

### **Appendix XIII(a) - Questionnaires**

#### **Marine Capture Fisheries**

**Date:** .....

**Project:** .....

1. Name of fishermen: .....

2. Fish landing point: .....

3. Vessel type: .....

4. Gear employed: .....

5. Fishing grounds: .....

6. Fishing effort: ..... day/month @ ..... hours /day

7. Number of worker on-board:

Number: ..... number of worker x ..... months x

Salary/worker ..... RM/month during employment

8. Catch:

i. Higher catch: ..... number of months x ..... kg/month x .....  
RM/kg

ii. Lower catch: ..... number of months x ..... kg/month x .....  
RM/kg

iii. Major fish caught .....

.....

.....

.....

9. Fuel cost:

i. Higher number: ..... litres x ..... x RM...../litre

ii. Lower number: ..... litres x ..... x RM...../litre

10. Average income/ month.....

**Aquaculture (Mussel Farming)**

**Date:** .....

**Project:** .....

1. Name of farmer: .....
2. Location of farm: .....
3. Number of workers involved: ..... Salary/worker.....RM/month
4. No. of panggars (no of stilts).....
5. Size of farms.....
6. Species reared: .....
7. Culture period: .....months
8. Harvest
  - Harvest size ..... cm
  - Ex-farm offered price: ..... RM/kg
  - Production: ..... tonnes/year
9. Disease:
  - Type: .....
  - Frequency: .....
  - Type of treatment: .....

### **Recreational Fisheries (Boat Operator)**

**Date:** .....

**Project:** .....

1. Name of boat operator: .....
2. Fish Landing Point: .....
3. Number of workers: .....
4. Operation time:
  - a. Weekends/ Public Holidays
    - Rental rate:
      - RM/hour .....
      - RM/day .....
      - RM/angler .....
    - Baits:
      - Not provided .....
      - Provided (+RM.....)
  - b. Weekdays
    - Rental rate:
      - RM/hour .....
      - RM/day .....
      - RM/angler .....
    - Baits:
      - Not provided .....
      - Provided (+RM.....)
5. No. of boat
  - a. Non-powered boat ..... unit
  - b. Inboard ..... unit
  - c. Outboard ..... unit
6. No of angler/boat
  - a. Non-powered boat ..... anglers/boat
  - b. Inboard ..... anglers/boat
  - c. outboard ..... anglers/boat
7. No. of fishing gear/angler .....
8. Angling location.....

9. Type of bait and rate (RM)

.....

10. Common fish caught

.....  
.....  
.....  
.....  
.....

11. Average catch

a. kg/boat .....

b. kg/angler .....

12. Average number of anglers (week@month@year)

a. Weekends/ Public Holidays

Gender:

Male ..... angler

Female ..... angler

Age:

<12 year ..... angler

<18 year ..... angler

<40 year ..... angler

>40 year ..... angler

Race:

Malay ..... angler

Chinese ..... angler

India ..... angler

Others ..... angler

Origin:

Local .....

Out side area.....

b. Weekdays

Gender:

Male ..... angler

Female ..... angler

Age:

<12 year ..... angler  
<18 year ..... angler  
<40 year ..... angler  
>40 year ..... angler

Race:

Malay ..... angler  
Chinese ..... angler  
India ..... angler  
Others ..... angler

Origin:

Local .....  
Out side area.....

**Recreational Fisheries (Anglers)**

**Date:** .....

**Project:** .....

1. Name of angler: .....

2. Angling location: .....

3. Angling time

a. Weekdays (.....)

b. Weekends/public holiday (.....)

4. No. of fishing gear.....

5. Type of bait and rate (RM)

.....  
.....

6. Common fish caught

.....  
.....  
.....

7. Average catch.....

8. Number of other anglers (observations)

a. Weekends/ Public Holidays

Gender:

Male ..... angler

Female ..... angler

Age:

<12 year ..... angler

<18 year ..... angler

<40 year ..... angler

>40 year ..... angler

Race:

Melay ..... angler

Chinese ..... angler

India ..... angler

Others ..... angler

Origin:

Local .....

Out side area.....

b. Working days

Gender:

Male ..... angler

Female ..... angler

Age:

<12 year ..... angler

<18 year ..... angler

<40 year ..... angler

>40 year ..... angler

Race:

Melay ..... angler

Chinese ..... angler

India ..... angler

Others ..... angler

Origin:

Local .....

Out side area.....

**Appendix XIII(b)**  
**List of Fish Species Caught at Study Area**

Station	Family	Local Name	Scientific Name	No.	Length (cm)	Weight (g)
F1	Sciaenidae	Gelama	<i>Johnius balangerii</i>	11	12.8	26
					13.5	29
					13.5	29
					14.0	28
					14.1	29
					14.2	33
					14.5	32
					14.6	35
					14.6	37
					14.7	57
					15.0	35
Pristigasteridae	Beliak Mata	<i>Ilisha kampeni</i>	6	14.6	21	
				16.2	28	
				17.5	39	
				17.8	42	
				18.7	44	
				19.4	53	
Pristigasteridae	Bersia	<i>Ilisha melastoma</i>	4	12.6	21	
				14.9	36	
				15.9	40	
				16.0	45	
Polynemidae	Senangin buis	<i>Polydactylus sextarius</i>	5	10.1	8	
				14.0	36	
				15.4	43	
				16.1	49	
				16.3	52	
Polynemidae	Senangin	<i>Eleutheronema tetradactylum</i>	1	25.8	152	
Haemulidae	Gerut-Gerut	<i>Pomadasys maculatus</i>	3	11.1	26	
				13.0	39	
				14.0	51	
Haemulidae	Gerut-Gerut	<i>Pomadasys kaakan</i>	1	24.6	285	
Sciaenidae	Gelama Batu	<i>Nibea soldado</i>	3	12.8	30	
				12.8	31	
				13.2	29	
Clupeidae	Selangat	<i>Anadontosoma chacunda</i>	3	13.5	39	
				13.7	34	
				14.5	37	
Leiognathidae	Kikek	<i>Secutor insidiator</i>	2	8.3	8	
				8.5	9	
Engraulidae	Kasai Janggut	<i>Setipinna taty</i>	1	15.1	24	
Engraulidae	Kasai Minyak	<i>Thryssa hamiltonii</i>	1	16.6	36	
Ariidae	Duri	<i>Arius jella</i>	1	20.2	72	
Gerreidae	Kapas	<i>Gerres erythrourus</i>	1	9.6	17	



