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Summary of length-frequency data
for Philippine small pelagic fishes
collected by the DA-BFAR/ICLARM
Small Pelagics Management Project
(Volume I)

by

P. Dalzell^a and F. Arce^b

^aInternational Centre for
Living Aquatic Resources
Management, 3rd Floor
Bloomingdale Building,
Salcedo St., Legaspi
Village, Makati, Metro
Manila, Philippines

^bBureau of Fisheries and
Aquatic Resources, Arcadia
Building, 860 Quezon Ave.,
Quezon City, Philippines



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Inventory of Invertebrate
Taxonomic and Ecological Data
Collected by the DA-BIOLAB
Small Invertebrate Management Project
(Volume 1)



Introduction

The Small Pelagic Management project was established in the Philippines to conduct a review of Philippine small pelagic fisheries and to conduct stock assessment and economic analyses on these fisheries. Growth, mortality and related parameters for Philippine small pelagics were determined mainly from length data. These length data were collected by regular sampling of small pelagic landings at six sites in the Philippines (Fig. 1.) Commercial and municipal landings were sampled equally, with normally ten days of the month devoted to each sector. Growth mortality and related parameter estimates were made with the suite of computer programs, known collectively as the compleat ELEFAN (Pauly 1987). Since colleagues and workers in similar fields may wish to reanalyze these data, they are summarized and presented here in this data volume.

The individual length measurements for all species except the anchovies (Stolephorus spp. and Engraulis sp.) were summarized in 1 cm size classes. The data for the anchovies were summarized in 1 mm size classes and all length data were compiled on a monthly basis. Length measurements here refer to the distance between the snout tip to the tip of the outstretched tail lobe. The total number of species for which length measurements were collected and the gears which captured them are given in Table 1. A map of the

ICLARM

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Philippines is shown in Fig. 1 which summarizes the number of different species measured at the six SPM sampling sites.

The letters C and M in parentheses after the gear type on the tables of length data refer to commercial and municipal classifications of fishing vessel, as defined by the Philippine Bureau of Fisheries and Aquatic Resources. Vessels of ≥ 3 g.t. are termed 'commercial' whilst those of ≤ 3 g.t. are designated as 'municipal' craft. The distinction is between small-scale essentially artisanal craft and larger industrial fishing vessels.

References

- Pauly, D. 1987. A review of the ELEFAN system for analysis of length-frequency data in fish and invertebrates, p. 7-34. In D. Pauly and C.R. Morgan (eds.). Length-based methods in fisheries research. ICLARM Conference Proceedings 13, 468 p. International Centre for Living Aquatic Resources Management, Manila, Philippines and Kuwait Institute for Scientific Research, Safat, Kuwait.

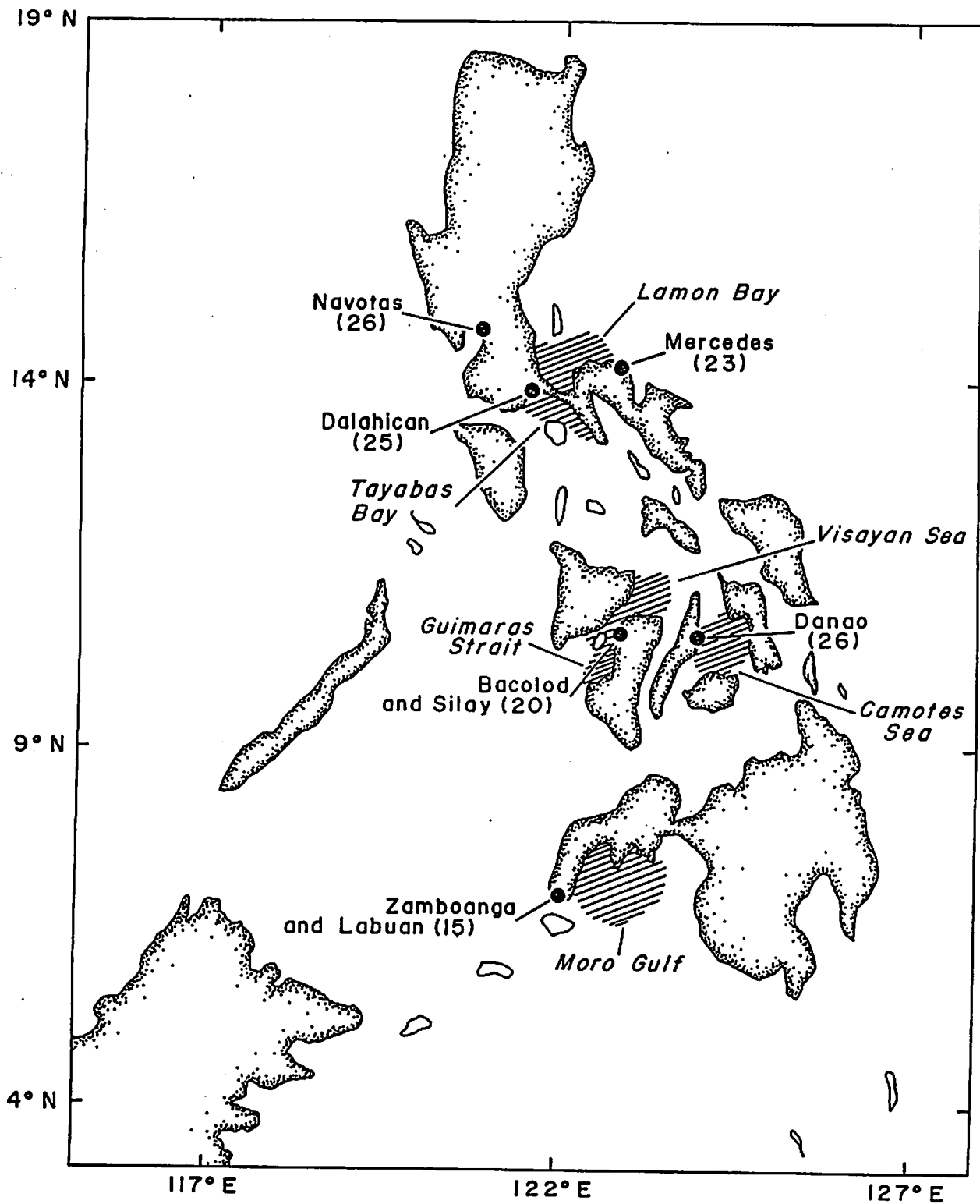


Fig. 1. Location of the Small Pelagics Management sampling sites. Numbers of species measured at each site are given in parentheses.

Length-frequency data collected
for small pelagic fishes landed
at Navotas Fish Port Complex (NFPC), Manila
February 1987 to April 1988

Total number of species measured - 26

Family : Caesionidae
 Species: C. caeruleus
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
21.0						1										
22.0		1					1				2	1				
23.0		5				5	1			1	4	2				1
24.0		4				1	1			1	4	2				5
25.0		3				4				3	6	2				
26.0						2	1			1	5	1				1
27.0		1				4			1	3	3	4				2
28.0		1				1	2			4	8	1				
29.0							4		2	3	2	1				
30.0		2					1		1	1						
31.0									1	1						
32.0							1		1							
33.0									1							
34.0									1							
35.0									1							
36.0									1							
37.0																
38.0																
39.0																
40.0																
Sum		17				18	12		10	18	34	14				9

Family : Caesionidae
 Species: C. chrysozona
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0							1		1							
16.0			1			1			3	1	2					
17.0						2	1		12	1	3		2			
18.0						3	1		6	2	1	2	9		1	1
19.0			1	1		2	1	2	1	11		4	4			9
20.0		1	2	1		2	3	1	2	15	10	14	7		1	18
21.0		3	2	6			5	2		13	24	10	7		9	28
22.0		4		6			3	1		4	17	8	1		6	16
23.0		2					2			1	9		1		5	15
24.0		1								2	5	1			4	1
25.0																
26.0											1					
27.0																
28.0																
29.0																
30.0																
Sum		11	6	14		10	17	6	25	50	72	39	31		26	88

Family : **Caesionidae**
 Species: **C. chrysozona**
 Gear : **Trawl (C)**

Location : **NFPC**
 Fishing Ground: **Palawan**
 Year : **1987**

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0														4		
14.0														7		
15.0														11		
16.0														13		
17.0														1		
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														36		

Family : Caesionidae
 Species: C. diagrama
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
11.0																
12.0																
13.0			1													
14.0													1			
15.0		1							1		2		1			
16.0			1			2	2		5	1		4	9			3
17.0		3	4			2			4	1	1	6	21			5
18.0		6	7			3	7	2	2	1	8	10	25		2	9
19.0		11	7		2	8	12	2	9	10	13	8	31		7	10
20.0		16	9		3	12	33	14	18	22	33	7	30		14	22
21.0		13	17		8	18	44	12	45	45	40	11	35		16	16
22.0		13	21		2	9	29	9	37	41	30	10	28		8	21
23.0		5	13		4	9	19	9	31	16	10	4	20		11	10
24.0		5	6		4	4	12	4	24	12		4	7		7	2
25.0			3		5	2	5	3	5	5	5		3	1	4	
26.0			1		7		3	4		5	9			1	11	
27.0			1		8			2		10	9			3	8	
28.0			3		16	1		8		13	15			5	13	
29.0			2		2	1		5		3	6			3	18	
30.0								2			1			2	7	
31.0								1		1				1	2	
32.0															1	
33.0																
34.0																
35.0																
Sum	73	96			61	71	166	77	181	186	182	64	211	16	129	98

