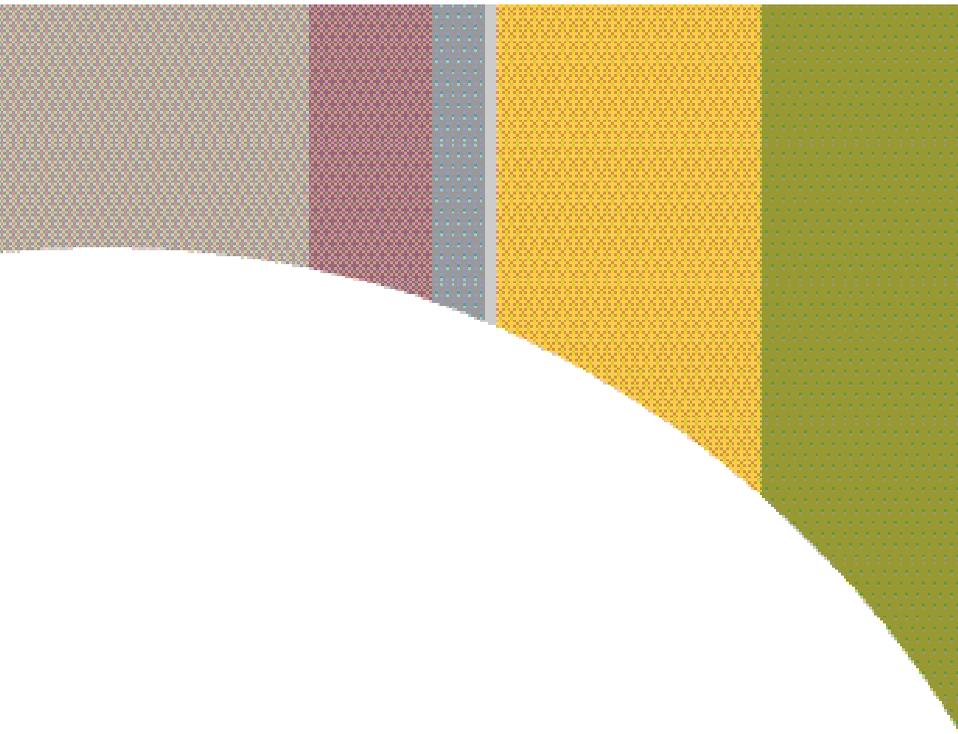


Korean Coastal and Offshore Fishery Census



[]



해양수산부
국립수산과학원
National Fisheries Research &
Development Institute



가 240

가

가

2002 ~ 2004 3

가

2004. 12.



發 刊 辭

가
,

가 .

, EEZ

EEZ

2002 2004

()가

가

EEZ .

2004. 12.



1.

2002 2

,
, 2002 5 ,
, ()
, ,
.

, 2002 9 2004 12 ,
.
: 11

2.

가.

- (1) : 가 , ,
, ,
- (2) : 가 , ,
- (3) : () 가 ,
, ,
- (4) : ,
, .

3.

가
2003 12 , 2002 12 .
, 2004 8
, 2003 12
.
, ,
1 , ,
, 1 , 8 .
1 9 .

1.	가 .	15
2.		15
3.		16
4.		17

1.	가 .	
	가.	21
	.	23
	.	24
	.	25
	.	25
2.		
	가.	
	1)	27
	가)	27
	)	35
	)	42
	)	46
	)	52
	)	54

2)	.....	57
가)	.....	57
)	.....	65
)	.....	70
) ( )	.....	79
)	.....	81
3)	.....	84
가)	.....	84
4)	.....	88
5)	.....	89
.		
1)	.....	91
2)	.....	93

3.