Station	Family	Local Name	Scientific Name	No.	Length (cm)	Weight (g)
F1	Portunidae	Ketam	<i>Charybdis</i> sp.	1	7.5	83
	Limulidae	Belangkas	<i>Tachypleus gigas</i>	2	13.6	261
					14.1	273
F2	Pristigasteridae	Beliak Mata	<i>Ilisha kampeni</i>	11	14.4	25
					16.0	32
					17.4	56
					17.4	35
					17.8	36
					18.1	44
					18.5	41
					18.5	41
					19.1	49
					19.1	48
					19.4	55
	Pristigasteridae	Bersia	<i>Ilisha melastoma</i>	3	15.2	42
					15.3	37
					15.5	44
	Sciaenidae	Gelama	<i>Johnius balangerii</i>	14	10.0	9
					13.3	28
					13.5	29
					14.4	36
					14.7	30
					14.7	33
					14.8	35
					15.2	38
					15.2	38
					15.3	39
					15.5	41
					15.8	39
	15.8	44				
	16.1	46				
	Clupeidae	Selangat	<i>Anadontosoma chacunda</i>	7	11.0	18
					11.5	21
					12.0	25
					13.4	34
					13.8	31
14.0					37	
15.4					29	
Clupeidae	Tamban	<i>Sardinella fimbriata</i>	1	14.4	28	
Limulidae	Belangkas	<i>Tachypleus gigas</i>	4	17.4	482	
				13.9	233	
				13.6	238	
				12.0	177	

Station	Family	Local Name	Scientific Name	No.	Length (cm)	Weight (g)
F3	Clupeidae	Tamban	<i>Sardinella fimbriata</i>	21	13.8	26
					13.9	38
					13.9	29
					14.0	32
					14.0	28
					14.0	28
					14.1	38
					14.1	27
					14.3	27
					14.4	29
					14.4	31
					14.4	28
					14.4	28
					14.5	30
					14.5	29
	14.5	29				
	14.7	32				
	14.7	32				
	14.8	34				
	14.9	30				
	15.1	39				
Mugilidae	Belanak	<i>Planiliza melinopterus</i>	3	15.7	41	
				17.5	58	
				18.1	68	
Pristigasteridae	Bersia	<i>Ilisha melastoma</i>	3	13.1	25	
				14.4	35	
				15.0	42	
Engraulidae	Kasai Minyak	<i>Thryssa hamiltonii</i>	2	16.1	32	
				16.4	33	
Clupeidae	Tamban	<i>Sardinella fimbriata</i>	2	14.4	28	
				14.6	31	
Pristigasteridae	Beliak Mata	<i>Ilisha kampeni</i>	2	18.7	37	
				18.8	45	
Dasyatidae	Ketuka	<i>Himantura walga</i>	1	18.9	232	
Chirocentridae	Parang	<i>Chirocentrus nudus</i>	1	40.6	255	
Scombridae	Tenggiri Batang	<i>Scomberomorus commerson</i>	1	28.6	133	
Portunidae	Ketam Renjong	<i>Portunus pelagicus</i>	1	14.7	260	
Limulidae	Belangkas	<i>Tachypleus gigas</i>	2	13.4	241	
				18.1	251	
F4	Ariidae	Duri	<i>Arius jella</i>	5	18.9	73
					24.7	217
					24.9	185
					25.0	206
					26.5	245

Station	Family	Local Name	Scientific Name	No.	Length (cm)	Weight (g)
F4	Ariidae	Duri Pulut	<i>Netuma thalassina</i>	2	22.2	141
					24.3	195
	Ariidae	Duri	<i>Plicofollis platystomus</i>	1	29.4	320
	Ariidae	Duri	<i>Plicofollis dussumieri</i>	1	31.0	351
	Sciaenidae	Gelama Batu	<i>Nibea soldado</i>	6	11.6	23
					14.0	39
					14.5	41
					15.0	45
					15.1	47
					15.2	46
	Sciaenidae	Gelama	<i>Johnius balangerii</i>	2	17.6	68
					17.9	62
	Clupeidae	Selangat	<i>Anadontosoma chacunda</i>	1	14.3	38
Dasyatidae	Ketuka	<i>Himantura walga</i>	1	16.6	159	
Cynoglossidae	Lidah	<i>Cynoglossus bilineatus</i>	1	28.2	141	
Muraenesocidae	Malong	<i>Congresox talabon</i>	1	58.0	170	
F5	Ariidae	Duri	<i>Arius jella</i>	2	25.7	216
					28.8	291
	Cynoglossidae	Lidah	<i>Cynoglossus bilineatus</i>	2	29.2	143
					31.1	189
	Polynemidae	Senangin	<i>Eleutheronema tetradactylum</i>	1	25.5	129
	Engraulidae	Kasai Janggut	<i>Setipinna taty</i>	1	14.6	23
	Xanthidae	Ketam Batu	<i>Menippe</i> sp.	1	5.4	40
<b>Total</b>				<b>153</b>	<b>-</b>	<b>11,220</b>