Family : Caesionidae
 Species: C. erythrogaster
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
11.0																
12.0																
13.0											1					
14.0											2					
15.0											4					
16.0											6					
17.0				2							1					
18.0				1				4			4					
19.0				4				2								
20.0			1	3				5	1				1			
21.0								4		1	3					
22.0		1			1			4	1	1	2		3			1
23.0		1					1		2	3	1	1	5			1
24.0		1			2	1		1	5	2	4	1	8			6
25.0		1			5	1	2	6	7	1	8	1	11			10
26.0		2			3	1	2		4	3	7	2	10			2
27.0		4	1		3	2	1	5	11	3	10		14			5
28.0		9			1	1	2	9	13	2	7	2	9			3
29.0		6			1	3	1	10	4	3	4	1	14			2
30.0		4				2	2	10	6		3	2	13			2
31.0		3			1			5	2	1	4	2	4			2
32.0		1				2	1	2	5	1	1	2	5			2
33.0		5				1	1	1	6		2		3			
34.0		2	1				1		4	1	1	1	1			4
35.0		2	2				1		3	1			2			2
36.0		1											1			1
37.0					2				1							2
38.0					1					1			1			1
39.0										1						
40.0																
Sum	43	5	10	20	14	15	68	75	25	75	15	105				46

Family : Caesionidae
 Species: C. lunaris
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0											1					
22.0																
23.0																
24.0											1					
25.0											1					
26.0																
27.0																
28.0											1					
29.0											1					
30.0																
31.0											1					
32.0											3					
33.0																
34.0											1					
35.0																
Sum											10					

Family : Caesionidae
 Species: C. tile
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0								2				2				
14.0								3		1		3	3			
15.0								6		8						
16.0					1			8		13	2		1	5		
17.0					3		1	6		25	2	1	2	9	1	
18.0					12		2			23	10	3	12	14	7	
19.0					15		6	1		15	5	1	7	21	19	1
20.0		3			24		19	2	4	7			2	13	5	
21.0		13			27		14	6	3	15	1	26	21	10	15	3
22.0		19			14		5	11	9	8	12	5	14	16	2	3
23.0		10			7		4	5	2	8	13	3	19	18	4	9
24.0		3			5		3	4	1	6	8	4	6	9	3	5
25.0		2					3	2			3		2	4	2	16
26.0														1		5
27.0		1														2
28.0											1					
29.0																1
30.0																
Sum		51	108	15	64	21	29	88	13	172	105	11	36	91	132	14

Family : Carangidae
 Species: D. kurroides
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Antique
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0														3		
15.0														5		
16.0														5		
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														13		

Family : Carangidae
 Species: D. macarellus
 Gear : Muro-ami (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
15.0																
16.0																
17.0																
18.0				1												
19.0				1												
20.0				2		1										
21.0				1												
22.0				3												
23.0				1			1									
24.0																
25.0				1		1		1								
26.0				1												
27.0						1	3									
28.0		2	1			2	1	3					1			
29.0		6	1			2	4									
30.0		4	5			1	1	5					10			
31.0		3	4					4								1
32.0		1						1								
33.0		1	1					2								1
34.0		3														
35.0		1														
36.0																
37.0																
38.0																
39.0																
40.0																
Sum		21	12	11		8	10	16					13			

Family : Carangidae
 Species: D. macarellus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Balabac Is.
 Year : 1987

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0														5		
30.0														4		
31.0														4		
32.0														4		
33.0														1		
34.0																
35.0																
Sum														18		

Family : Carangidae
 Species: D. kurroides
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Masbate
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0														1		
12.0														1		
13.0														3		
14.0														3		
15.0														14		
16.0														14		
17.0														8		
18.0																
19.0														1		2
20.0																4
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														45		6

Family : Carangidae
 Species: D. kurroides
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0														1		
11.0					1											
12.0					1											
13.0														3		
14.0		6			1									6		
15.0		5			4									5		
16.0		5	6		2									7		
17.0		4	15	6	4									10		
18.0			7	9	7									2		
19.0			1	3	7											
20.0				1		3										9
21.0					3	8										12
22.0				9	1	9										2
23.0				2		2										
24.0				1		1										
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum		20	29	31	31	23								34		23

Family : Carangidae
 Species: D. kurroides
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0												1				1
19.0																2
20.0												1				
21.0												1				
22.0									1			1				1
23.0						4										3
24.0			2			6			2	1		1				3
25.0			5			4			1			2				1
26.0			1				1		5							1
27.0			2				4		2	1		1				
28.0			1				3			3						1
29.0							8		3			1				1
30.0							1		2							
31.0							1				3					
32.0											4					
33.0																
34.0											1					
35.0																
36.0											2					
37.0																
38.0											1					
39.0																
40.0																
Sum			11			14	18		16	16	9	14				

Family : Carangidae
 Species: D. macarellus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Mindoro
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0										2						
21.0										2						
22.0																
23.0																
24.0																
25.0																
26.0										3						
27.0																
28.0										3						
29.0										4						
30.0										3						
31.0										1						
32.0																
33.0																
34.0																
35.0																
Sum										18						

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0									1							4
12.0							1									14
13.0									1						7	2
14.0		1				1		2			1			1	8	1
15.0					2	1	6	4	1		1				16	8
16.0		6		8	16	5	10	10	4		7			16	22	14
17.0		3		15	56	11	15	9	12		8			8	24	6
18.0				13	30	17	24	9	10	4	15			8	3	23
19.0				7	10	2	16	2	9	15	5	1		12		6
20.0				1	1		18	1	7	13	3	6		7		1
21.0				1	3		6	1		8		12		2		1
22.0												1		3		
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum	10			45	118	37	96	38	45	40	40	20		57	80	80

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse seine (C)

Location : NFPC
 Fishing Ground: Lamon Bay
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0													1			
19.0													6			
20.0													12			
21.0													22			
22.0													15			
23.0													2			
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													58			

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Masbate
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																3
15.0																5
16.0																
17.0													1			
18.0													4			
19.0													18			
20.0													18			
21.0													6			
22.0													4			
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													51	8		

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0			1													
9.0		1														
10.0		2	1													1
11.0		6		1										3	1	2
12.0		11	1	6										6	4	5
13.0		1	13	11					1		1			7	8	10
14.0		2	15	8	7	2	3	1	1		2			7	19	8
15.0			16	22	17	6	12		1		1			13	50	32
16.0		4	33	99	67	12	30	14	7	2	5			36	56	45
17.0		5	44	163	114	45	45	52	26	18	27		3	38	48	93
18.0		2	73	196	197	90	89	43	39	105	42		8	35	39	136
19.0		6	128	103	95	83	83	40	52	98	38	6	18	15	25	66
20.0		2	47	64	25	98	28	15	84	62	72	16	26	39	7	8
21.0			39	38	12	42	5	4	41	26	47	13	42	49	11	7
22.0			36	7	6	12	3	1	19	3	11	4	17	33	10	7
23.0			13	2	2	4	1		13	1	2	1	5	6		4
24.0			2						9				3	3	1	1
25.0									1					1		
26.0																
27.0																
28.0																
29.0																
30.0																
Sum	42	462	720	542	394	300	170	294	315	248	40	122	291	279	425	

Family : Carangidae
Species: D. macrosoma
Gear : Purse Seine (C)

Location : NFPC
Fishing Ground: Tawi-Tawi
Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0														1		
15.0																
16.0																
17.0																
18.0														3		
19.0														16		
20.0														3		
21.0														1		
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														24		

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																1
17.0											1	1				7
18.0											9	2				15
19.0											2	2				16
20.0											4	1				1
21.0											3	2				
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											19	8				40

Family : Carangidae
 Species: D. macrosoma
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Zamboanga
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																1
15.0		2														3
16.0		2												6		10
17.0		1												5		16
18.0		2												8		7
19.0		2												5		3
20.0																
21.0		1														
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum		10												22		40

Family : Carangidae
 Species: D. macrosoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0						7				3						
17.0						17		1		5			3			
18.0						9		3		4			1			
19.0						6		9	1	4	3					
20.0						1		7		1	9	3				
21.0									3		6	9				
22.0									3		2	2				
23.0									3			1				
24.0									1							
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum						40		20	11	27	20	19				

Family : Carangidae
 Species: D. macrosoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			20				20				15					

Family : Carangidae
 Species: D. macrosoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0								4								
18.0								11								
19.0							1	5								
20.0							4	1								
21.0							23			2		2				
22.0							12			8		5				
23.0										16		8				
24.0												5				
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum							40	21		26		20				

Family : Carangidae
 Species: D. maruadsi
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0								1								3
14.0						2		1	2							1
15.0						8		2	7							9
16.0						10		6	8	2		1				2
17.0								9	6	13		6				1
18.0								9	1	4		5	5			1
19.0								7	1			5	13			
20.0								4	1			3	8			
21.0								5	1	1			2			
22.0								1	3				1			
23.0									3							
24.0									1							
25.0									1	3						
26.0										9						
27.0																
28.0																
29.0																
30.0																
Sum						20		45	35	32		20	29			17

