

P.1

Stream Name	Hillawe	Stream Mapping Data Sheet
Date	4-19-07	
Start Time	12:44	
GPS reading (0 m)	N20.10705° W155.596070	
GPS reading (100 m)		
Observers	Kirra, Dylan, & Kapena	
Comments		

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		1 m		.7 ft	.5 ft	1.05 ft	.9 ft	.7 ft	.35 ft						
Water Speed		very s.		s-m		m	m-t	m	s-m						
Substrate Size		small		small		large	large	sm-med	small						
Other maj. feat.			rock		rock										

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		.35 ft	.9 ft		.25 ft	.8 ft	.9 ft								
Water Speed		slow	med-fast		med	med	slow								
Substrate Size		Med	Med		Med	Small	Small								
Other maj. feat.				rock											

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		.35 ft	.45 ft	.9 ft	.65 ft	.65 ft	.3 ft								
Water Speed		still	f	s-m	m-f	m	s								
Substrate Size		S/L	large	medium	medium	large	small								
Other maj. feat.		tree	in stream					rock							

Transect #	4	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		.4	.7	.9	.95	.9	.5		.5						
Water Speed		still	slow	s/M	s	s/M	still		still						
Substrate Size		f/s	small	s	Med	Med	s	Rock	s						
Other maj. feat.															

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		.025 ft	.4 ft	.03 ft	1 ft	.7 ft	.3 ft	.13 ft	.3 ft						
Water Speed		still	slow	med-f	fast	fast	slow	slow	slow						
Substrate Size		small	small	large	M-L	M-L	small	med	small						
Other maj. feat.															

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		.1 ft	.1 ft	.8 ft	1.5 ft	1 ft	1.4 ft	1.6 ft	.05 ft						
Water Speed		still	still	m	m	m-t	m-t	s-m	still						
Substrate Size		small	small	small	medium	med-large	med	small	small						
Other maj. feat.															

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

Stream Name		Stream Mapping Data Sheet
Date		
Start Time		
GPS reading (0 m)		
GPS reading (100 m)		
Observers	Dylan Kapera	
Comments	Kidney	

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	.2	.7	.6	1.3	1.1	1.1	.5	.1						
Water Speed	still	still	S	M	M	S	S	S						
Substrate Size	S	S	M	L	M	S	S	S						
Other maj. feat.									leaf					

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.														

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, Big I.	Stream Mapping Data Sheet
Date	19. Apr. 2007	
Start Time	2:35 pm	
GPS reading (0 m)	N 20.10611° W 155.595990	
GPS reading (100 m)	Wyp# #51	
Observers	Crispin, Keanu	
Comments	Amanda, Kani	

R=Rock
 G=Grass
 S=small/sbw
 M=medium
 L=Large
 F=fast
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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	.2	.5	.8	.9	R	.7	0.01							
Water Speed	S	M	M	L	R	MF	S							
Substrate Size	ML	SL	SM	ML	R	SL	S							
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	0.01	0.1	0.7	0.6	0.9	0.7	0.7	R	0.4	0.4				
Water Speed	S	S	MF	M	M	F	M	R	S	S				
Substrate Size	S	S	SM	S	L	ML	S	R	SM	M				
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	.1	R	.25	.5	.55	.55	.65	1.0	.35	.2	.6	.75	.9	.5
Water Speed	S	R	S	SM	M	M	F	F	MS	ML	M	SM	M	S
Substrate Size	S		SM	M	L	M	MS	ML	M	S	M	S	L	M
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	.1	1.0	.8	.5	1.0					.2	.6		.15	.65
Water Speed	M	F	M	F	M					S	M		S	S
Substrate Size	L	ML	SM	L	ML	Rocks	Rocks	Rocks	Rocks	ML	SM	Rocks	SM	S
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	.6	.5	1.0	.95	.3	.4		.05		.01				
Water Speed	S	S	M	F	S	S	R	S	G/R	S	R/G	R/G	R/G	R/G
Substrate Size	S	S	L	SM	ML	SM	R	ML	G/R	L	R/G	R/G	R/G	R/G
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	.35	.2												
Water Speed	S	S												
Substrate Size	L	L												
Other maj. feat.														