**Appendix XIII(c)  
List of Mangrove by Transect Line in Study Area**

Transect	Quadrat	Species	Type				Range girth (cm)	Range height (m)
			Tree	Sapling	Shrub	Fern		
T1	Q1	<i>Ceriops decandra</i>	3				10 - 35	4.0
	Q1	<i>Ceriops decandra</i>		11			8 - 10	2.0
	Q1	<i>Xylocarpus moluccensis</i>	1				60	7.0
	Q1	<i>Bruguiera parviflora</i>	2				20 - 30	4.0 - 5.0
	Q1	<i>Avicennia officinalis</i>		5			10 - 12	1.5 - 2.5
	Q1	<i>Avicennia officinalis</i>	4				20	4.0
	Q2	<i>Ceriops decandra</i>		7			8 - 10	1.8 - 3.0
	Q2	<i>Ceriops decandra</i>	3				20 - 25	4.0
	Q2	<i>Xylocarpus moluccensis</i>	1				60	7.0
	Q3	<i>Ceriops decandra</i>		9			10	2.0
	Q3	<i>Ceriops decandra</i>	3				30 - 35	6.0
	Q3	<i>Avicennia officinalis</i>		1			10	3.0
	Q4	<i>Ceriops decandra</i>	5				30 - 35	5.0 - 6.0
	Q4	<i>Ceriops decandra</i>		18			10 - 15	2.0
	Q4	<i>Bruguiera parviflora</i>	2				12 - 20	4.0 - 5.0
	Q4	<i>Avicennia officinalis</i>		10			5 - 6	1.5
	Q4	<i>Avicennia officinalis</i>	1				80	7.0
	Q4	<i>Rhizophora apiculata</i>		1			4	1.5
	Q5	<i>Ceriops decandra</i>		27			10 - 20	2.0 - 4.0
	Q5	<i>Ceriops decandra</i>	3				15 - 40	4.0 - 5.0
Q5	<i>Bruguiera parviflora</i>		4			3	1.0	
Q5	<i>Avicennia officinalis</i>		11			4	0.5	
Q5	<i>Acrostichum aureum</i>				5			
T2	Q1	<i>Sonneratia alba</i>	30				10 - 40	5.0 - 10.0
	Q1	<i>Rhizophora apiculata</i>	3				10 - 30	5.0 - 7.0
	Q1	<i>Rhizophora mucronata</i>	6				10 - 20	5.0 - 7.0
	Q1	<i>Avicennia alba</i>	6				10 - 40	5.0 - 10.0
	Q1	<i>Avicennia alba</i>		25			5 - 10	2.0 - 3.0
	Q1	<i>Avicennia marina</i>	7				10 - 20	5.0 - 8.0
	Q1	<i>Avicennia marina</i>		30			5 - 10	2.0 - 3.0
	Q1	<i>Bruguiera cylindrica</i>	3				10 - 20	5.0 - 7.0
	Q1	<i>Xylocarpus granatum</i>	2				10 - 20	5.0 - 6.0
	Q1	<i>Excoecaria agallocha</i>	5				10 - 20	1.0 - 5.0
	Q1	<i>Talipariti tiliaceum</i>	5					
	Q1	<i>Thespesia populnea</i>	5					
	Q1	<i>Morinda citrifolia</i>	1					
	Q1	<i>Sarcobolus globosus</i>			10			
	Q1	<i>Calophyllum inophyllum</i>			12			
	Q1	<i>Terminalia catappa</i>	4					
Q1	<i>Pluchea indica</i>			8				
T3	Q1	<i>Avicennia alba</i>	28				10 - 40	5.0 - 6.0
	Q2	<i>Avicennia alba</i>	21				10 - 40	5.0 - 6.0
	Q3	<i>Avicennia alba</i>		5			5 - 10	2.0 - 3.0
	Q3	<i>Avicennia alba</i>	19				10 - 50	5.0 - 6.0