Family : Carangidae
 Species: D. maruadsi
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0					2											
14.0																
15.0							6			1	1					
16.0					1		1		1	2	3					
17.0				2			3			7	4		6		1	
18.0				4			1		1	8	4		12		1	
19.0				6					3	2	2	1	10		12	
20.0				6			1		5	2	4	5	4		9	
21.0				1	9		3		11	2	1	4	3		2	
22.0				1	6		8		13	10		2	3		2	
23.0					5		4			4	1	6	2			
24.0					1		2		1	2		2			1	
25.0									2							
26.0																
27.0																
28.0																
29.0																
30.0																
Sum				20	24		29		37	40	20	20	40		28	

Family : Carangidae
 Species: D. maruadsi
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0			1													
13.0			2											1		
14.0			14													
15.0			11		1	8										1
16.0			7		6	20	4	2								2
17.0			1		4	11	10	5			1	1				7
18.0					2	1	14	5		3	8					3
19.0			5		4	4	8	7		8	20	5				4
20.0			15		1		2	1		9	14	20				6
21.0			4		2	4					2	15	13			7
22.0						6	1				5	8				
23.0						6	1				7	3				
24.0						1					3					
25.0						1										
26.0						1										
27.0																
28.0																
29.0																
30.0																
Sum			60		20	63	40	20		20	60	52	44			

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																1
11.0																9
12.0																
13.0		5				3										
14.0		27				3	2									1
15.0		14				14	1			7				6		
16.0						2	2		3	8				18		
17.0		8				9	9		2	1		1		6	2	
18.0		7				2	24					6		2	8	
19.0		6				5	6	1	3			7			3	
20.0		11				2	5					6				
21.0		6					1	2								
22.0		3						1								
23.0								3								
24.0																
25.0		1														
26.0																
27.0																
28.0																
29.0																
30.0																
Sum	88					40	50	7	8	16		20		32	45	

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Negros
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0														5		
14.0														21		
15.0														3		
16.0														2		
17.0														3		
18.0														11		
19.0														1		
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														46		

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0		1													1	
8.0		1														
9.0		8														
10.0		2												2	2	
11.0			5				2		1					10	9	
12.0		3	6	2	2	4	3				2			9	15	
13.0		1	13	14	9		10		1					4	16	13
14.0			11	11	32	6	24		9	18	4			8	20	53
15.0			11	3	44	18	24	10	24	61	7		11	1	17	79
16.0			16	3	8	13	24	26	51	67	13		12	3	3	25
17.0			5	5	6	7	12	35	37	33	26	4	6	13	3	12
18.0			4	5		7	4	10	18	9	47	11	19	14	4	1
19.0	4	11	15			12	9	3	2	4	21	5	18	20	3	12
20.0	10	7	9			25	11		12	7	14		14	8	5	14
21.0	7	20	13			14	4	2	11	8	9		21	6	9	7
22.0	4	12	6			2	12	1	5	6	12		6	1	9	2
23.0	2	4	3			2	2		2	7	9		1	1	8	
24.0			1				1			6	6		1		4	
25.0			1				2			3			1			
26.0																1
27.0																
28.0																
29.0																
30.0																
Sum		43	126	90	101	110	144	87	173	229	170	20	110	100	129	218

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Tayabas Bay
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0														9		
16.0														10		
17.0														4		
18.0														3		
19.0														10		
20.0														4		
21.0														1		
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														41		

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																1
14.0																3
15.0																5
16.0																4
17.0																1
18.0																5
19.0																3
20.0																
21.0																4
22.0																7
23.0																6
24.0																3
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			20	45									20			

Family : Carangidae
 Species: D. maruadsi
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Zamboanga
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0													3			
16.0													4	7		
17.0													9	6		
18.0													4	8		
19.0													1	8		
20.0														4		
21.0													1	4		
22.0														2		
23.0														4		
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													22	43		

Family : Carangidae
 Species: D. russelli
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																2
13.0																14
14.0																15
15.0																9
16.0									1							6
17.0									8							4
18.0									5					1		8
19.0							1		5		1			5	12	
20.0							15		1		16			4	3	
21.0							8				7			2		
22.0							2	1			9			2		
23.0							4				14			3		
24.0							10	3			7			1		
25.0							7	4						2		
26.0							3	1								
27.0							1									
28.0																
29.0								1								
30.0																
Sum							51	10	20		54			20	73	

Family : Carangidae
 Species: D. russelli
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0				1												
8.0																
9.0																
10.0				1												
11.0				11												
12.0				18												
13.0				1												
14.0				1												
15.0				1										2		
16.0			1											1		2
17.0			2											3		12
18.0			9	1					1					8		2
19.0			17	5					2					27		1
20.0			7	10	4				3		1			4		2
21.0			22	13	6				6		1					11
22.0		1	9	11	9				4							6
23.0			1	10					3		13					
24.0		2	1	7							10					
25.0		1		3					1		2					
26.0		2		1							2					
27.0		2		2							3					
28.0																
29.0																
30.0																
Sum		8	69	97	19				20		32			45		36

Family : Carangidae
 Species: D. russelli
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																1
22.0																1
23.0																6
24.0			3								2	1				5
25.0			7							1	6	1				8
26.0			12								3	2				4
27.0			12				1			2		1				1
28.0			10				2					1				
29.0			3				1			6						
30.0										3						
31.0			1													
Sum			48				4			12	11	6	26			

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0							1									
13.0																
14.0																
15.0													1			
16.0										1						
17.0										2					1	1
18.0		4				1				4			5	12		
19.0		10				2		12		5			2	16	2	8
20.0		6				8	3	13		6			9	6		19
21.0						7	18	7		18			3	3		5
22.0						7	11	1		14			1	1	1	3
23.0						3	2						2	7	1	1
24.0							1						2	9	1	
25.0										1			1	4		
26.0														5		
27.0														3		
28.0														1		
29.0																
30.0																
Sum		20				28	36	33		51			26	71	6	37

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0									2							
13.0																
14.0						1	2								1	
15.0						14							1			
16.0		3	1			6	3		1	1			2			
17.0		6			1	22	1		19	4	1		19			
18.0		8	3	2	1	13	2	3	9	9	11	1	14			1
19.0		14	3	1		3	15	4	3	7	20	1	5			14
20.0		14	18	27	2	9	17	18	5	25	16		10			21
21.0		1	41	48	19	9	35	15	44	29	26		12		4	15
22.0			22	31	22	16	39	9	40	20	21		7		2	13
23.0			15	21	16	26	30	1	23	12	20	1	20		2	11
24.0			11	7	15	12	10		18	7	6	8	8		4	11
25.0			1	9	6	4	7		1	5			1		3	5
26.0				5	1	2	4			1	3				3	5
27.0					1		2									
28.0					1											
29.0																
30.0																
Sum		46	115	151	85	137	167	50	165	120	124	11	99		19	96

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0											1	1				
19.0												1				
20.0												3				
21.0											1	4				4
22.0												7				1
23.0											5	3				2
24.0												1				2
25.0											2					4
26.0																1
27.0																2
28.0																
29.0																
30.0																
Sum											9	20				16

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Zamboanga
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0		1														1
17.0		1														9
18.0		5														14
19.0		8														8
20.0		2											1			1
21.0												3				1
22.0												4				
23.0												5				
24.0												5				
25.0												4				
26.0												2				
27.0												2				
28.0																
29.0																
30.0																
Sum		17											26		34	

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0								2								
16.0								14								
17.0									1						6	
18.0												2			10	
19.0								1	1			5			3	
20.0								3	4	3		3	2			
21.0								4	5	3		2				
22.0								6	7	3		6	3	2		1
23.0								1	6	3		1	7	3		8
24.0									3			1	5	2		5
25.0										2			2	5		2
26.0													2	1		
27.0																
28.0																
29.0																
30.0																
Sum								31	27	14		20	21	32	16	

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0										1						
17.0			1							1		1				
18.0			4								2	1				
19.0			13	3	2		1				1	3			3	
20.0			13	10	4		2		4	3	3	2	1			
21.0			1	8	4		5		13	10	4	8	1			
22.0			3	2	6		6		14	8	6	4	5		3	
23.0			6	5	1		6		6	6	3		4		6	
24.0			1	6			3			3	1	1	6		6	
25.0				1	2				1							
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			42	35	19		23		38	32	20	20	17		18	

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0									7							
19.0									10							
20.0			1						2							
21.0			6											2		
22.0			2											16		
23.0							1							12		
24.0			1				3		1					9		
25.0							2		7					2		
26.0									3							
27.0									1							
28.0									1							
29.0									1							
30.0																
Sum			10				6		33				41			

Family : Carangidae
 Species: S. boops
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0						1			5							
19.0							4	1	7				1			
20.0						8	14	9	1		1		1			
21.0						3	4	4	4							
22.0						2	3	3	3		1		5			
23.0						4	3	1	1		3		2			
24.0						1					1					
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum						19	28	18	21		6		9			

Family : Carangidae
 Species: Selar boops
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0													1			
21.0													6			
22.0													5			
23.0													3			
24.0													2			
25.0													1			
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													18			

