	S	M	S	S			
Substrate Size	S	S	S	L	L	S.M	L	L	S.M	L	S			
Other maj. feat.	stream edge			on submerged rock	submerged rock		submerged rock	submerged rock			stream edge			

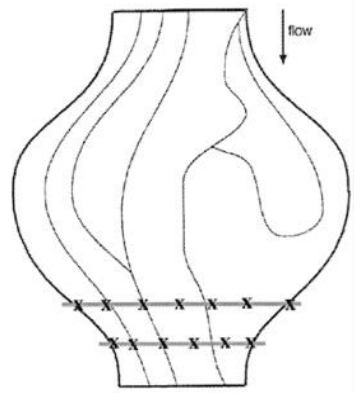
Transect # 5	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.65	0.9	1.0	2.6	1.15	0.9	0.6	0.65	0.35	0.15				
Water Speed	S	S	MF	F	S	S	S	SM	S	S				
Substrate Size	S	S	L	L	M	SL	SL	M	SM	S				
Other maj. feat.	stream edge			sub Boulder						edge				

Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)

Stream Name	Hi'ilawe
Date	4-24-06
Start Time	1:50
GPS reading (0 m)	
GPS reading (100 m)	
Observers	Jo, Mariah, Kekai, Kealii
Comments	

Stream Mapping Data Sheet



Transect # 1	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.25	0.55	0.8	1.6	1.45	1.3	1.3	0.4	0.75	0.15	0.2			
Water Speed	S	S	M	M/F	F	F	M/F	S	S	S	S			
Substrate Size	M	M/L	M	M/L	L	L	M	S	S	S	S			
Other maj. feat.	Stream Edge						Big Rock	Rock	Rock	Plant	stream edge			

Transect # 2	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	1	1.5	1.1	2ft	1.4	1.65	1.05	0.06	0.65					
Water Speed	S	S	SM	MF	F	MF	MS	MS	S					
Substrate Size	S	M	ML	L	L	SM	S	MS	MS					
Other maj. feat.	stream edge	rocks					rock	rock	plants					

Transect # 3	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.55ft	1.7ft	1.1ft	2.2ft	0.65	Q	0.5	Q	0.4	Q	0.4			
Water Speed	F	F	F	F	m/F	S	S	S	S	S/M	m			
Substrate Size	L	S	L	L	m/s	L	L	L	S	m	L			
Other maj. feat.	Stream Edge	rock			rock	rock	rock/ tree branch	rocks	rock	rock	rock			

Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

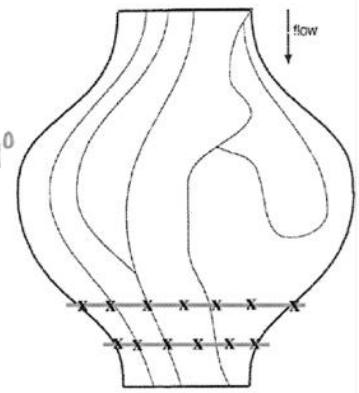
Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Transect # ___	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)

Stream Name	Hi'ilawe stream
Date	April/24/2006
Start Time	2:45
GPS reading (0 m)	
GPS reading (100 m)	N-20.105850 W-155.59579°
Observers	Keha, Riley, Bryalyn Rustee.
Comments	

Stream Mapping Data Sheet



Transect # 9	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.5	0.3	0.9	0.9	0.6	1.5	1.4	0.6	1	0.8	0.7	0.25		
Water Speed	M	M	M	M	M	F	F	M	F	MF	F	S		
Substrate Size	L	L	S	S	S	S	S	S	S	S	SM	SM		
Other maj. feat.														

Transect # 10	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.0	0.2	0.2	0.8	1.6	2.1	1.5	0.8	1	0.7	0.4	0.9	0.8	0.9
Water Speed	S	F	F	MS	S	M	F	S	M	SM	SM	SM	F	F
Substrate Size	S	B	B	S	S	B	B	S	S	S	B	S	B	S
Other maj. feat.														

Transect # 11	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	1.2	1.75	1.2	2.2	0.7	0.5	0.5	0.3	0.3	0.4	0.5	0.4	0.5	0.8
Water Speed	S	F	F	F	M	S	S	S	S	S	S	S	S	M
Substrate Size	S	M	B	B	B	S	S	S	M	B	M	S	S	B
Other maj. feat.														

Transect # 11	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.5													
Water Speed	S													
Substrate Size	B													
Other maj. feat.														

Transect # 12	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.2	0.6	1.3	1.9	1.1	0.45	0.45	0.3	0.2	0.2	0.35			
Water Speed	Slow	S	F	F	F	M	S	S	S	S	F			
Substrate Size	Med	S	S	M	B	S	B	S	B	S	S			
Other maj. feat.														

Transect # 14	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0.2		0.9											
Water Speed	M		F											
Substrate Size	B		B											
Other maj. feat.														

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)