	Q4	<i>Avicennia alba</i>		4		5 - 10	2.0 - 3.0
	Q4	<i>Avicennia alba</i>	18			10 - 30	5.0 - 6.0
	Q5	<i>Avicennia alba</i>		2		5 - 10	2.0 - 3.0
	Q5	<i>Avicennia alba</i>	17			10 - 30	5.0 - 6.0
T4	Q1	<i>Sonneratia alba</i>	2			70 - 110	7.0 - 10.0
	Q1	<i>Bruguiera cylindrica</i>	2			25 - 120	7.0 - 9.0
	Q1	<i>Rhizophora mucronata</i>	1			80	9.0
	Q2	<i>Nypa fruticans</i>		14			
	Q3	<i>Nypa fruticans</i>		11			
	Q4	<i>Nypa fruticans</i>		7			
T5	Q1	<i>Avicennia alba</i>	3			30 - 88	6.0
	Q1	<i>Avicennia alba</i>		1		10	3.0
	Q1	<i>Sonneratia alba</i>	1			120	7.0
	Q2	<i>Rhizophora apiculata</i>	7			20 - 30	5.0 - 6.0
	Q2	<i>Sonneratia alba</i>	1			80	6.0
	Q3	<i>Rhizophora apiculata</i>	11			10 - 33	5.0 - 6.0
	Q3	<i>Sonneratia alba</i>	1			164	6.0
	Q4	<i>Rhizophora apiculata</i>	13			10 - 40	6.0
	Q4	<i>Rhizophora apiculata</i>		3		5 - 6	2.0
	Q4	<i>Sonneratia alba</i>	1			77	7.0
	Q5	<i>Rhizophora apiculata</i>	8			10 - 40	5.0
	Q5	<i>Sonneratia alba</i>	1			62	7.0
		Q5	<i>Nypa fruticans</i>	11			
T6	Q1	<i>Avicennia marina</i>	10			20 - 30	5.0 - 6.0
	Q2	<i>Sonneratia alba</i>	2			30 - 40	6.0 - 7.0
	Q3	<i>Avicennia alba</i>	11			30 - 40	5.0 - 6.0
	Q4	<i>Rhizophora apiculata</i>		1		5	1.5
T7	Q1	<i>Rhizophora mucronata</i>	14			20 - 30	6.0 - 7.0
	Q1	<i>Bruguiera gymnorrhiza</i>	3			15 - 30	5.0 - 7.0
	Q1	<i>Bruguiera gymnorrhiza</i>		5		5	1.0
	Q1	<i>Rhizophora mucronata</i>		10		2 - 5	0.5
	Q2	<i>Rhizophora mucronata</i>	13			20 - 40	6.0 - 7.0
	Q2	<i>Rhizophora mucronata</i>		20		3 - 4	0.5
	Q2	<i>Bruguiera gymnorrhiza</i>	2			10 - 20	5.0
	Q2	<i>Bruguiera gymnorrhiza</i>		3		3 - 4	1.0
	Q3	<i>Rhizophora mucronata</i>	13			20 - 50	6.0 - 7.0
	Q3	<i>Bruguiera gymnorrhiza</i>	2			20 - 40	6.0 - 7.0
	Q3	<i>Bruguiera gymnorrhiza</i>		1		6	3.0
	Q4	<i>Rhizophora mucronata</i>	11			20 - 50	6.0 - 7.0
	Q4	<i>Rhizophora mucronata</i>		61		2 - 6	0.5 - 1.5
	Q4	<i>Bruguiera gymnorrhiza</i>	3			15	5.0
	Q5	<i>Rhizophora mucronata</i>	12			10 - 30	6.0
Q5	<i>Rhizophora mucronata</i>		30		2 - 3	0.5	
Q5	<i>Ceriops decandra</i>	3			10 - 20	5.0	
T8	Q1	<i>Rhizophora mucronata</i>	13			20 - 40	6.0 - 7.0
	Q1	<i>Avicennia alba</i>	5			20 - 30	5.0 - 6.0
	Q2	<i>Rhizophora mucronata</i>	7			20 - 40	6.0 - 7.0
	Q2	<i>Avicennia marina</i>	5			20 - 30	6.0

	Q2	<i>Avicennia marina</i>		7			5 - 10	3.0 - 4.0
	Q3	<i>Nypa fruticans</i>	5					
	Q3	<i>Talipariti tiliaceum</i>	2					
	Q3	<i>Acrostichum speciosum</i>				4		
	Q3	<i>Acanthus ebracteatus</i>			1			
	Q4	<i>Nypa fruticans</i>	4					
	Q4	<i>Talipariti tiliaceum</i>	1					
	Q4	<i>Acrostichum speciosum</i>				3		
	Q4	<i>Acanthus ebracteatus</i>			1			
	Q5	<i>Avicennia marina</i>	2				20 - 30	6.0
	Q5	<i>Nypa fruticans</i>	3					
	Q5	<i>Talipariti tiliaceum</i>	2					
	Q5	<i>Acrostichum speciosum</i>				5		
	Q5	<i>Acanthus ebracteatus</i>			2			
T9	Q1	<i>Rhizophora mucronata</i>	9				10 - 30	5.0 - 6.0
	Q1	<i>Rhizophora mucronata</i>		21			5 - 6	1.0
	Q1	<i>Avicennia alba</i>	1				116	7.0
	Q2	<i>Rhizophora mucronata</i>	41				10 - 40	5.0 - 6.0
	Q2	<i>Xylocarpus granatum</i>	2				30 - 40	5.0 - 6.0
	Q2	<i>Bruguiera cylindrica</i>	1				25	6.0
	Q3	<i>Xylocarpus granatum</i>	1				35	6.0
	Q3	<i>Rhizophora mucronata</i>	2				40 - 50	6.0
	Q3	<i>Xylocarpus moluccensis</i>	1				35	6.0
	Q3	<i>Ceriops decandra</i>	7				10 - 20	5.0
	Q3	<i>Acrostichum speciosum</i>				2		
	Q4	<i>Ceriops decandra</i>	2				5 - 10	4.0
	Q4	<i>Acanthus ebracteatus</i>			2			
	Q4	<i>Acrostichum speciosum</i>				3		
	Q4	<i>Talipariti tiliaceum</i>	1					
	Q4	<i>Excoecaria agallocha</i>	3					
	Q5	<i>Nypa fruticans</i>	12					
Q5	<i>Acrostichum speciosum</i>				3			
Q5	<i>Talipariti tiliaceum</i>	2						
Q5	<i>Excoecaria agallocha</i>	4						
T10	Q1	<i>Avicennia alba</i>	1				80	6.0
	Q1	<i>Rhizophora apiculata</i>	4				30 - 40	6.0
	Q1	<i>Avicennia alba</i>		2			6 - 7	1.5
	Q2	<i>Avicennia alba</i>	3				30 - 40	5.0
	Q2	<i>Rhizophora apiculata</i>	7				20 - 30	6.0
	Q3	<i>Rhizophora apiculata</i>	7				20 - 30	6.0
	Q3	<i>Rhizophora apiculata</i>		10			6 - 7	1.5
T11	Q1	<i>Avicennia alba</i>	3				35 - 45	5.0 - 6.0
	Q1	<i>Rhizophora apiculata</i>	1				20	5.0
	Q2	<i>Rhizophora mucronata</i>	3				20 - 25	5.0 - 6.0
	Q2	<i>Rhizophora mucronata</i>		7			5 - 10	2.0 - 3.0
	Q2	<i>Rhizophora apiculata</i>	1				20	5.0
	Q2	<i>Avicennia alba</i>	1				15	5.0
	Q2	<i>Avicennia alba</i>		7			5 - 10	2.0 - 3.0