Family : **Carangidae**
 Species: **S. boops**
 Gear : **Trawl (C)**

Location : **NFPC**
 Fishing Ground: **Palawan**
 Year : **1987-1988**

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0		1								5			1			
17.0										3			3			
18.0		7								10			5	1		
19.0		5								2			20	5	1	
20.0		7						1		1			12	5		
21.0								3		10			7	3		
22.0		3						7		8			13	11	5	
23.0		2						2		3			9	12	2	
24.0													4	5	3	
25.0										2						
26.0										1			1			
27.0																
28.0																
29.0																
30.0																
Sum		25						13		45			75	42	11	

Family : Carangidae
 Species: S. boops
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0							6									
16.0																
17.0										2						
18.0			1							4						
19.0			2	1						2		3			8	
20.0			6	1						2		4			5	
21.0			3	5						2		2				
22.0			8	2			2			4		2			2	
23.0			1	2						3		1			2	
24.0			2													
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			23	11			8			19		12			17	

Family : Clupeidae
 Species: A. sirm
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0									6							
12.0									9							
13.0		9							2							
14.0		32														
15.0		3			1				5			1				
16.0		5			9				2			8	1			
17.0		6			8				3			5	3	2		2
18.0		1			7				1			3	9	11		4
19.0		1			19	1		1	2			3	6	14		7
20.0					17	6		10					1	7		7
21.0					8	5		8						7		4
22.0						3								6		1
23.0						1								1		
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum		57			69	16		19	30				20	20	48	25

Family : Clupeidae
 Species: A. sirm
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0														6		
12.0														12		
13.0				1					2					2		
14.0		1		4					1							
15.0		4	3	7					8				3			
16.0		6	2	1		1			11				4			1
17.0		35	8	1		1		2	20					4	2	4
18.0		12	4	1		1	1		9		2			7	1	6
19.0		18	5	14	1	16	5	2	13		14		2	21	6	5
20.0		17	4	12	2	14	9	9	15		27			12	21	6
21.0		7	15	11	5	16	14	20	12	12	7		2	5	15	6
22.0			19	20	9	20	13	13	4	56	8		23		14	21
23.0			22	17	5	19	23	9	3	31	19		23		8	22
24.0			16	3	5	11	13	3	2	9	11		10		5	8
25.0			1	2		4	1	1		2	4		2			3
26.0																
27.0			1			1										
28.0																
29.0																
30.0																
Sum		100	100	94	27	104	79	59	100	110	92		69	69	72	82

Family : Clupeidae
 Species : A. sirm
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0											1					2
19.0											7					4
20.0											14					8
21.0											3					6
22.0											2			12		
23.0											1			9		
24.0														2		
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											28			23		20

Family : Clupeidae
 Species: A. sirm
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Zamboanga
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum																

20

Family : Clupeidae
 Species: Herclotsichthys spp
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Manila Bay
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum																

11

Family : Clupeidae
 Species: D. acuta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0					3											
12.0					6	2										
13.0					10	6										
14.0					8											
15.0					8											
16.0			2		5					2						
17.0			1			3				3						
18.0			6			5				9			9			
19.0			9			7				5			11			
20.0			2			10				3						
21.0						6			1	7						
22.0								5	5							
23.0								8								
24.0								2	1							
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			20		40	39		16	35		20					

Family : Clupeidae
 Species: D. acuta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0									2							
15.0									14							
16.0									2							
17.0									1							
18.0									1							12
19.0																11
20.0																5
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum									20							28

Family : Clupeidae
 Species: D. acuta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																3
14.0																6
15.0																15
16.0								4								6
17.0								11								3
18.0								17								
19.0								7								
20.0								2								
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum								41					33			

Family : Clupeidae
 Species: D. acuta
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0			5									1				
14.0			10									9				
15.0			1									28				
16.0			1									3				
17.0				1								2				
18.0			5	3								2				
19.0			1	6												
20.0			1	6												
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			23	16								43				

Family : Clupeidae
 Species: D. acuta
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0												1				
15.0											9					
16.0							2								1	
17.0						5	1	3	1	2	3		4	13		
18.0						20	4	14	7	11			10	6		
19.0						3	3	3	15	3			9			
20.0									7				15			
21.0													2			
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum						28	10	20	30	16	13		40	20		

Family : Clupeidae
 Species: D. elopsoides
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0												1				
14.0																
15.0												6				
16.0												4				
17.0												5				
18.0												3				
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum												19				

Family : Clupeidae
 Species: S. fimbriata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																1
12.0									2			1				1
13.0		1						4	3			1	4	1		5
14.0		8						17	3			3	12	6		4
15.0		40						26	1			8	19	9		7
16.0		54			6			8				6	5	8		28
17.0		15			22			2				1		2		11
18.0		2			11			1						1		2
19.0					1			1								
20.0																
21.0																1
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum	120				40				61	7		20	40	27		60

Family : Clupeidae
 Species: S. fimbriata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Negros
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0														1		
14.0														2		
15.0														3		
16.0														9		
17.0														4		
18.0														1		
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														20		

Family : Clupeidae
 Species: S. fimbriata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0											3	1			2	
13.0											7	1			4	
14.0											5	2			4	
15.0									6			6			3	
16.0									17		7	21			6	4
17.0									9		12	10			1	4
18.0									5		6	16				
19.0									12			2				
20.0																
21.0												1				
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum									49		40	60			20	8

Family : Clupeidae
 Species: S. fimbriata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum																

2
13
3

18

Family : Clupeidae
 Species: S. fimbriata
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Manila Bay
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0											1					
14.0											1					
15.0											12	1				
16.0											9	7				
17.0											2	11				
18.0																
19.0												1				
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											25	20				

Family : Clupeidae
 Species: S. fimbriata
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																5
14.0																4
15.0																21
16.0																16
17.0													1			6
18.0													5			3
19.0													13			2
20.0													2			
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													21			57

Family : Clupeidae
 Species: S. fimbriata
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0						1										
12.0			8		6	5										
13.0			13		15	19										
14.0			2		7	17			1							
15.0			6		4	9			11		4					
16.0			5		4	1			18		4					
17.0			12		4	5			10		9					
18.0			13			1			1		3					
19.0			6			1			1							
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			65		40	59			42		20					

Family : Clupeidae
 Species: S. longiceps
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0								2								
15.0								11								
16.0					4			9	11	6				10	2	
17.0					5				4	1				16	5	
18.0					1				3					7	5	
19.0									1					6	8	
20.0									1					1		
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum					10			22	20	7				40	20	

Family : Clupeidae
 Species: S. longiceps
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0				1		7										
13.0				12		3										
14.0				76					2	1						
15.0				222	6	3		3	11	11	3	1				3
16.0				103	105	52	61	30	28	44	3	8				6
17.0				10	104	90	115	41	36	76	6	6				2
18.0					8	8	11	13	8	11		1				4
19.0							2	10	2			4				
20.0						1		5								
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum				424	223	164	189	102	87	143	12	20				15

Family : Clupeidae
 Species: S. longiceps
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0								11								
16.0						15		17						2		
17.0						12		17						7		
18.0						1		3						5		
19.0								2						6		
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum						28		50						20		

Family : Meneidae
 Species: M. maculata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0													8			
12.0													9			
13.0													1			
14.0													1			
15.0																
16.0													1			
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													20			

Family : Meneidae
 Species: M. maculata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0													8			
12.0													9			
13.0													1			
14.0													1			
15.0																
16.0													1			
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum													20			

Family : Meneidae
 Species: M. maculata
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0											1					
14.0																
15.0											4					
16.0											3					
17.0											2					
18.0																
19.0											1					
20.0																
21.0											6					
22.0											8					
23.0											2					
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											27					

Family : Engraulidae
 Species: S. indicus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
120.0																
121.0																
122.0											1					
123.0											2					
124.0																
125.0											2					
126.0																
127.0											3					
128.0											3					
129.0											3					
130.0											5					
131.0											1					
132.0											2					
133.0											1					
134.0											9					
135.0											7					
136.0											1					
137.0											5					
138.0																
139.0											1					
140.0											2					
141.0																
142.0																
143.0																
144.0											1					
145.0																
146.0																
147.0																
148.0																
149.0																
150.0																
151.0																
152.0											1					
Sum											50					

Family : Meneidae
 Species: M. maculata
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Manila Bay
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0													1			
14.0													1			
15.0													4			
16.0													3			
17.0													2			
18.0											6		2			
19.0											7		6			
20.0											2		5			
21.0											8		1			
22.0													1			
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											23		26			

Family : Meneidae
 Species: M. maculata
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0													1			
15.0										1						
16.0																
17.0																
18.0																
19.0													1			
20.0										2			3			
21.0										8			1			
22.0										6			6			
23.0													1			
24.0													1			
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum										17			14			

Family : Scomberidae
 Species: R. brachysoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0														2		
13.0														2		
14.0														10		
15.0														3		
16.0														3		
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														20		

Family : Scomberidae
 Species: R. brachysoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0													2			
15.0													12			
16.0													5			
17.0													3			
18.0													1			
19.0													4			
20.0													1			
21.0								5	2				19	1		
22.0								4	6				16	3		
23.0									2				13	5		
24.0								3					4	1		
25.0								2					1			
26.0																
27.0																
28.0																
29.0																
30.0																
Sum								14	10				81	10		