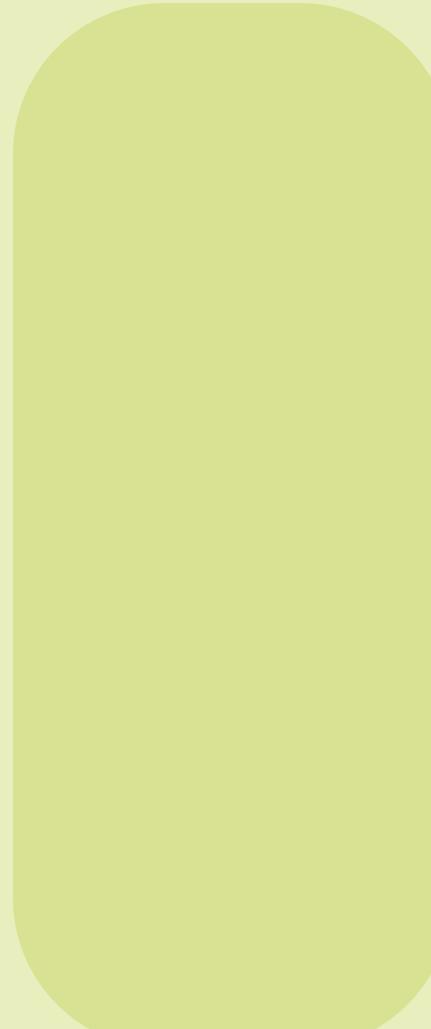
가.

1)	.....	103
2)	.....	104
.		
1)	.....	106
2)	.....	107
3)	.....	108

4.			
가.			
1)			163
가)			163
)			164
)			167
2)			171
가)			171
)			172
)			178
)	가	가	184
3)			188
가)			188
)			188
)			190
)			192
.			
1)			195
가)			195
)			197
)			200
)		가	203
2)			208
가)			209
)	가		210
)			212
)		가	216

CHAPTER 1

1. 가 .
- 2.
- 3.
- 4.



(Mitutoyo, CD-15) 0.1cm
 (Sartorius, M-5500S) 0.01g
 (immature), (maturing), (mature), (spent) 4
 (gonadosomatic index : GSI) / ×100
 (W)× (w)】
 Gilson (Love and Wesphal, 1981)
 , 50% logistā 1cm

3.

가.

mm

3 , 3~5 , 5~8 3

mm

m

4.

가.

가

가

가

CHAPTER 2

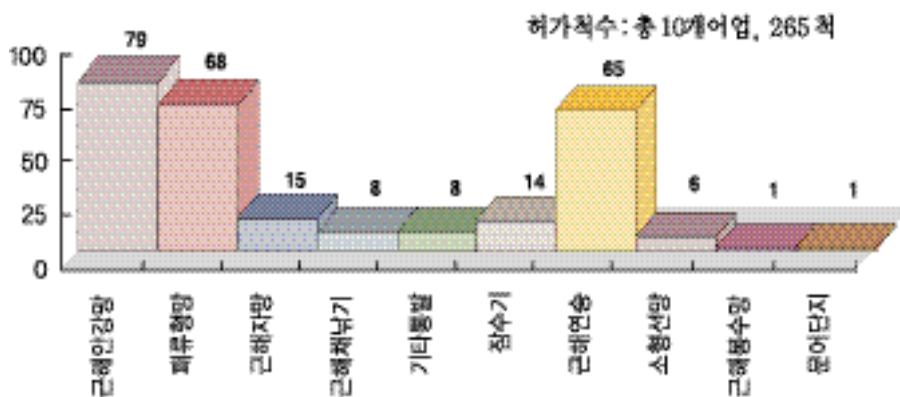
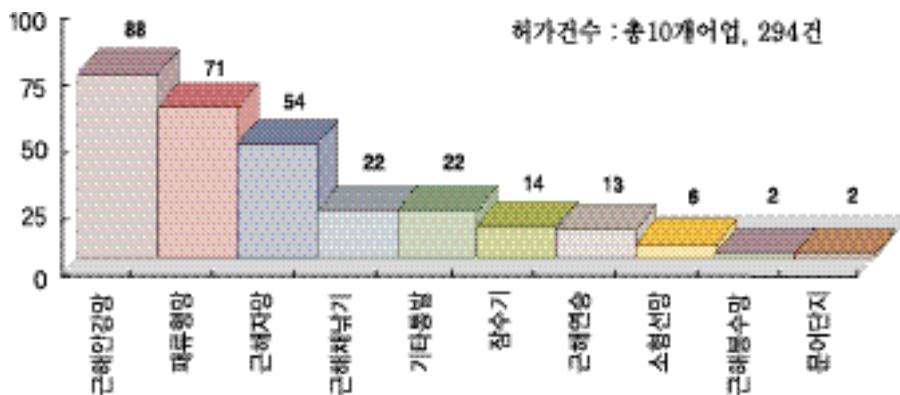
1. 가 .
- 2.
- 3.
- 4.