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

Crispin
Keanu
Amanda
hami
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Stream Name		Stream Mapping Data Sheet	
Date			
Start Time			
GPS reading (0 m)			
GPS reading (100 m)			
Observers			
Comments			

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	0.9	1.2	0.8	R	R	0.6	0.9							0.7
Water Speed	M	M	M	R	R	F	M	R	R	R/G	K	R	R	S
Substrate Size	S	L	S	R	R	SM	M	R	R	R/G	K	R	R	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	0.7	0.8	0.55											
Water Speed	S	S	S											
Substrate Size	SL	L	S											
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.														

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	Hillawe Stream	Stream Mapping Data Sheet
Date	4/19/2007	
Start Time	3:50	
GPS reading (0 m)	N20.10972 W155.59963	
GPS reading (100 m)		
Observers	E.T., Noah, Chantel,	
Comments	Ma'hina	

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	0.8	0.3	0.35	0.55	0.5	0.2	1.2	1.0	0.2	0.05	0	0	0.6	0.2
Water Speed	slow	slow	slow	S/M	Fast	M/S	M	M	M	S	0	0	S	S
Substrate Size	L	L	S/L	S/L	L	L	M	S/M	S	S	0	0	S/L	S
Other maj. feat.	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	LAND	LAND	NONE	NONE

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	0.35	0.2	0.1	0										
Water Speed	S	S	S	0										
Substrate Size	S/M	S	M/L	0										
Other maj. feat.	NONE	NONE	NONE	LAND										

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	0.1	0	1.1	0.8	0.5	1.5	0	0	0.8	0	0	0	0.1
Water Speed	Fast	M	0	M	slow	slow	slow	0	0	slow	0	0	0	slow
Substrate Size	L	L	0	L	M	M	M	0	0	M	0	0	0	small
Other maj. feat.	NONE	NONE	BOULDER	0	0	0	NONE	LAND	LAND	NONE	NONE	NONE	NONE	LAND

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	0.5	0	0.5	0	0.3	0								
Water Speed	slow	0	slow	0	slow	0								
Substrate Size	small	0	small	0	med.	0								
Other maj. feat.	NONE	land	NONE	land	0	land								

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	
Date	April 23, 2007	
Start Time	12:00 p.m.	
GPS reading (0 m)	N 26.10673° W 155.59631°	
GPS reading (100 m)		
Observers		
Comments		

Transect # 1	0 m	1 m	2 m	3 m	4 m	5 m	6 m	6.7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth	0	0	0.9	0.35	1.2	1.4	0.2	0.2						
Water Speed	S	S	S	S	M	F	MF	S						
Substrate Size	ML	ML	SM	ML	L	SML	M	SM						
Other maj. feat.	Str. Ed.			Boulder				Stream Ed.						

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	0.01	0.9	.55	0	0.7	.1								
Water Speed	S	FLY	M	0	F	S								
Substrate Size	SML	SM	L	L	ML	ML								
Other maj. feat.				Boulder		Stream								

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	0.6	1.2	1.0	0.8	0.6	0.5							
Water Speed	S	m	m	m	m	S	S							
Substrate Size	S	m	m	m	S	S/m	S							
Other maj. feat.	Stream	debris	boulder		Gravel	boulder	Stream							

Transect # 4	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	0.01	0	1	1	1.25	.3	1.1	.1	.1					
Water Speed	S	0	S	M	S/M	M	M	S	S					
Substrate Size	S/L	L	M	M	L	L	L	S	S					
Other maj. feat.	Stream	Boulder				Boulder		Stream						

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	0.0	0.8	0.35	0	.1	0	0	0						
Water Speed	S	M	M/F	0	M	0	0	0						
Substrate Size	L	L	M/L	M/L	L	SML	M	S/M						
Other maj. feat.	Stream							Stream						

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	0	0	0.8	1.45	1	1	1.75	0.6						
Water Speed	S	S	M	F	M	M	M	S						
Substrate Size	SML	L	S/M	M/L	S/M	S/M	S/M	M/L						
Other maj. feat.														