Family : Scomberidae
 Species: R. brachysoma
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			18		62	45				28						

Family : Scomberidae
 Species: R. faughni
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0									2							
14.0									1							
15.0									1							
16.0									3							
17.0									8							
18.0									10							
19.0									4							
20.0									1							
21.0									1							
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum									31							

Family : Scomberidae
 Species: R. faughni
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0		1														
9.0																
10.0																
11.0		2							1							
12.0		4														
13.0		21													2	
14.0		22							2						2	
15.0		11							8						8	
16.0		5	1						8					1	11	
17.0		1							3					16	9	
18.0			1					2	2					3	9	7
19.0			1					1							4	26
20.0			1									1			3	12
21.0			7					6				1			7	7
22.0			1			7	9	4				4				2
23.0						12	1	4	3			3			3	
24.0						8	19	19	12	4	4	4		7	5	3
25.0							16	6	4	2	6		6	6	6	6
26.0						1	12						4	1	1	1
27.0							3			1				1		
28.0																
29.0																
30.0																
Sum		67	12			28	60	42	43	21	19		25	33	68	64

Family : Scomberidae
 Species: R. faughni
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0														2		
18.0														15		
19.0														7		
20.0														3		8
21.0																1
22.0																2
23.0																1
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum														27		12

Family : Scomberidae
 Species: R. faughni
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0								2								
19.0								6							2	
20.0								7							2	
21.0								1							1	
22.0								3				4			2	
23.0								6				4			3	
24.0								3				1			1	
25.0								3				2			2	
26.0																
27.0								1								
28.0																
29.0																
30.0																
Sum								32				11		13		

Family : Scomberidae
 Species: R. faughni
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0			1													
14.0																
15.0																
16.0																
17.0																1
18.0									1							1
19.0			4				1		1							3
20.0			6				3		1							1
21.0			5				1		6							10
22.0			6						4							11
23.0			6						5							12
24.0			2				2		2							6
25.0			1						1							
26.0																
27.0																
28.0							1									
29.0																
30.0																
Sum			31				8		21							45

Family : Scomberidae
 Species: R. faughni
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0									1							
11.0									5							
12.0									3							
13.0									6							
14.0									2							
15.0																
16.0									3							
17.0																
18.0			1									3				
19.0			1									4				
20.0			2									1				
21.0			2						8							
22.0			5						5							
23.0			11						3							
24.0			15						4							
25.0			1													
26.0																
27.0																
28.0			1													
29.0			1													
30.0																
Sum			40						40			8				

Family : Scomberidae
 Species: R. kanagurta
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0															1	
12.0																
13.0														1		
14.0															1	
15.0														1	2	
16.0		1													2	5
17.0		15														4
18.0		15						3					2		3	9
19.0							2	5					5	8	7	14
20.0							7					1	10	7	1	8
21.0					1		7				1		7	16	1	6
22.0					2		8				6		3	8	2	4
23.0					6		2				6			6	2	1
24.0					1		1				10			4	2	1
25.0					13					1	1			1	2	1
26.0					15					2				2	1	
27.0					7			6	1	4			1	4		
28.0					1			7	9	6				2	1	
29.0					1			1	5	5			8	2		
30.0					1								7	1	1	
31.0													2	1		
32.0													1			
Sum		31			48		27	22	15	18	25		46	64	29	53

Family : Scomberidae
 Species: R. kanagurta
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
11.0																
12.0			2													
13.0			4													
14.0			7												6	1
15.0			11												13	4
16.0			5	1										1	21	3
17.0			17	18								1			8	1
18.0			33	33	3									1	13	1
19.0			42	64	5				3			4	1	17	5	
20.0			18	89	16				2			16	4	4	15	
21.0			6	39	15				4			8	9	4	6	
22.0				5	31		2				1		6	3	6	
23.0				2	16	2	12				6	1	1		1	
24.0					2	11	17			1	21					
25.0						6	10		1	4	19					
26.0						3	12		4	8	9	5	3			
27.0							3	5	17	7	7	10	9			
28.0							1	4	4	4		9	11			
29.0							1	5				4	1			
30.0											1	10				
31.0												4				
32.0												2				
33.0																
34.0																
35.0																
36.0																
37.0												1				
38.0																
39.0																
40.0																
Sum			145	251	88	22	58	14	35	24	64		75	47	89	43

Family : Scomberidae
 Species: R. kanagurta
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																1
18.0																5
19.0																5
20.0																2
21.0																1
22.0											1					
23.0											5					
24.0											9					
25.0											5					
26.0																
27.0																
28.0																
29.0																
30.0																
Sum											20					14

Family : Scomberidae
 Species: R. kanagurta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																3
19.0																13
20.0									1							4
21.0									1							3
22.0						1			3							1
23.0						4			3	1						
24.0						12			3						1	
25.0						1			1	1					13	
26.0										1					3	
27.0										2					3	
28.0																
29.0										1						
30.0																
Sum						18			12	6					20	24

Family : Scomberidae
 Species: R. kanagurta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Turtle Island
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0										1						
18.0																
19.0				2			1						1			
20.0				6			1			2			1			
21.0				6						3			2		1	
22.0										5			1		3	
23.0										2					2	
24.0				1			10			17			4		2	
25.0				3			3			8			6		1	
26.0				7			1			1			7		1	
27.0				1												
28.0				1												
29.0																
30.0																
31.0																
32.0																
33.0																
34.0															1	
35.0																
Sum				27			16			39			21		11	

Family : Scomberidae
 Species: R. kanagurta
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Visayan Sea
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0						1										
20.0						1										
21.0			2													
22.0			7													
23.0			6													
24.0			4		1											
25.0			6		8	2										
26.0			4		10	2	2									
27.0			5		2	5	5									
28.0			12			2	7									
29.0			3			6	4									
30.0						1										
Sum			49		21	20	21					25		25		

Family : Scomberidae
 Species: Scomber australasicus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Jolo
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0																
20.0										2						
21.0										7						
22.0										5					3	
23.0															5	
24.0															4	
25.0															1	
26.0																
27.0																
28.0																
29.0																
30.0																
Sum										14					13	

Family : Scomberidae
 Species: Scomber australasicus
 Gear : Trawl (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																
19.0							2									
20.0							3			2						
21.0							11			9						
22.0							4			5						
23.0										1						
24.0																
25.0										1						
26.0																
27.0																
28.0																
29.0																
30.0																
Sum							20			18						

Family : Scomberidae
 Species: Scomber australasicus
 Gear : Purse Seine (C)

Location : NFPC
 Fishing Ground: Palawan
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0			4													
16.0			14			1										
17.0			20													
18.0			4		2	2										
19.0			1		28	4					1					
20.0					21	14		1	6	18						
21.0			1		12	22		4	17	29						
22.0					9	18		11	17	21				1		
23.0					10	5		11	8	18				6		
24.0			2					3	5	4				7		
25.0			4					1		5				3		
26.0			2					1		4				3		
27.0			6							1						
28.0			6													
29.0			1											1		
30.0																
Sum			51		82	66		32	53	101			8			

Length-frequency data collected
for small pelagic fishes landed
at Dalahican, Quezon
February 1987 to April 1988

Total number of species measured - 25

Family : Carangidae
 Species: D. kurroides
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0		3	4													
9.0		6	9													
10.0		1	8													
11.0		2	11													
12.0		4	3													
13.0		15	5										2			
14.0		30	16										16			
15.0		48	7										8			
16.0		21	3													
17.0		9														
18.0		2														
19.0		5														
20.0		10														
21.0		6														
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum		162	66										26			

Family : Carangidae
 Species: D. macrosoma
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0		1											10			
7.0		7											66			
8.0		44											166			
9.0		32		1									261			
10.0		33		1	1								219			
11.0		44		35									60			
12.0		57	5	18	3								5			
13.0		15	17	4	21								7			
14.0		2	41		6											
15.0			14		1											
16.0			12													
17.0			18													
18.0			2													
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum		235	109	59	32								794			

Family : Carangidae
 Species: D. macrosoma
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0							2								2	
15.0							4								13	
16.0							2								12	
17.0							2								2	
18.0							2				2				1	
19.0							1				5				2	
20.0							1				4				1	
21.0							6				1					
22.0							12				1					
23.0																
24.0											1					
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum							32				14				33	

Family : Carangidae
 Species: D. maruadsi
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0														1		
7.0																
8.0																
9.0														1		
10.0				2										4		
11.0				20										2		
12.0				18										15		
13.0			3	3										38		
14.0			7	4										8		
15.0			17	15												
16.0			9	17												
17.0			11	2	2											
18.0			13		2											
19.0			5		2											
20.0			2		6											
21.0			1		7											
22.0					1											
23.0																
24.0			1													
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			69	81	20									69		

Family : Carangidae
 Species: D. maruadsi
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0						1	1									
14.0					5	1								4		
15.0					17	6								15		
16.0					30	9	2							3		
17.0					17	12	9									
18.0					1	8	52	7				1				
19.0						13	61	36		18		1				
20.0						1	15	9		27		2				
21.0							6			12		9				
22.0							1			3		2				
23.0										1		3				
24.0										2						
25.0										2						
26.0										1						
27.0																
28.0																
29.0																
30.0																
Sum					70	51	147	52		66		18		22		