[1.

가 .

]

가.



1-1. 가

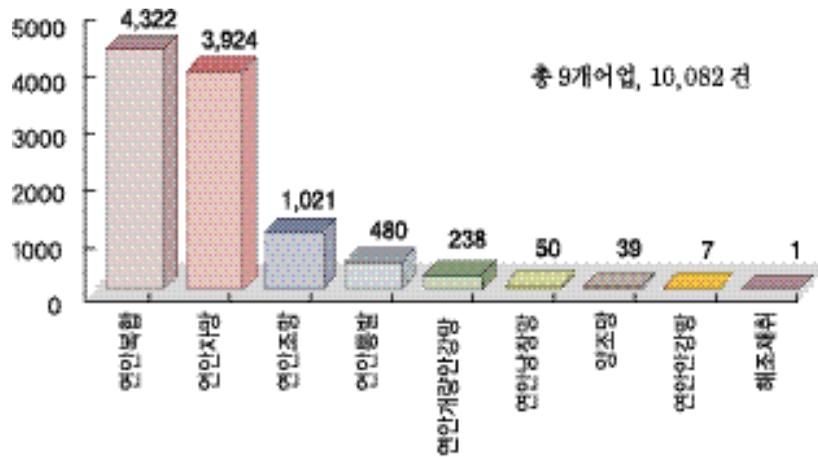
가 10 가 294 , 가 265 .
 가 88 가 , 71 , 54 ,
 22 , 13 , 10
 . 가 79 가 , 68 , 65
 , 15 14 , 8

1-1.

(: ,)

	1998	1999	2000	2001	2002	2003	
	21,420	8,701	16,747	15,174	15,755	15,688	15,580
	10,915	1,928	11,244	9,719	6,796	7,468	8,011
	3,177	-	10	-	204	1,576	828
	956	526	1,164	597	914	724	814
	60	1,504	1,000	2,218	3,105	2,470	1,726
	379	318	744	1,032	1,137	1,388	833
	5,189	4,394	2,536	1,539	2,391	1,700	2,958
	744	31	49	37	71	23	159
	-	-	-	32	1,137	339	251

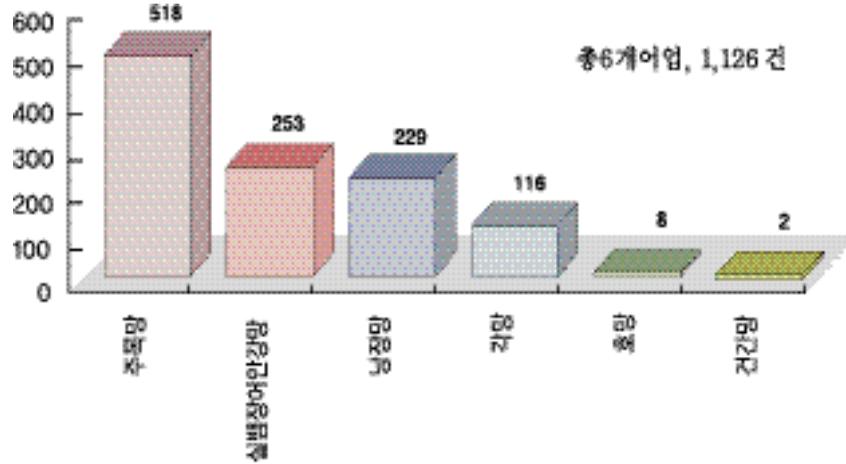
(1998~2003) 15,580
 , 1998 21,420 가 , 1999 8,701 가
 . 51.4% 가
 8,011 , 2000 11,244 가
 1999 1,928 가 .
 , 2,958 19.0% ,
 1,726 (11.1%), 833 (5.3%), 828
 (5.3%), 814 (5.2%), 251 (1.6%), 159
 (1.0%) .



