APPENDICES

Appendix A: Categories of debris

	Type of waste	Weight (g)			Number of item		
		January	February	March	January	February	March
1	Food waste						
2	Paper						
3	Plastics						
4	Polystyrene						
5	Textile						
6	Rubber						
7	Wood						
8	Glass						
9	Metal						
10	Aluminium						
11	Bulky waste						
12	Others						
	Total						

Appendix B: Questionnaire

Study of public attitude and
awareness on marine pollution issues

A) Background study

1. Age: <18 ☐ 18-25 ☐ 26-40 ☐ >40 ☐

2. Gender: Female ☐ Male ☐

3. Race: Malay/Bumis ☐ Indian ☐ Chinese ☐ Others ☐

4. Religion: Muslim ☐ Hindu ☐ Buddhist ☐ Christian ☐

5. Education level: Primary ☐ Secondary ☐ Tertiary ☐ Others ☐

6. Marital status: Single ☐ Married/ Had married ☐

7. Occupation: Govt. servant ☐ Private/own ☐ Student ☐ Others ☐

8. Monthly income:
<RM1000 ☐ RM1000-5000 ☐ >RM5000 ☐ Not applicable ☐

B) Information on beach users

1. Type of user:
   - ☐ Visitor/ tourist
   - ☐ Locals/ resident
   - ☐ Workers
   - ☐ Others

2. Distance from home:
   - ☐ <30 km
   - ☐ 30-100 km
   - ☐ >100 km

3. Duration of time spent on beach:
   - ☐ > 1 hour
   - ☐ 1-5 hours
   - ☐ >5 hours

4. Frequency of visit
   - ☐ 1st time
   - ☐ Less than 10 times
   - ☐ Occasionally
   - ☐ Regularly

C) Awareness and attitude of beach users

1. Which best describe this beach?
    - [ ] Very clean
    - [ ] Clean, with some litter
    - [ ] Scenic area, but not clean
    - [ ] Dirty
    - [ ] Others, _____

2. If you have been to this beach, how do you compare the cleanliness?
    - [ ] No changes
    - [ ] Better
    - [ ] Worst
    - [ ] Not applicable

3. What is your basis of choosing this beach, if you come for holiday/ picnic?
    - [ ] Accessibility
    - [ ] Beauty and cleanliness
    - [ ] Affordable holiday
    - [ ] Facilities and activities
    - [ ] Not applicable

4. Are you satisfied with the facilities provided?
    - [ ] Satisfactory
    - [ ] Acceptable
    - [ ] Unsatisfactory
    - [ ] Others, _____

5. In your opinion, where does the beach user usually throw their rubbish?
    - [ ] Provided dustbin
    - [ ] Picnic/ activity area
    - [ ] Into the water/ sea
    - [ ] Others, _____

6. Can you see any signage forbidding litter on the beach?
    - [ ] Yes
    - [ ] No

7. Do you feel responsible towards litter that you see on the beach?
    - [ ] Yes
    - [ ] No

8. In your opinion, what is the most common type of waste that can be found on beach?

	Wrapper/ container/ plastic bags, cans, etc.
	Dried leaves, seashells
	Abandoned nets, fishing gears
	Others, _____

9. In your opinion, is it proper if beach user need to pay for fee in order for the responsible body to work more efficiently?

	Fair
	Unfair
	Depend on amount

10. Will you suggest this beach to your friend/ family for holiday/ visit?

| | Yes |
| | No |

11. In your opinion, what is the cause of littering on beaches?

	Lack of facilities such as garbage bins
	Attitude of the beach users
	Others

D) Knowledge of beach user

1. In your opinion, who is responsible towards litter found on beach?

	Beach users
	Nearby residents
	Municipalities
	Others

2. In your opinion, what will happen to the litter left on beaches?

	Collected by the municipalities
	Degrade naturally
	Pull by waves towards the sea
	Others

3. In your opinion, what is the MAJOR impact from beach littering?

	Disturbing the wildlife and the ecosystem
	Make the beach appear dirty
	No significant effect
	Others

E) Preferences in beach holiday aspects

1. What is your preference in choosing the beach for a holiday/ visit?
   - [ ] Accessibility
   - [ ] Beauty and cleanliness
   - [ ] Not crowded with other users
   - [ ] Activities available
   - [ ] Abundant facilities

2. What is your favorite activity to be done on beach?
   - [ ] Sightseeing/ strolling
   - [ ] Built sand/ collect seashells
   - [ ] Swimming/ snorkeling, etc.
   - [ ] Water-sport activities
   - [ ] Picnic with families and friends

3. Where do you rank beach holiday to other type of vacation?
   - [ ] Indoor activities/ shopping, etc.
   - [ ] Visit historical places
   - [ ] River/ lakes activities
   - [ ] Beach activities
   - [ ] Activities in jungle/ mount climbing, etc.

Appendix C: SPSS Output

Gender and responsibility

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Responsible	180	100.0%	0	.0%	180	100.0%
Gender * Responsible	180	100.0%	0	.0%	180	100.0%
Education * Responsible	180	100.0%	0	.0%	180	100.0%
Income * Responsible	180	100.0%	0	.0%	180	100.0%

Crosstab

			Responsible		
			Yes	No	Total
Gender	Female	Count	53	42	95
		% within Gender	55.8%	44.2%	100.0%
	Male	Count	28	57	85
		% within Gender	32.9%	67.1%	100.0%
Total		Count	81	99	180
		% within Gender	45.0%	55.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.462[a]	1	.002		
Continuity Correction[b]	8.562	1	.003		
Likelihood Ratio	9.569	1	.002		
Fisher's Exact Test				.003	.002
Linear-by-Linear Association	9.410	1	.002		
N of Valid Cases	180				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 38.25.

b. Computed only for a 2x2 table

Education and favorable fee

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Education * Fee	180	100.0%	0	.0%	180	100.0%

Education * Fee Crosstabulation

			Fee			
			Fair	Unfair	Depend on the fees	Total
Education	Primary school	Count	1	12	3	16
		% within Education	6.3%	75.0%	18.8%	100.0%
	Secondary school	Count	17	51	11	79
		% within Education	21.5%	64.6%	13.9%	100.0%
	Tertiary education	Count	22	37	22	81
		% within Education	27.2%	45.7%	27.2%	100.0%
	Others	Count	0	2	2	4
		% within Education	.0%	50.0%	50.0%	100.0%
Total		Count	40	102	38	180
		% within Education	22.2%	56.7%	21.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.167[a]	6	.058
Likelihood Ratio	13.440	6	.037
Linear-by-Linear Association	.218	1	.641
N of Valid Cases	180		

a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is .84.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.260	.058
	Cramer's V	.184	.058
N of Valid Cases		180	