Family : **Carangidae**
 Species: **Selar boops**
 Gear : **Bagnet (C)**

Location : **Dalahican**
 Fishing Ground: **Tayabas Bay**
 Year : **1987-1988**

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0											1					
13.0											6					
14.0											19					
15.0											4					
16.0											12					
17.0											4					
18.0											4					
19.0																
20.0							1									
21.0																
22.0														8		
23.0							5							2		
24.0							3									
25.0							1									
26.0																
27.0																
28.0																
29.0																
30.0																
Sum							10				50			10		

Family : Carangidae
 Species: Selar boops
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																
18.0																2
19.0									1							
20.0								3	6	1				1		
21.0								2	18	2				6		
22.0									7	4				1		
23.0														1		
24.0								1								
25.0														1		
26.0														1		
27.0								1								
28.0																
29.0								1								
30.0																
Sum								8	32	7				13		

Family : Carangidae
 Species: S. crumenophthalmus
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0																2
18.0																5
19.0																10
20.0									3							4
21.0									23							1
22.0									20							1
23.0									1							
24.0																
25.0									2							
26.0																
27.0									1							
28.0																
29.0																
30.0																
Sum									50			23				

Family : Clupeidae
 Species: D. acuta
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0													17			
9.0													41			
10.0													14			
11.0																
12.0																
13.0																
14.0			1													
15.0			2	2												
16.0			4	1												
17.0			3	7												
18.0			4	6												
19.0				1											2	
20.0				1											4	
21.0															7	
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			14	18									72	13		

Family : Clupeidae
 Species: D. acuta
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0							6									
18.0							17									
19.0							11		5				1			
20.0							1		6		9	10				
21.0									2		4	11				
22.0									1		1	6				
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum							35		14		14	28				

Family : Clupeidae
 Species: D. acuta
 Gear : Trawl (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0								3								
15.0								14								
16.0								14		1						
17.0								3		15				9		
18.0								1		12				9		
19.0								6								
20.0								8								
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			18			38				28						18

Family : Clupeidae
 Species: D. elopsoides
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0										5						1
18.0									1	4						4
19.0									5	20		1				12
20.0									13	22	4	4				3
21.0									6	2	7	5				1
22.0									2		2	5				3
23.0												1				
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum									27	53	13	16				24

Family : Clupeidae
 Species: Herklotsichthys spp
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0														1		
6.0																
7.0															4	
8.0														25	43	
9.0														24	37	
10.0															15	
11.0																
12.0																
13.0																
14.0																
15.0																
16.0																
17.0					12											
18.0					18	21	7									
19.0					19	29	10									
20.0					1		1									
21.0							1									
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum					50	50	19							50	99	

Family : Clupeidae
 Species: Herklotsichthys spp
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0						2										
13.0						13		1		7						
14.0						13		4		5						
15.0						3		11		2						
16.0						1		5		3						
17.0								3								
18.0																
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum						32		24		17						

Family : Clupeidae
 Species: S. fimbriata
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0													1	2		
8.0													33	53		
9.0				1									15	259		
10.0			10	24									1	235		
11.0			12	3				4						50		
12.0			11	5				17						17		
13.0			6	6				7						17		
14.0			8	16				2						4		
15.0			4	14										3		
16.0			2	7												
17.0				6												
18.0				7												
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			53	89				30					50	640		

Family : Clupeidae
 Species: S. fimbriata
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0													1			
6.0													8			
7.0					11							46	1		1	
8.0					4							80	13		2	
9.0				1	3							77	52		12	
10.0				7								37	47		10	
11.0				7	1							25	9		7	
12.0				26								7	7			
13.0				36									5			
14.0				2						15			4		1	
15.0										36			12			
16.0										22						
17.0										10		3				
18.0			1							34		10				
19.0			3							88	3	21				
20.0			14							8	4	14				
21.0			21							5	29	2				
22.0			38							1	14					
23.0			25													
24.0			8							1						
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			110	79	19					220	50	50	281	150		33

Family : Clupeidae
 Species: S. fimbriata
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																1
12.0				2	1		2	4								2
13.0			6	11	16	32	25	59	16	2	1					39
14.0			4	56	63	236	276	119	73	22	1				2	134
15.0				29	100	400	666	286	104	41	3				4	171
16.0				10	67	215	599	364	223	98	19	1			25	66
17.0					17	88	375	297	327	52	41	11			9	62
18.0					24	34	161	98	229	6	52	6				20
19.0					10	11	56	20	57		8	2				8
20.0						1	5		9							
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			10	108	298	1017	2165	1247	1039	221	125	20			40	502

Family : Clupeidae
 Species: S. fimbriata
 Gear : Trawl (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0				4	1		3	8								
11.0			4	3	14		46	35								
12.0			10	3	22		34	4		2						
13.0			5		3		18	1		13						
14.0			1				8	2		14						
15.0					1		2			2						
16.0				3						1						
17.0				3												
18.0				3												
19.0				1												
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			20	20	41		111	50		32						

Family : Clupeidae
 Species: S. delicatulus
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
81.0																
82.0																
83.0																
84.0																
85.0																
86.0																
87.0																
88.0																
89.0																
90.0																
91.0																
92.0																
93.0																
94.0																
95.0																
96.0																
97.0																
98.0																
99.0																
100.0															24	
101.0															21	
102.0															15	
103.0															18	
104.0															23	
105.0															21	
106.0															19	
107.0															15	
108.0															12	
109.0															3	
110.0															3	
111.0															2	
112.0																
113.0																
114.0																
115.0																
Sum															176	132

Family : Engraulidae
 Species: E. japonicus
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
40.0																
41.0													1			
42.0																
43.0																
44.0																
45.0					1							2	1			
46.0													1			
47.0													2			
48.0												1				
49.0												2	2			
50.0		1		1								1	2			
51.0				3									2			
52.0		2		1									1			
53.0				1									1			
54.0				1	3							1	6			
55.0		1		6	4							7	5			
56.0				2	2							4	2			
57.0				4								4	3			
58.0				3	1							6	4			
59.0				2								1	2			
60.0		5	4	15	5							5	8			
61.0		2	3	11	2							5	11			
62.0		6	2	10								5	5			
63.0		1	2	7	5							1	8			
64.0		2	2	10	4							3	4			
65.0		6	6	19	4							5	12			
66.0		2	1	3	1							7	6			
67.0		2	1	14	2							4	7			
68.0		3	4	18	3							2	10			
69.0		4	2	6								1	7			
70.0		6	2	16								2	9			
71.0		5	3	8	1								16			
72.0		2	6	9						1			12			
73.0		4	1	9									5			
74.0		4	6	3									3			
75.0		10	9	1	1					2		1	18			
76.0		3	3	2						1		1	12			
77.0		5	6	1						1			8			
78.0		7	7	3						3		1	12			
79.0		2	4							1			7			
80.0		14	10	3						4			15			

Family : Engraulidae
 Species: E. japonicus
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
81.0		2	8	4									14			
82.0		8	9							2			9			
83.0		7	7							2			11			
84.0		8	8	2						2			14			
85.0		14	12	1						3			13			
86.0		4	6							1			10			
87.0		12	4	3									13			
88.0		5	4							1			2			
89.0		7	9	1						1			11			
90.0		9	17	3									12			
91.0		5	2	4									8			
92.0		8	6	4									6			
93.0		3	8	1									6			
94.0		5	7	5									11	1		
95.0		3	10	4									10			
96.0		3	6	9									5			
97.0		3	3	2									3			
98.0			5	3									4	1		
99.0			1											1		
100.0		1	2	7									5	3		
101.0			1	2									1			
102.0		1	1	7										2		
103.0		1		5									1	2		
104.0		1		3									1			
105.0		1	2	6									1	1		
106.0		2		6										1		
107.0			1	9										2		
108.0		1		5												
109.0		2		6									1			
110.0		4		9												
111.0				4												
112.0				6												
113.0				2												
114.0				4												
115.0			1	3												
116.0				3												
117.0				1												
118.0				2												
119.0																
120.0				3												
121.0				1												
Sum		219	224	332	39					25		72	402	14		

Family : Engraulidae
 Species: E. japonicus
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
43.0																1
44.0																
45.0																1
46.0																
47.0																
48.0																1
49.0																1
50.0			6	4								2				16
51.0			2	4												4
52.0			3									1				6
53.0			2	1												4
54.0			6	2												5
55.0		1	7	4												13
56.0			5	4								1				5
57.0			4	3												4
58.0	1		12	12								4				7
59.0	1		6									1				4
60.0		2	13	9								6				12
61.0			2	9								2				12
62.0		5	4	5								4				10
63.0		1	1	7								2				8
64.0		2	7	11								5				10
65.0		3	6	23								7				19
66.0		1		6								6				5
67.0		5		8								3				8
68.0			1	12								4				8
69.0		3	1	3								3				4
70.0		10	1	10					2			7				7
71.0		2	1	14								7				7
72.0		12		8								3				3
73.0		3	1	7					1			3				2
74.0		8	4	3					2			1				2
75.0		12	2	5					2			4				2
76.0		6	1	4					3			3				5
77.0		9		4								1				
78.0		11	1						3			1				3
79.0		6	1						2			2				
80.0		7							18			3				1
81.0		7							11			2				
82.0		9	2						3			2				
83.0		17	2						6							
84.0		5	3						10			2				
85.0		16							26			3				
86.0		4	1	1					6			1				
87.0		10	2	1					3							
88.0		7	1	1					1							
89.0		5	1									1				
90.0		6	5	1					1			1				