1-2. 가
 9 가 10,082 가
 , 4,322 가 , 3,924 ,
 1,021 , 480 , 238 , 50 ,
 7 . 39 , 1 .
 1-2. (: ,)

	1998	1999	2000	2001	2002	2003	
	35,292	27,674	27,112	18,674	18,505	19,337	26,549
	-	-	-	-	-	2,540	2,540
	3,657	4,201	2,486	2,869	1,693	3,987	3,149
	-	666	164	299	3	1	189
	2,155	3,205	2,698	2,866	4,204	3,739	3,145
	29,173	19,462	21,502	12,401	9,416	7,550	16,584
	-	-	-	38	1,943	1,181	527
	307	140	262	169	109	-	164

(1998~2003) 26,549
 , 1998 35,292 가 , 2002 18,505 가
 . 63.1% 가
 16,584 , 1998 29,173 가
 2003 7,550 가 .
 , 3,149 12.0%
 , 3,145 (11.1%), 2,540(9.7%), ()
 527 (2.0%), () 189 (0.7%), 164 (0.6%)



1-4. 가

6 가 1,126 가
 518 가 , 253 ,
 229 , 116 , 8 , 2 .

1-3.

(: ,)

	1998	1999	2000	2001	2002	2003	
	991	291	5,343	1,908	1,690	1,295	1,919
	9	155	111	206	332	42	142
	393	-	5,102	1,539	1,127	836	1,500
	235	93	14	-	231	11	97
	354	43	116	163	-	406	180

(1998~2003) 1,919
 , 2000 5,343 가 , 1999 291 가
 78.1% 가
 1,500 , 2001 1,539 가
 1998 393 가 . 1999
 , 142 (7.4%)
 , 97 (11.1%)
 , 180 (9.4%) .

2003 , 가 8 , 가 69ha

1-4. (: ,)

	1998	1999	2000	2001	2002	2003	
	9	-	83	2	18	76	31

(1998~2003) 31

, , 2000 83 가 , 1998 9 가 .
1999

2003 , 가 180 , 가
4,650ha .

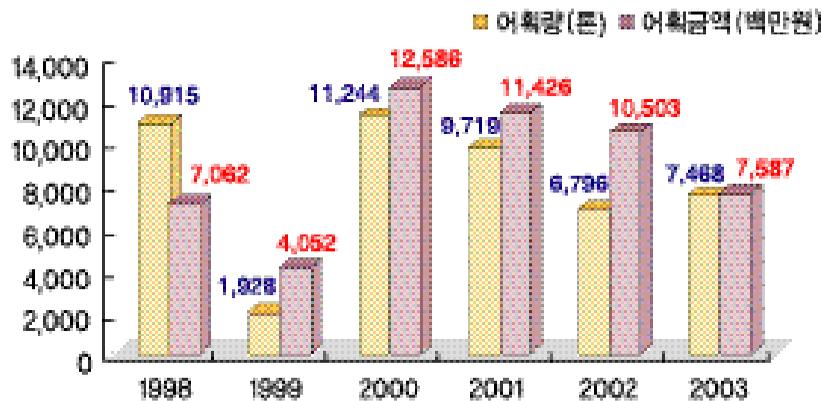
1-5. (: ,)

	1998	1999	2000	2001	2002	2003	
	5,419	5,312	4,567	2,871	2,061	10,809	5,173

[2]

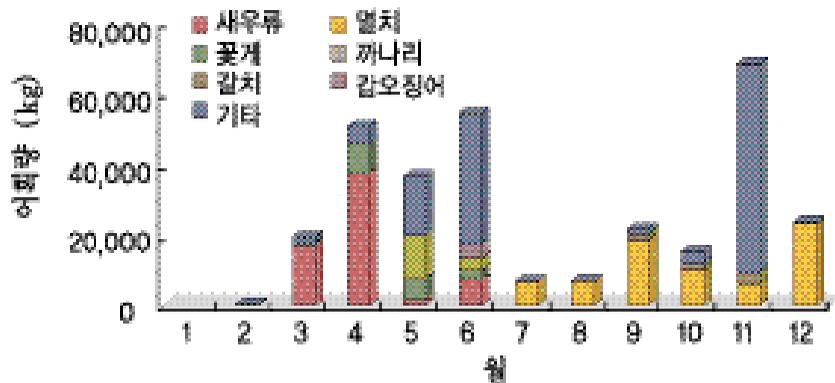
가.
1)
가)