	Q3	<i>Rhizophora mucronata</i>	3			20 - 35	5.0 - 7.0	
	Q3	<i>Rhizophora mucronata</i>		5		5 - 10	1.0 - 2.0	
	Q3	<i>Avicennia alba</i>		15		5 - 10	1.0 - 2.0	
	Q3	<i>Nypa fruticans</i>	1					
T12	Q1	<i>Avicennia marina</i>		4		5 - 22	1.0 - 2.0	
	Q1	<i>Avicennia alba</i>	1			34	8.0	
	Q1	<i>Sonneratia alba</i>	4			20 - 48	7.0 - 10.0	
	Q1	<i>Rhizophora stylosa</i>		1		14	1.5	
	Q1	<i>Rhizophora apiculata</i>	3			20 - 30	7.0 - 8.0	
	Q1	<i>Rhizophora apiculata</i>		11		10 - 20	2.0 - 3.0	
	Q1	<i>Ceriops decandra</i>		1		15	2.0	
	Q2	<i>Rhizophora apiculata</i>	24			10 - 30	6.0 - 8.0	
	Q2	<i>Sonneratia alba</i>	3			20 - 60	8.0 - 10.0	
	Q2	<i>Ceriops decandra</i>		1		12	1.5	
	Q3	<i>Rhizophora apiculata</i>	42			10 - 30	4.0 - 7.0	
	Q3	<i>Rhizophora apiculata</i>		10		5 - 10	1.0 - 2.0	
	Q3	<i>Bruguiera cylindrica</i>	4			10 - 20	6.0 - 7.0	
	Q3	<i>Xylocarpus granatum</i>	1			38	8.0	
	Q4	<i>Rhizophora apiculata</i>	5			20 - 100	7.0 - 14.0	
	Q4	<i>Excoecaria agallocha</i>	6			20 - 30	7.0 - 8.0	
	Q4	<i>Xylocarpus granatum</i>		2		10 - 20	2.0 - 3.0	
	Q4	<i>Xylocarpus moluccensis</i>	2			20 - 30	6.0	
	Q5	<i>Rhizophora apiculata</i>	3			10 - 30	6.0 - 9.0	
	Q5	<i>Xylocarpus granatum</i>	6			20 - 30	6.0 - 7.0	
	Q5	<i>Avicennia officinalis</i>	9			10 - 30	5.0 - 8.0	
	Q5	<i>Nypa fruticans</i>	7				5.0 - 6.0	
	Q5	<i>Excoecaria agallocha</i>	1			20 - 30	8.0	
	Q5	<i>Bruguiera parviflora</i>	1			10 - 20	8.0	
	T13	Q1	<i>Rhizophora apiculata</i>	6			15 - 52	4.0 - 9.0
		Q1	<i>Rhizophora apiculata</i>		19		10 - 15	1.0 - 2.0
Q1		<i>Bruguiera parviflora</i>	3			18 - 21	6.0	
Q1		<i>Bruguiera parviflora</i>		3		10 - 15	1.0 - 1.5	
Q1		<i>Ceriops decandra</i>		4		5 - 14	1.0 - 3.0	
Q1		<i>Ceriops decandra</i>	1			18	4.0	
Q2		<i>Xylocarpus granatum</i>	4			30 - 50	8.0 - 10.0	
Q2		<i>Xylocarpus granatum</i>		3		10 - 20	1.5 - 4.0	
Q2		<i>Bruguiera parviflora</i>	1			38	9.0	
Q2		<i>Xylocarpus moluccensis</i>	2			80 - 90	10.0	
Q2		<i>Ceriops decandra</i>		2		5 - 10	1.5 - 2.0	
Q2		<i>Rhizophora apiculata</i>	1			96	12.0	
Q2		<i>Talipariti tiliaceum</i>	5					
Q2		<i>Terminalia catappa</i>	1					
Q2		<i>Morinda citrifolia</i>	3					
Q2		<i>Calophyllum inophyllum</i>	2					
Q3		<i>Xylocarpus granatum</i>	6			10 - 40	5.0 - 10.0	
Q3		<i>Excoecaria agallocha</i>	8			10 - 40	5.0 - 10.0	
Q3		<i>Acrostichum speciosum</i>			7			
Q4		<i>Excoecaria agallocha</i>		7		5 - 10	1.0 - 2.0	