Family : **Engraulidae**
 Species: **E. japonicus**
 Gear : **Encircling Lift Net (M)**

Location : **Dalahican**
 Fishing Ground: **Tayabas Bay**
 Year : **1987-1988**

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
91.0		2														
92.0		1	5													
93.0			3													
94.0			3													
95.0		1	3	1												
96.0			2													
97.0			1													
98.0			1													
99.0																
100.0				1												
101.0			2	1												
102.0																
103.0				1												
104.0				1												
105.0				5												
106.0				1												
107.0				1												
108.0				2												
109.0				1												
110.0				1												
111.0				2												
112.0																
113.0				1												
114.0																
115.0				4												
116.0																
117.0																
118.0																
119.0																
120.0																
Sum		201	137	209					100				98			200

Family : Engraulidae
Species: E. japonicus
Gear : Surface Gill Net (M)

Location : Dalahican
Fishing Ground: Tayabas Bay
Year : 1987

81.0		
82.0		
83.0		
84.0		
85.0		
86.0		
87.0		
88.0		
89.0		
90.0		
91.0		
92.0		
93.0		
94.0		
95.0	1	
Sum	1	68

Family : Engraulidae
 Species: S. heterolobus
 Gear : Bagnet (C)

Location : Dalahican
 Fishing Ground:
 Year : 1987

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
48.0													1			
49.0																
50.0																
51.0																
52.0													1			
53.0			1	1												
54.0				1												
55.0				3									1	1		
56.0				5									1			
57.0																
58.0				2									3			
59.0			1	1									1			
60.0		6		1	5								4		1	
61.0		5		13									1		1	
62.0		5	1	10											1	
63.0		9	1	3							1				1	
64.0		3		9	3						2		6			
65.0		8	3	8	2					2	4		6	2		
66.0		4	1	17	1					1	2		2		3	
67.0		12	1	7	2						2		2		4	
68.0		4	1	10	6					2	2		5		9	
69.0		3	1	15	2						2		1		3	
70.0		8	3	4	15					2	5		16		10	
71.0		6	4	25	11					1	1		6		9	
72.0		2	1	17	8					1	5		10	1	3	
73.0		4	2	6	8						4		8	1	2	
74.0		2	6	9	10					2	1		11		9	
75.0		2	6	13	18					11	1		15	3	7	
76.0		4	2	17	8					5	3		23		7	
77.0		2	4	21	4					2	4		12		6	
78.0		4	0	3	6					2	2		17	2	13	
79.0		1	4	18	5					9	2		12	1	5	
80.0		3	6	3	13					3	2		35	2	3	
81.0		5	3	16	6					8	1		20	3	1	
82.0		1	4	9	5					5			10			
83.0		3	6	6	6					6			18			
84.0		2	4	8	4					10			21	1	2	
85.0		3	4	14	9					9			36	5		
86.0		2	4	17	2					7			27	2		
87.0		5	5	13	6					8			25	3		
88.0			2	5	2					2			9			
89.0		2	5	6						3			13	3		
90.0		3	2	13	4					8			27	8		

Family : Engraulidae
 Species: S. heterolobus
 Gear : Bagnet (C)

Location : Dalahican
 Fishing Ground:
 Year : 1987

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
91.0		1	4	11	2					6			24	1		
92.0		2	5	8	3					2			18	1		
93.0		2	1	5	2					5			10	1		
94.0			5	17	5					3			12			
95.0		8	7	21	7					9			8	2		
96.0			3	17	6					3			6	2		
97.0		3	3	17	6					2			2	1		
98.0		3	6	20	10					3			2	1		
99.0		1		3	1								2			
100.0		7	12		9					2			3	2		
101.0		4	7		6					2			1			
102.0		8	7		5					1						
103.0		3	4		6					1						
104.0		2	1		8					1						
105.0		2	8		3											
106.0		1	2		4											
107.0		3	1		3					1						
108.0					2											
109.0			1		2											
110.0		1	4		3											
111.0					2											
112.0					1											
113.0					1											
114.0																
115.0																
Sum		174	169	468	268					150	46		494	45	100	

Family : Engraulidae
 Species: S. heterolobus
 Gear : Encircling Lift Net (Lawag) (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
40.0																
41.0																
42.0																
43.0																
44.0																
45.0																
46.0																
47.0																
48.0																
49.0																
50.0					3					1						6
51.0			1											1		
52.0										5			1	1		
53.0					3					1						
54.0					1									2		
55.0			2		1					1	1			4		5
56.0					2											
57.0					1											
58.0			2		5					3		1		5		
59.0					1								3			
60.0			1		5					3	4	2	2	5		3
61.0			2		9					3	3		3	3		
62.0			1		7					4	4	3		3	1	1
63.0					4					4	4			4	2	1
64.0			2		5					1	3		2	3	1	
65.0			3		10					9	12	1		12	1	4
66.0											6	1		7	1	
67.0			4		2					7	8		1	12	1	1
68.0			1		3					1	4	2		11	2	6
69.0										3	4	1	1	4	1	1
70.0			4		3		3			12	20	19	5	9	5	11
71.0			1		8		1		1	9	9	16	3	6	4	1
72.0			3		5		2			16	9	7	2	8	2	2
73.0			1		2		4			10	8	7	1	3	1	6
74.0			2		4		4			13	8	7	2	4	1	2
75.0			3		9		9		2	25	18	19	11	6	2	11

Family : Engraulidae
 Species: S. heterolobus
 Gear : Encircling Lift Net (Lawag) (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
76.0			2		6		11		1	25	12	8	7	6	2	6
77.0			2							9	8	5	4	1	2	2
78.0					2		3			9	5	7	5	4	5	7
79.0									2	8	1	6	3	3		2
80.0			1		3		6		7	40	15	13	7	14	5	14
81.0			3		3		2		3	18	7	5	11	13	2	10
82.0			1		3		2		1	11	2	4	3	14	1	4
83.0			6		1				2	6	3	1	4	21	2	11
84.0			2		3				2	15		2	9	13	5	7
85.0			7		1		1			20	10	4	12	38	7	12
86.0			2		2		1		2	18	1		11	20	3	7
87.0			4		1				1	8	2	4	8	12	2	7
88.0			4		1		1			3	2	1	9	11	4	14
89.0							1			1	2		2	6	7	3
90.0			1		1				1	8	3	2	7	21	5	11
91.0			3						1				3	11	4	4
92.0			1							1	2		4	10	5	1
93.0			2		1					1			2	9	6	5
94.0			2										4	5	10	1
95.0			5		2							1		17	7	2
96.0			2		3						1			6	7	4
97.0			4		2					1	1		1	6	5	2
98.0			3		5								1	1	3	1
99.0			3		1									3	1	1
100.0					8							1		3	7	1
101.0					6											
102.0					3										2	
103.0					4											
104.0					5											
105.0					13											
106.0					3											
107.0					4											
108.0																
109.0					1											
110.0																
111.0					1											
112.0																
Sum			93		182		51		26	333	202	150	154	381	134	200

Family : Engraulidae
 Species: S. indicus
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
125.0												1				
126.0																
127.0																
128.0																
129.0																
130.0																
131.0																
132.0																
133.0																
134.0																
135.0												3				
136.0												3				
137.0																
138.0												3				
139.0												1				
140.0			2									6				
141.0			1									4				
142.0												3				
143.0												3				
144.0												4				
145.0			2													
146.0												5				
147.0			1									2				
148.0												1				
149.0																
150.0			1									3				
151.0												1				
152.0			1													
153.0			1									2				
154.0			1													
155.0			1													
156.0			4													
157.0			2									1				
158.0																
159.0																
160.0																
161.0			2													
162.0																
163.0																
164.0																
165.0																
Sum			19									46				

Family: ~~Engraulidae~~
 Species: S. indicus
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
64.0					1											
65.0					1							1				
66.0																
67.0			1	1	1							3				
68.0												4				
69.0												2				
70.0			1	1								6				
71.0				1	1							7				
72.0												9				
73.0			1	2								5				
74.0			4	1	1							4				
75.0			2	3	1							9				
76.0			1	5	2							1				
77.0			1		1											
78.0				4								3				
79.0				1	5											
80.0			4	1	16							3				
81.0					7							2				
82.0		1			1						1					
83.0					2					1						
84.0					7						1	1				
85.0					9						1	3				
86.0			1	1	11					2	1					
87.0				2	14						1	2		1		
88.0					9					3		2			3	
89.0					6							1			4	
90.0				4	23		1			5	7	4		1	7	
91.0			1	3	13					3	3	9	1		6	
92.0				3	10					8	3	10			4	
93.0				5	10					5	1	7			11	
94.0			1	5	13		1			8	6	6	1		9	
95.0				14	14					19	3	8	2		20	1
96.0			2	4	7					15	2	2	1		26	
97.0				5	7		2			16	3	5			17	
98.0			3	9	7		3			16	4	1	1		30	1
99.0				2	3					2			2		4	
100.0			4	7	1		2			45	9	5	8	8	38	6
101.0			2	6	3		1			6		2	2	2	6	3
102.0			2	2	1		1			14	1	2	5	3	9	5
103.0			3	2	2					4		3	6	4	14	2
104.0			5	1			1			12	2	4	9	5	16	3
105.0			3				2			32	3	22	25	10	11	3
106.0			4	3						13	2	10	25	4	1	1
107.0			5	1						5	3	3	15	3	5	1