(CPUE)



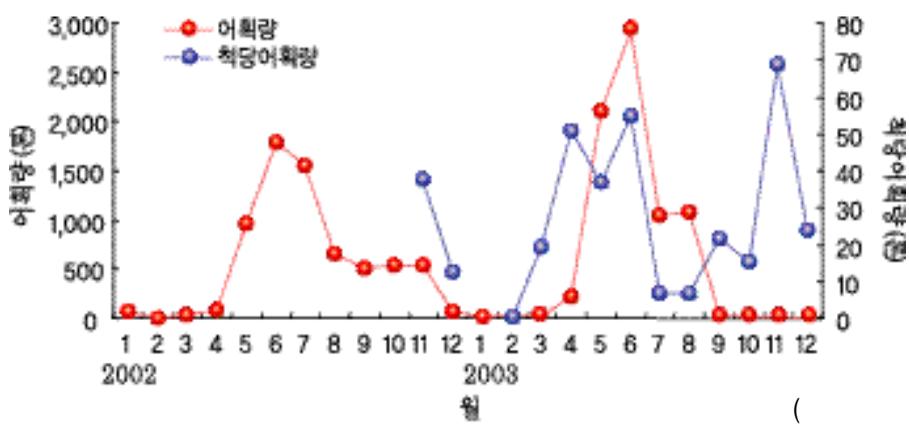
2-1.

1998
10,915 1999 1,928 , 2000 11,244 가 1998
2002 6,796 , 2003 7,468 가
1998 71 가
2000 126 가 2003 76



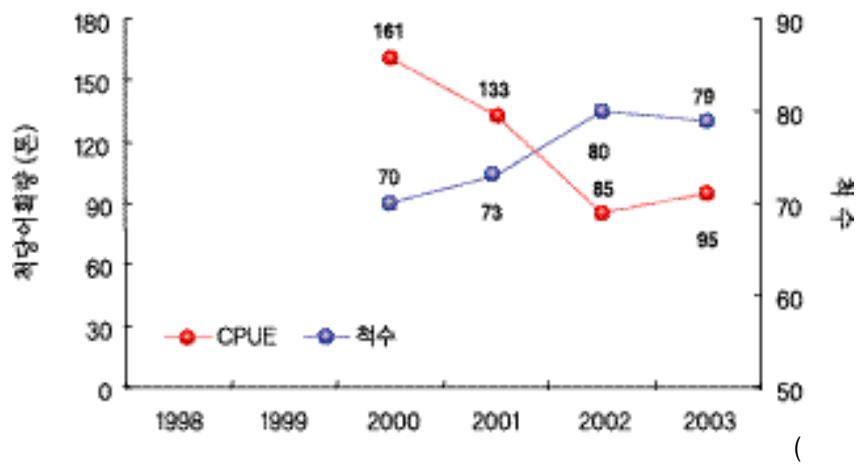
2-2.

11 68.8 가 , 4~6 35
 .2 570kg 가 , 7~8 6~7
 가 4~6 11 , 10
 , 1



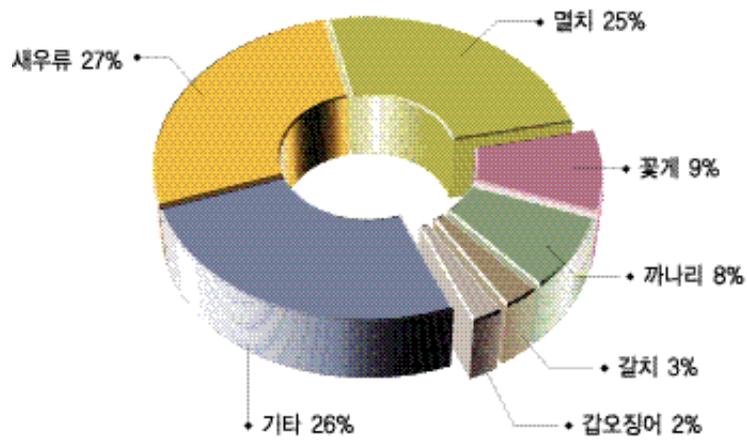
2-3.