	Q4	<i>Excoecaria agallocha</i>	6				20 - 30	7.0 - 8.0
	Q4	<i>Xylocarpus granatum</i>	1				60 - 70	10.0
	Q4	<i>Avicennia officinalis</i>	2				20 - 30	7.0 - 8.0
	Q4	<i>Acrostichum speciosum</i>				11		
	Q5	<i>Avicennia officinalis</i>	17				10 - 30	6.0 - 8.0
	Q5	<i>Excoecaria agallocha</i>		3			5 - 10	1.0 - 2.0
	Q5	<i>Excoecaria agallocha</i>	2				10 - 20	6.0 - 8.0
	Q5	<i>Acrostichum speciosum</i>				4		
T14	Q1	<i>Excoecaria agallocha</i>	1				38	6.0
	Q1	<i>Sonneratia alba</i>	1				72	10.0
	Q1	<i>Sonneratia alba</i>		1			15	3.0
	Q1	<i>Talipariti tiliaceum</i>	9					
	Q1	<i>Xylocarpus granatum</i>	2				24 - 42	5.0 - 10.0
	Q1	<i>Rhizophora apiculata</i>	9				18 - 34	6.0 - 9.0
	Q1	<i>Avicennia officinalis</i>	1				34	6.0
	Q1	<i>Rhizophora stylosa</i>	2				18 - 32	6.0
	Q1	<i>Ceriops decandra</i>	1				18	6.0
	Q1	<i>Dolichandrone spathacea</i>	1					
	Q2	<i>Ceriops decandra</i>	2				20 - 21	6.0 - 7.0
	Q2	<i>Ceriops decandra</i>		1			18	3.0
	Q2	<i>Xylocarpus granatum</i>		1			18	2.0
	Q2	<i>Rhizophora apiculata</i>	6				18 - 41	7.0 - 10.0
	Q2	<i>Bruguiera cylindrica</i>	1				43	9.0
	Q2	<i>Rhizophora stylosa</i>	1				33	10.0
	Q2	<i>Avicennia officinalis</i>	1				48	10.0
	Q2	<i>Excoecaria agallocha</i>	2				18 - 20	6.0 - 7.0
	Q2	<i>Talipariti tiliaceum</i>	3					
	Q3	<i>Ceriops decandra</i>	14				14 - 22	4.0 - 6.0
	Q3	<i>Sonneratia alba</i>	2				89 - 104	14.0
	Q3	<i>Bruguiera cylindrica</i>	1				36	8.0
	Q3	<i>Talipariti tiliaceum</i>	6					
	Q3	<i>Excoecaria agallocha</i>	4				14 - 31	4.0 - 7.0
	Q3	<i>Terminalia catappa</i>	1					
	Q4	<i>Ceriops decandra</i>	7				10 - 21	4.0 - 6.0
	Q4	<i>Sonneratia alba</i>	2				48 - 94	10-12
	Q4	<i>Rhizophora stylosa</i>	5				24 - 38	7.0 - 8.0
	Q4	<i>Rhizophora apiculata</i>	2				31 - 34	9.0 - 10.0
	Q4	<i>Bruguiera parviflora</i>	2				20 - 36	8.0 - 9.0
	Q4	<i>Terminalia catappa</i>	2					
	Q4	<i>Talipariti tiliaceum</i>	6					
	Q4	<i>Bruguiera cylindrica</i>	2				10 - 34	4.0 - 7.0
	Q4	<i>Bruguiera cylindrica</i>		1			8	3.0
	Q4	<i>Morinda citrifolia</i>	1					
	Q5	<i>Ceriops decandra</i>	12				15 - 24	4.0 - 6.0
Q5	<i>Sonneratia alba</i>	1				44	10.0	
Q5	<i>Oxyceris longiflorus</i>			2				
Q5	<i>Chromolaena odorata</i>			13				
Q5	<i>Morinda citrifolia</i>	2						



	Q5	<i>Rhizophora apiculata</i>	3				24 - 56	8.0 - 10.0
	Q5	<i>Excoecaria agallocha</i>	5				24 - 30	5.0 - 7.0
	Q5	<i>Bruguiera cylindrica</i>	4				24 - 35	7.0 - 10.0
	Q6	<i>Sonneratia alba</i>	5				56 - 89	12.0
	Q6	<i>Talipariti tiliaceum</i>	3					
	Q6	<i>Morinda citrifolia</i>	2					
	Q6	<i>Terminalia catappa</i>	2					
	Q6	<i>Ceriops decandra</i>	16				16 - 28	4.0 - 7.0
	Q6	<i>Ceriops decandra</i>		3			12 - 14	3.0 - 4.0
	Q6	<i>Rhizophora apiculata</i>	4				22 - 40	7.0 - 8.0
	Q6	<i>Bruguiera cylindrica</i>	1				30	7.0
	Q6	<i>Xylocarpus granatum</i>		1			16	3.0
	Q6	<i>Rhizophora stylosa</i>	1				40	7.0
	Q7	<i>Rhizophora apiculata</i>	1				30	7.0
	Q7	<i>Ceriops decandra</i>	37				15 - 22	6.0
	Q7	<i>Avicennia officinalis</i>	1				42	9.0
	Q7	<i>Calophyllum inophyllum</i>			15			
	Q7	<i>Terminalia catappa</i>	1					
	Q7	<i>Talipariti tiliaceum</i>	3					
	Q7	<i>Morinda citrifolia</i>	1					
	Q7	<i>Sonneratia alba</i>	1				62	14.0
	Q7	<i>Excoecaria agallocha</i>	1				48	8.0
	Q8	<i>Rhizophora apiculata</i>	2				54 - 60	10.0
	Q8	<i>Ceriops decandra</i>	15				18 - 24	4.0 - 6.0
	Q8	<i>Bruguiera gymnorrhiza</i>	1				14	4.0
	Q8	<i>Talipariti tiliaceum</i>	5					
	Q8	<i>Terminalia catappa</i>	2					
	Q8	<i>Morinda citrifolia</i>	1					
	Q8	<i>Bruguiera cylindrica</i>	1				18	4.0
	Q8	<i>Excoecaria agallocha</i>	7				34 - 48	6.0 - 8.0
	Q8	<i>Acrostichum speciosum</i>				4		
T15	Q1	<i>Rhizophora mucronata</i>	1				30	5.0
	Q1	<i>Rhizophora apiculata</i>	6				25 - 45	5.0 - 6.0
	Q1	<i>Ceriops decandra</i>	15				15	4.0
	Q1	<i>Bruguiera parviflora</i>	6				15 - 30	4.0 - 5.0
	Q1	<i>Bruguiera parviflora</i>		4			10	2.0
	Q1	<i>Bruguiera gymnorrhiza</i>	3				20 - 35	4.0 - 6.0
	Q2	<i>Bruguiera gymnorrhiza</i>	10				20 - 30	5.0 - 6.0
	Q2	<i>Bruguiera gymnorrhiza</i>		1			15	2.5
	Q2	<i>Rhizophora apiculata</i>	2				20 - 35	6.0
	Q3	<i>Bruguiera gymnorrhiza</i>	2				20 - 30	6.0
	Q3	<i>Rhizophora apiculata</i>	8				20 - 50	6.0 - 7.0
	Q3	<i>Bruguiera parviflora</i>	3				20 - 40	5.0 - 6.0
	Q4	<i>Rhizophora apiculata</i>	8				15 - 60	5.0 - 6.0
	Q4	<i>Bruguiera gymnorrhiza</i>	6				20 - 30	5.0 - 6.0
T16	Q1	<i>Ceriops decandra</i>	4				20	4.0 - 5.0
	Q1	<i>Ceriops decandra</i>		3			15	2.0 - 2.5
	Q1	<i>Rhizophora apiculata</i>	10				15 - 50	5.0 - 7.0