Family : Engraulidae
 Species: S. indicus
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
108.0			3	6	1					9	4	5	18	8	5	1
109.0			3	3						3	1	5	19	5	3	
110.0			17	8						12	5	21	51	6	16	
111.0			2	3						6	2	7	19	4	2	
112.0			11	5						6	5	17	20	3	5	
113.0			1	4						1		3	17	2	2	1
114.0			5	8	1					2	4	6	19	2	1	
115.0			16	17						7	14	22	38	3	7	
116.0			2	5								8	18	2	4	
117.0			3							2		5	17	3	2	
118.0			1	12						1	2	4	13	3		
119.0				1								3	2	7	2	
120.0			3	6			7			4	5	7	24	2	4	
121.0			2	2			1			1	3	2	5	3	1	
122.0			1	2			1					7	2	7		
123.0			3	5						1	2	5	3			
124.0			2	4			3			1	4	1	7	1		1
125.0			4	4			8			3	10	9	15	2		
126.0			1	2			9			1	9	4	5	2		
127.0				2						2	6		2	1		
128.0				5			2			1	5	4	2	1		
129.0							2					4				
130.0				2			3					7	6	3	1	
131.0				1			6					7	2	1	1	
132.0				2			4			1	8	1		1		
133.0				1			1					1		1		
134.0				1			2						2	1	1	
135.0				6								2	4			
136.0												1				
137.0				1					1			1				
138.0				2			1					1	1			
139.0				1												
140.0				2									1			
141.0																
142.0																
143.0																
144.0																
145.0													1			
146.0																
147.0																
148.0													1			
149.0																
150.0																
Sum			132	222	212		64		1	298	177	323	443	100	294	29

Family : Engraulidae
 Species: S. punctifer
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
50.0					1											
51.0																
52.0												1				
53.0		1														
54.0		1		1	1							1				
55.0		1	1		1							9				
56.0			2		2							2				
57.0			1									2				
58.0		2		2	1							6	1			
59.0			1									1				
60.0		4	1	3	1							16	1			
61.0		1	1	3								11				
62.0		2	1	3							1	9	1			
63.0		1	1		1							1	2			
64.0		1	3		1							11				
65.0		3	5	5	2							18	3			
66.0			1	3								3	1	1		
67.0	1	6										11	1			
68.0		3	4	2								10	2			
69.0		4	2									4	1			
70.0	3	8	4								1	15	7			
71.0		9	7	1						1		9	2			
72.0	1	4	4								1	7	7			
73.0	1	3	2	1							1	6	5			
74.0	2	10	3	1							1	7	2			
75.0	1	8	8	2						1	1	20	13			
76.0		6	1	2						1		7	15			
77.0	1	5	1								1	5	8			
78.0	4	6	4	4						2	1	3	12			
79.0	2	5	3									3	6			
80.0	4	9	6	5						4	2	1	24			
81.0		5	3	6						2		1	18			
82.0	3	5	11	3						2			16			
83.0	2	1	6	4						5	1		18	1		
84.0	1	4	5	2						3			19			
85.0	2	3	12	5						12			24			
86.0	2	3	5	1						4			20	1		
87.0		1	1	5						5			30	2		
88.0			9	3						5			11	2		
89.0			2	2									19			
90.0			5	10	1					3			36			

Family : Engraulidae
 Species: S. punctifer
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
91.0			1	9	5								26	3		
92.0			5	4	6								23			
93.0				5	4								20			
94.0			2	9	5								8			
95.0			5	8	7								19			
96.0			1	7	3								12			
97.0			3	4	4								7			
98.0		2	2	5	3								7			
99.0				3									4			
100.0			2	8	3								4			
101.0				2									1			
102.0			3	1	1											
103.0				2	1											
104.0				3	4								1			
105.0			4	7	1								1			
106.0				6	1											
107.0				2												
108.0			1													
109.0			1	2												
110.0			1	1												
111.0																
112.0			1													
113.0																
114.0																
115.0																
Sum		49	163	226	109					50	11	200	458	10		

Family : Engraulidae
 Species: S. punctifer
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
50.0			1	1												
51.0			2	1												1
52.0			1	1												
53.0			1													
54.0				2								1				
55.0			1	1												
56.0			1	1								1				
57.0				3								1				
58.0				1							1	1	1			1
59.0											1					
60.0				6	3				1			1				2
61.0				3	3							3				1
62.0			1	1							1	1				2
63.0				1	2						1				1	2
64.0			1	6	2						4					
65.0			3	7	4						7	1			5	4
66.0				10	2						2				3	2
67.0				7							7	2			12	4
68.0			3	8	2						6				16	4
69.0				4							2				2	
70.0			5	6	2						13		2		15	3
71.0				5	4						10		2		11	3
72.0			4	2	4				2		5				16	5
73.0				4	2						9		3		6	2
74.0			2	2	3						11	1	4		10	5
75.0			8	3	2				1		18		5		18	4
76.0			6	1	2				2		7	1	9		9	1
77.0			4	2					2		4		2		6	
78.0			7	2	3				4		5		2		6	2
79.0			5						5		3		3		4	
80.0			8	1	2				9		8		11		5	
81.0			7						2		2		2		1	
82.0			8	1	1				4				4		2	1
83.0			3						6				3			
84.0			5	2	2				4				13			
85.0			7		2				3				14			
86.0			1	2	3				3				11			
87.0			2	1					1				6			
88.0													15			
89.0			2										5			
90.0			1										8			1

Family : Engraulidae
 Species: S. punctifer
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
91.0			1	2									6			
92.0			1	1									3			
93.0			1										2			
94.0			2	2									3			
95.0			1										2			
96.0			1													
97.0													2			
98.0			1	1									3			
99.0													1			
100.0			1	1									3			
101.0			3													
102.0																
103.0			2													
104.0			2													
105.0			4													
106.0			1													
107.0			2													
108.0																
109.0			1													
Sum			124	105	50				49		127	14	150		148	50

Family : Engraulidae
 Species: S. waitei
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (mm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
118.0																
119.0																
120.0																
121.0																
122.0																
123.0																
124.0																
125.0																1
126.0																
127.0																
128.0																
129.0																
130.0																
131.0																
132.0																
133.0																
134.0																
135.0																
136.0																
137.0																1
138.0																
139.0																
140.0																1
Sum			40										27			

Family : Scomberidae
 Species: R. faughni
 Gear : Basnig (C)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																1
7.0																4
8.0													1			28
9.0		5											2			67
10.0		10											10			71
11.0		1											2			61
12.0														8		17
13.0													9			
14.0													18	15		
15.0													10	5		
16.0			5													
17.0			13													
18.0			2													
19.0			1							1						
20.0										3						8
21.0			5							1						4
22.0										7						
23.0										14						
24.0										7						
25.0										1						
26.0										2						
27.0																
28.0																
29.0																
30.0																
Sum		16	26							36	15		52	28	249	

Family : Scomberidae
 Species: R. faughni
 Gear : Encircling Lift Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0										12						
7.0										18	1					5
8.0												1				4
9.0										4	11				6	9
10.0									5	2	18		4		55	5
11.0									20	9	6		4		125	30
12.0									20	11	3		13	2	103	25
13.0									4	12	6			14	17	20
14.0									1		7			31		13
15.0			1							6	22			5	1	2
16.0			5							3	8					
17.0			4							3	5					
18.0										1	3					
19.0																
20.0																
21.0																
22.0																
23.0																
24.0																
25.0																
26.0																
27.0																
28.0																
29.0																
30.0																
Sum			10						50	81	90		22	52	307	113

Family : Scomberidae
 Species: R. faughni
 Gear : Surface Gill Net (M)

Location : Dalahican
 Fishing Ground: Tayabas Bay
 Year : 1987-1988

Midlength (cm)	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
5.0																
6.0																
7.0																
8.0																
9.0																
10.0																
11.0																
12.0																
13.0																
14.0										5		32				
15.0									2	16		46			2	1
16.0									7	25		22				3
17.0						1			14	8		5	1			11
18.0						4			6	12		7	4			19
19.0						3	2		8	26		3	3			2
20.0							4		2	6		10	11		6	10
21.0									1	5		3	17		5	3
22.0					3		3		1	1		3	17		15	2
23.0					15	5	6						4		9	
24.0					13	8	5		4				2			1
25.0					14		1									
26.0					13				1							
27.0					2											
28.0																
29.0																
30.0					1											
Sum					61	21	23		46	104	134	59		35	23	39