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

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	0	.5	.1	1.35	1.05	.5	.3	.3	0					
Water Speed	S	S	S	M	M	S/M	M	S	S					
Substrate Size	M/L	S/M/L	S/L	L	M/L	L	L	L	S/M/L					
Other maj. feat.	Stream Bank								Stream Bank					

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	1.05	.8	1	.7	.8	0	0	.2	.3	0		
Water Speed	S	S/M	M	F	F	F	M	0	0	S	S	0		
Substrate Size	S/M/L	S/M	S/M	M	S	M	M	M/L	M	M/L	M	S/M/L		
Other maj. feat.	Stream Bank							Boulders	Boulders			Stream Bank		

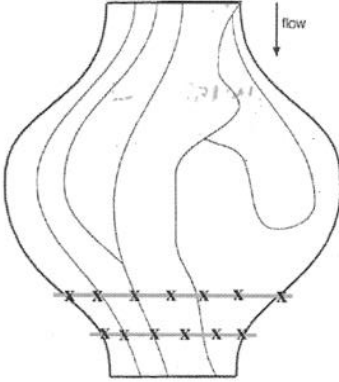
Transect #	0 m	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	11 m	12 m	13 m
Est. Depth														
Water Speed														
Substrate Size														
Other maj. feat.														

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 Mapping Data Sheet 
Date	April-23-2007	
Start Time	2:08 pm	
GPS reading (0 m)		
GPS reading (100 m)	Waypoint: 063 N: 20.1105880 W: 155.545580	
Observers	T+Ikk	
Comments	Tia, Hi'ilei, Iini, kawaihapu, kealeo	

Group #2

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	0.2	0.6	0.8	0	0	0	0.1	0.05	0	0	0	0.1		
Water Speed	S	M/F	F	0	0	0	S	F	0	0	0	S		
Substrate Size	S	M	MS	L	L	L	L	U/S	M/S	M/S	L	M		
Other maj. feat.	stream bank			Boulder	Boulder	Boulder			Rock	Rocks	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	0	0.1	0.3	0.4	0	0	0.9	0	0.05	0.4	0	0	0.1	0
Water Speed	0	M/S	S	F	0	0	F	0	S	M	0	0	M/S	0
Substrate Size	L	M	S/L	S/L	L	L	L	L	M/L	S	L	L	L	L
Other maj. feat.	stream edge				Boulder	Boulder		Boulder			Boulder	Boulder		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	1.4	0.95	0.0	0.55	0.6	0	0	0	0.05	0	0.4	0.35	0	0.45
Water Speed	MS	MS	0	M	SM	0	0	0	S	0	S	L	0	M
Substrate Size	LS	LM	L	MS	S	L	L	L	MS	L	M	S	L	S
Other maj. feat.						Boulder	Boulder	Boulder		Boulder			Boulder	stream bank

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	0.2	1.1	0.95	0	0.4	0.75	0	0.3	0	0	0	0	0	0.5
Water Speed	S	M/E	M/F	0	S	S	0	S	0	0	0	0	0	S/M
Substrate Size	M/S	L	S/M/F	L	S	S	S/M	S	L/M	S	S	S	S	S/M
Other maj. feat.				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.														

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	4/23/07	
Start Time		
GPS reading (0 m)	N-20.10583° W-155.59566°	
GPS reading (100 m)		
Observers	Aloha	
Comments	Kaily Iliana Kawaiianani Polani J.R.	

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		0.3	1.4	0.8	0.2	0.1	0.7	1.0	1.2	0.1	0	0	0	0	0
Water Speed		S	F	M	F	F	M	F	F	S	0	0	0	0	0
Substrate Size		S	L	M	SM	L	S	M	L	L	L	L	L	L	L
Other maj. feat.		Stream									Bank	Bank	Bank	Bank	Bank

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		0.5	0.6	0.9	0.1	0									
Water Speed		S	S	S	S	0									
Substrate Size		M	M	L	L	L									
Other maj. feat.						Stream									

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		0.4	1.2	0	0	0.6	0	0.6	1.0	0.7	0	0	0	0	1.0
Water Speed		S	SM	S	S	M	S	S	M	S	S	S	S	S	S
Substrate Size		S	M	L	L	S	L	L	M	M	L	L	L	L	L
Other maj. feat.		bank		Rock		Rock					Bank	Bank	Bank	Bank	

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		0.5	0.3	0.3	0	0.3	0								
Water Speed		M	S	S	S	S	S								
Substrate Size		S	S	S	L	L	L								
Other maj. feat.					Rock		Stream								