	Q1	<i>Bruguiera parviflora</i>	1				30	6.0
	Q2	<i>Rhizophora apiculata</i>	5				15 - 40	6.0 - 7.0
	Q2	<i>Bruguiera parviflora</i>	2				30	6.0 - 7.0
	Q2	<i>Bruguiera parviflora</i>		28			3	0.5
	Q3	<i>Rhizophora apiculata</i>	10				30 - 50	6.0 - 7.0
	Q3	<i>Rhizophora apiculata</i>		10			4	0.5
	Q3	<i>Bruguiera parviflora</i>		30			3	0.5
	Q4	<i>Rhizophora apiculata</i>		15			3	0.5
	Q4	<i>Bruguiera parviflora</i>		30			3	0.5
T17	Q1	<i>Rhizophora apiculata</i>	3				60 - 70	10-12
	Q1	<i>Bruguiera parviflora</i>	2				20 - 50	7.0 - 12.0
	Q1	<i>Ceriops decandra</i>	14				10 - 30	4.0 - 5.0
	Q1	<i>Talipariti tiliaceum</i>	2					
	Q1	<i>Xylocarpus granatum</i>	2				10 - 20	4.0 - 5.0
	Q1	<i>Terminalia catappa</i>	3					
	Q1	<i>Sonneratia alba</i>	1				117	14.0
	Q2	<i>Acrostichum speciosum</i>				3		
	Q2	<i>Rhizophora apiculata</i>	2				50 - 60	10- 12
	Q2	<i>Ceriops decandra</i>	3				20 - 30	6.0 - 7.0
	Q2	<i>Xylocarpus granatum</i>	4				20 - 40	4.0 - 8.0
	Q2	<i>Bruguiera parviflora</i>	3				20 - 30	8.0
	Q3	<i>Rhizophora apiculata</i>	1				110	14.0
	Q3	<i>Avicennia officinalis</i>	2				10 - 20	4.0
	Q3	<i>Xylocarpus granatum</i>	1				20 - 30	9.0
	Q3	<i>Acrostichum speciosum</i>				3		
	Q3	<i>Rhizophora apiculata</i>		6			3 - 5	0.5 - 1.0
	Q3	<i>Ceriops decandra</i>		1			3 - 5	1.0
	Q4	<i>Rhizophora apiculata</i>	2				90 - 100	14-15
	Q4	<i>Ceriops decandra</i>	3				10 - 20	4.0 - 5.0
Q4	<i>Xylocarpus granatum</i>	3				10 - 30	4.0 - 7.0	
Q4	<i>Avicennia officinalis</i>	1				20 - 30	6.0	
T18	Q1	<i>Bruguiera parviflora</i>	3				20 - 30	6.0 - 8.0
	Q1	<i>Rhizophora apiculata</i>	5				10 - 50	4.0 - 9.0
	Q1	<i>Rhizophora apiculata</i>		3			3 - 10	1.5 - 2.0
	Q1	<i>Ceriops decandra</i>		5			3 - 10	1.5 - 2.0
	Q2	<i>Ceriops decandra</i>		5			3 - 10	1.5 - 2.0
	Q2	<i>Rhizophora apiculata</i>	5				20 - 30	7.0 - 8.0
	Q2	<i>Rhizophora apiculata</i>		3			10 - 15	2.0 - 3.0
	Q2	<i>Bruguiera parviflora</i>	1				40 - 50	12.0
	Q2	<i>Bruguiera parviflora</i>		1			5	2.0
	Q3	<i>Xylocarpus granatum</i>		1			5	2.0
	Q3	<i>Rhizophora apiculata</i>	12				30 - 60	10-12
	Q3	<i>Sonneratia alba</i>	1				115	14.0
	Q3	<i>Acrostichum speciosum</i>				9		
	Q3	<i>Chromolaena odorata</i>			3			
	Q4	<i>Rhizophora apiculata</i>	6				40 - 50	10-12
	Q4	<i>Ceriops decandra</i>	1				15	4.0
Q5	<i>Rhizophora apiculata</i>	2				40 - 50	10-12	