2002 6,796 , 2003 7,468 10% 가 .
 (CPUE) 2003 32.8 11 68.8
 가 , 5~6 , 4~6



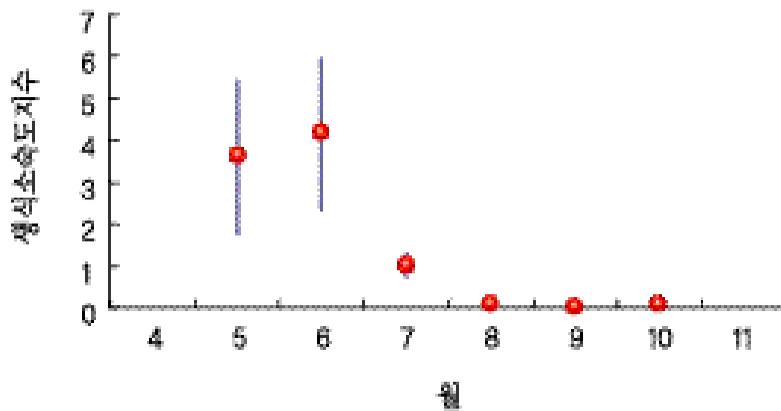
2-4.

(CPUE)
 2000 70 2001 73 , 2002 80 가
 , 2003 79 . (CPUE) 2000 161 2001
 133 , 2002 85 2003 95 가



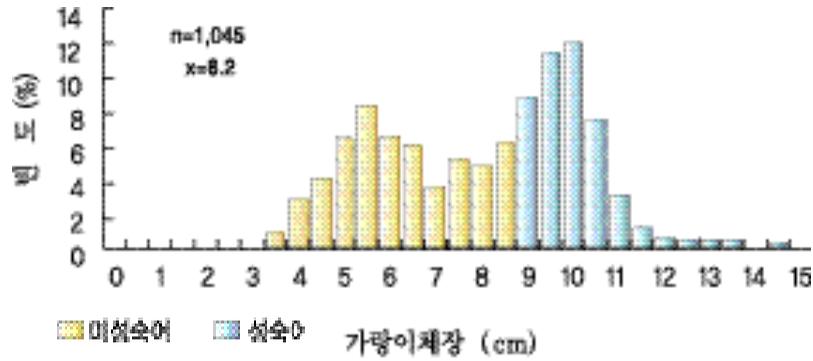
2-5.

가 25%, 9%, 8%, 가 3%, 가 2% .
 가가 27% .
 163 .



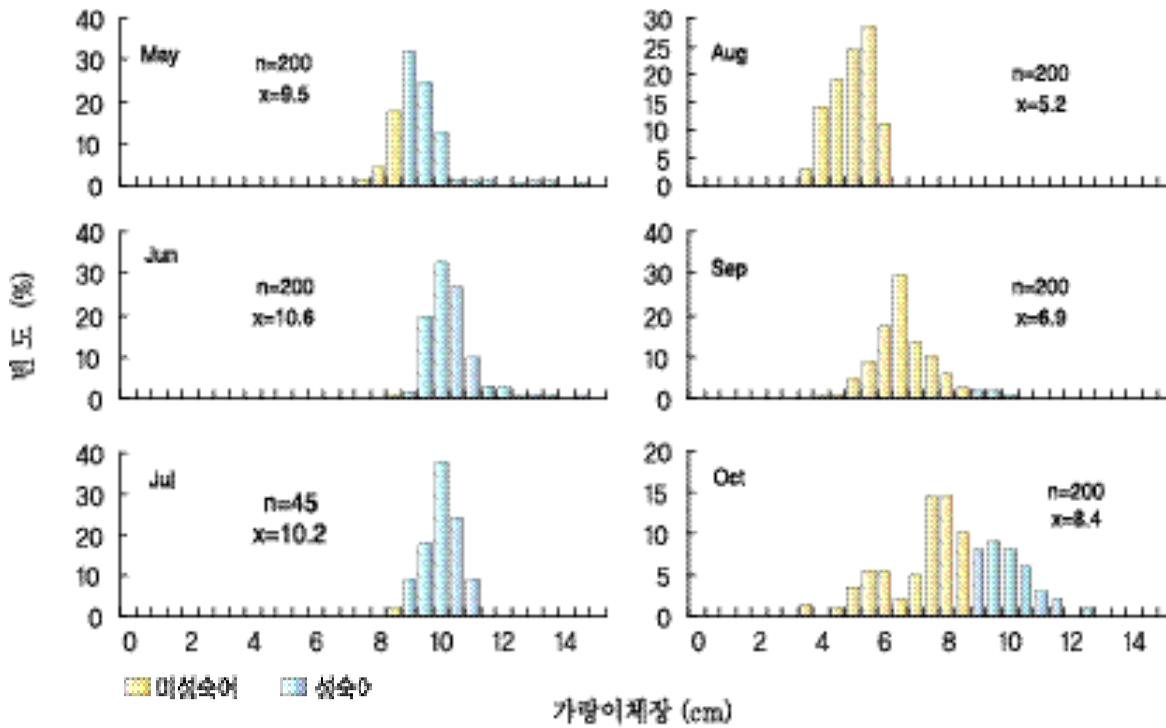
2-6.