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		0.10	1.1	1.0	1.0	0.7	0.1	0.1	0.4	0.2	0.4	0.1	0.1		
Water Speed		S	S	S	M	S	SM	S	S	S	SM	S	SM		
Substrate Size		ML	SM	S	SM	S	S	SM	SM	SM	M	SM	M		
Other maj. feat.		Boulder					Boulder	depression							

Transect #	4	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		0.6	1.3	0.8	1.2	0.7	0.8	0.1	0.1	0	0.4	0	0.2	0	0
Water Speed		S	S	S	M	M	S	S	S	0	S	0	S	0	0
Substrate Size		S	SM	SM	ML	ML	SM	SM	S	L	SM	L	L	L	L
Other maj. feat.		Edge								Bank		Boulder		Bank	Bank

Water Speed (fast, medium, slow) Substrate Size (small, medium, large)
 0.1 0.2 0.1
 S S S
 S S L

Stream Name	Lalaked	
Date	4/24/07	
Start Time	10:40	
GPS reading (0 m)	N 20.08792° W 155.60069°	
GPS reading (100 m)		
Observers	The 'Olu's	
Comments		

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		0.1	0.1	4.1	4.55	4.6	4.5	4.6	4	3.7	3.6	2.9	2.45	1.72	
Water Speed		S	M	S	S	S	S	S	S	S	S	S	S	S	
Substrate Size		L	L	L	MS	M	SM	SM	S	S	ML	ML	L	L	
Other maj. feat.		bed rock	bed rock	bed rock							Boulder	Boulder	Boulder	Bedrock	

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		0.15	2.45	3.4	4.3	3.9	4.85	3.5	1.7						
Water Speed		S	S	S/M	M	M	S/M	M	S						
Substrate Size		L	L	L	L	L	M/L	L	L						
Other maj. feat.		stream edge	boulder	bed rock	bed rock	boulder	bed rock	bed rock	boulder						

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		0.0	0.001	0	0	0.01	0.01	0.1	0.3						
Water Speed		S	S	0	0	S	M	S	S						
Substrate Size		L	L	L	L	L	L	L	ML						
Other maj. feat.		Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	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	11 m	12 m	13 m
Est. Depth		1.5	1.9	2											
Water Speed		S	M	S											
Substrate Size		L	M/L	M/L											
Other maj. feat.		Stream edge		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		0.01	0.1												
Water Speed		M	S												
Substrate Size		L	L												
Other maj. feat.		bedrock	bedrock												

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		0	0.4	0.1	0	0									
Water Speed		0	M	M	0	0									
Substrate Size		0	M	M	L	L									
Other maj. feat.		0	0		bedrock	0									

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

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	2.4	1.9	1.1	0.65	1.1	0.9	1.05	0.4						
Water Speed	S	M	S	S	S	S	S	S						
Substrate Size	M	M	M	M	L	L	SM	M						
Other maj. feat.	stream			Boulder	Boulder	Boulder	Boulder	Stream						

Bank

Bank 7.5

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	0.2	0.45	0	0	1	1.0	0.9	0.35	0.2					
Water Speed	slow	S	0	0	S	S	S	S	S					
Substrate Size	S/M	S/M	L	L	M	M/L	M	M/L	SM/L					
Other maj. feat.	stream		Boulder	boulder	boulder	boulder			stream					

edge

bank

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														
Water Speed														
Substrate Size														
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														
Water Speed														
Substrate Size														
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														
Water Speed														
Substrate Size														
Other maj. feat.														

N 20.08760°

W 155.60098°

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

Stream Name	Lalakea	Stream Mapping Data Sheet
Date	4/24/07	
Start Time	12:30 p.m.	
GPS reading (0 m)	N 20° 0.52.50 W 156° 36.077	
GPS reading (100 m)	→	
Observers	T.H.I.K.K.	
Comments		

4.8

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	0.2	0.85	0									
Water Speed		S	S	S	S									
Substrate Size		SL	L	L	L									
Other maj. feat.		stream Bank			stream Bank									

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		0.5	0	0	0.9									
Water Speed		S	S	0	S									
Substrate Size		SL	L	L	M.L									
Other maj. feat.		stream Bank	Big rock	Big rock	stream Bank									

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		1.2	0	0.7										
Water Speed		F	S	S										
Substrate Size		L	L	L										
Other maj. feat.		stream Bank	Big rock	stream Bank										

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		0.2	0	1.5	0									
Water Speed		M.F	0	S	0									
Substrate Size		S	L	L	L									
Other maj. feat.		stream Bank	Big rock		stream Bank									