	Q5	<i>Ceriops decandra</i>	12			10 - 30	4.0 - 6.0
	Q5	<i>Avicennia officinalis</i>	3			20 - 40	4.0 - 8.0
	Q5	<i>Xylocarpus granatum</i>	2			20 - 30	6.0
	Q5	<i>Acrostichum speciosum</i>			6		
T19	Q1	<i>Rhizophora stylosa</i>		58		2 - 10	0.5 - 2.0
	Q1	<i>Rhizophora stylosa</i>	1			15	5.0
	Q1	<i>Sonneratia alba</i>	1			18	5.0
	Q1	<i>Sonneratia alba</i>		1		12	2.0
	Q1	<i>Rhizophora apiculata</i>		3		5 - 12	1.5 - 2.0
	Q2	<i>Rhizophora stylosa</i>		41		2 - 20	0.5 - 3.0
	Q2	<i>Avicennia marina</i>	1			58	10.0
	Q2	<i>Rhizophora apiculata</i>		2		8 - 12	1.0
	Q3	<i>Rhizophora stylosa</i>	12			30 - 60	10-12
	Q3	<i>Rhizophora apiculata</i>	1			14	4.0
	Q4	<i>Rhizophora apiculata</i>	4			20 - 58	7.0 - 12.0
	Q4	<i>Rhizophora apiculata</i>		3		20 - 24	3.0
	Q4	<i>Rhizophora stylosa</i>	1			62	12.0
	Q4	<i>Sonneratia alba</i>	1			82	12.0
	Q5	<i>Rhizophora apiculata</i>	9			32 - 100	10-12
	Q5	<i>Talipariti tiliaceum</i>	5				
	Q6	<i>Rhizophora stylosa</i>	9			40 - 60	10-12
	Q6	<i>Sonneratia alba</i>	1			65	12.0
	Q6	<i>Rhizophora apiculata</i>	3			10 - 20	4.0 - 5.0
	Q7	<i>Rhizophora stylosa</i>	9			20 - 60	5.0 - 12.0
	Q7	<i>Sonneratia alba</i>	1			100	12.0
	Q7	<i>Rhizophora apiculata</i>	2			10 - 20	4.0
	Q8	<i>Rhizophora apiculata</i>	5			20 - 50	6.0 - 10.0
T20	Q1	<i>Excoecaria agallocha</i>	1			35	6.0
	Q1	<i>Rhizophora stylosa</i>	6			20 - 30	4.0 - 5.0
	Q1	<i>Rhizophora stylosa</i>		84		10 - 20	2.0 - 4.0
	Q1	<i>Xylocarpus rumphii</i>	1			180	4.0
	Q2	<i>Rhizophora stylosa</i>	16			30 - 60	6.0 - 7.0
	Q3	<i>Rhizophora stylosa</i>	13			20 - 50	4.0 - 7.0
	Q3	<i>Rhizophora stylosa</i>		1		15	3.5
	Q4	<i>Rhizophora stylosa</i>	3			20 - 40	6.0 - 7.0
	Q4	<i>Rhizophora stylosa</i>		17		10 - 20	3.0 - 4.0
	Q5	<i>Rhizophora stylosa</i>	8			40 - 60	6.0 - 7.0
T21	Q1	<i>Rhizophora stylosa</i>		2		10 - 20	3.0
	Q1	<i>Rhizophora stylosa</i>	10			20 - 60	6.0 - 7.0
	Q1	<i>Sonneratia alba</i>	2			30 - 40	10.0
	Q2	<i>Rhizophora stylosa</i>	8			30 - 60	6.0 - 7.0
	Q3	<i>Rhizophora stylosa</i>		1		15	2.0
	Q3	<i>Rhizophora stylosa</i>	6			30 - 70	7.0
	Q4	<i>Rhizophora stylosa</i>		1		15	1.5
	Q4	<i>Rhizophora stylosa</i>	6			30 - 70	7.0
T22	Q1	<i>Rhizophora stylosa</i>	5			40 - 70	7.0 - 8.0
	Q2	<i>Rhizophora stylosa</i>	5			40 - 60	7.0 - 8.0
	Q3	<i>Rhizophora stylosa</i>	4			40 - 50	7.0 - 8.0

	Q3	<i>Sonneratia alba</i>	1				95	14.0
T23	Q1	<i>Rhizophora stylosa</i>	8				20 - 60	6.0 - 7.0
	Q2	<i>Rhizophora stylosa</i>	7				30 - 50	6.0 - 7.0
	Q3	<i>Rhizophora stylosa</i>	6				20 - 50	6.0 - 7.0
O1		<i>Sonneratia alba</i>	24					4.0 - 8.0
		<i>Avicennia marina</i>		19				1.5 - 4.0
		<i>Rhizophora stylosa</i>	35					4.0 - 5.0
O2		<i>Sonneratia alba</i>						
		<i>Avicennia marina</i>						
		<i>Rhizophora stylosa</i>						
		<i>Xylocarpus rumphii</i>	2					
O3		<i>Sonneratia alba</i>	3					
		<i>Avicennia marina</i>	10					
		<i>Avicennia marina</i>		15				
		<i>Rhizophora stylosa</i>	3					