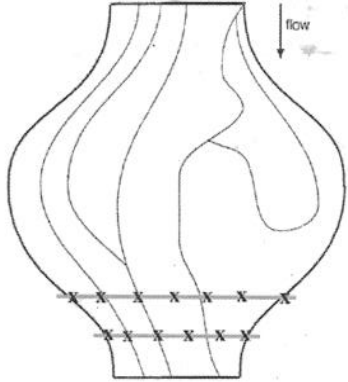
11.8

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		0.85	0	0	0	0	0	0	0	0	0	0	0.1	
Water Speed		SM	0	0	0	0	0	0	0	0	0	0	S	
Substrate Size		L	L	L	L	L	0	0	0	0	0	0	SL	
Other maj. feat.		stream Bank	Big rock	rock	rock	rock	island	island	island	island	island	island	stream Bank	

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		0.75	0.65	0.1	0.15									
Water Speed		S	S	S	S									
Substrate Size		MS	S	L	S									
Other maj. feat.		stream Bank			stream Bank									

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

Stream Name	Lalakea	Stream Mapping Data Sheet 
Date	4/24/07	
Start Time		
GPS reading (0 m)		
GPS reading (100 m)		
Observers	T.H.I.K.K	
Comments		

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	0.2	0	0	0	0.7									
Water Speed	S	0	0	0	S									
Substrate Size	L	L	SL	L	LM									
Other maj. feat.	stream 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.														

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.														

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	Lalakea	Stream Mapping Data Sheet
Date	4-24-07	
Start Time	3:25 p.m.	
GPS reading (0 m)	N 20.08862, W 155.60019	
GPS reading (100 m)		
Observers	Alaha	
Comments	Kaili Kana Iliana JR Polani	

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		0.2	0.1	2.1	4.2	4.3	2.9	0						
Water Speed		S	S	M	M	L	S							
Substrate Size		S	S	S	S	S	S	L						
Other maj. feat.														

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		0.3	0.9	3.0	3.9	4.7	4.4	0.4						
Water Speed		S	S	S	S	S	S	S						
Substrate Size		S	M	S	M	S	S	S						
Other maj. feat.														

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		0.0	0.8	0.0	0.0									
Water Speed		S	S											
Substrate Size		S	S	L	L									
Other maj. feat.				Big Boulder	Big Boulder									

Transect # 4	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	1.2	0.5	0							
Water Speed			S	S	S	S	0							
Substrate Size		L	L	L	SL	S	0							
Other maj. feat.		Stream Edge					Stream Bank							

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		0.3	1.4	1.2	1.05	0	0.05							
Water Speed		S	S	S	S	0	S							
Substrate Size		SL	L	L	ML	L	L							
Other maj. feat.						Big Boulder								

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		0.2	1.0	0.5	0									
Water Speed		S	S	S	S									
Substrate Size		L	L	L	L									
Other maj. feat.		Edge			boulder									

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)

Note - We skipped the transect after #5.

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	0.2	0	0	2.4	0									
Water Speed	S	0	0	S	0									
Substrate Size	L	L	L	L	L									
Other maj. feat.	Edge	boulder	boulder		Edge									

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	0.9	0	0	0.9	0								
Water Speed	0	F	0	0	S	S								
Substrate Size	L	L	L	L	L	L								
Other maj. feat.	Edge		boulder	boulder		boulder								

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	0.6	1.2	0.7	0.2										
Water Speed	S	S	S	S										
Substrate Size	SL	SM	SML	ML										
Other maj. feat.	Edge			boulder										

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	2.4	2.1	0.6	0.7	1.0	1.7	2.3	0.4	3.4					
Water Speed	M	S	F	S	S	S	S	S	S					
Substrate Size	M	L	L	M	L	L	M	L	L					
Other maj. feat.	Edge							boulder	Edge					

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	1.0	1.9	5.4	2.7	4.6	4.9	4.0	5.0						
Water Speed	S	S	S	S	S	S	S	S						
Substrate Size	L	L	M	M	M	M	SM	SM						
Other maj. feat.	Edge							Edge						

GPS - N-20.04800°
W-155.60063°

Elon 2080

WPT-062

Water Speed (fast, medium, slow)

Substrate Size (small, medium, large)