(/ ×100) 5 3.6 6 4.2
 7 1.0, 8 0.1 5~6



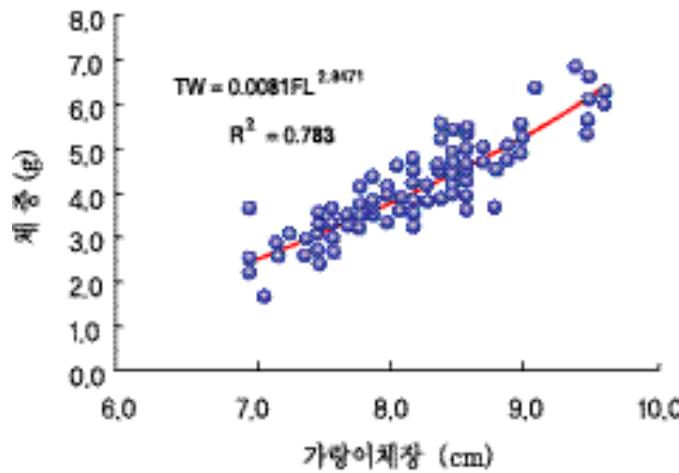
2-7.

5~10 1,045 가
 8.2cm(3.6~14.6) , mode 9.5~10.0m 12.1% .가
 9.0cm 48.1%



2-8.

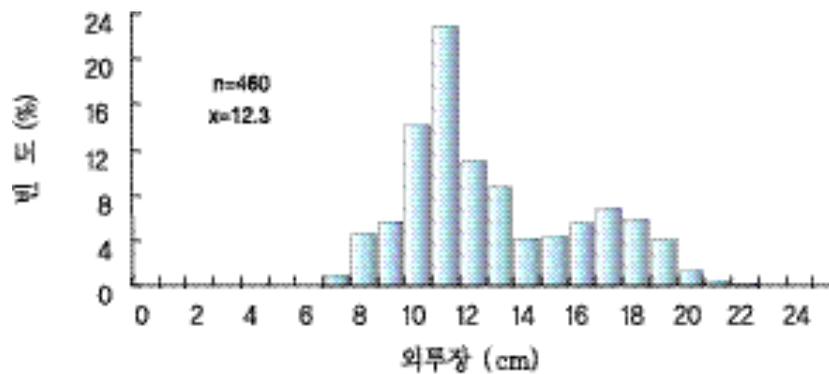
가 9.5cm(7.5~14.0) mode 8.5~9.0
 cm 32.0% 24.0% . 6 10.6cm(8.9~14.6
 cm) , mode 9.5~10.0m 32.5% 1.0%
 . 7 10.2m(9.0~11.0m) mode 6 9.5~10.0m
 37.8% 2.2% . 8 가
 5.2cm(3.6~6.5m) , mode 5.0~5.5m 28.5% ,
 가 . 9 6.9cm(4.2~10.5m)
 , mode 6~6.5m 29.5% 95.0% . 10
 8.4cm(3.9~12.0m) , mode 7.5~8.5m 29.0% , 63%



2-9.

106

$TW=0.0081FL^{2.9471}$ ($R^2=0.783$) (TW: , FL:가)

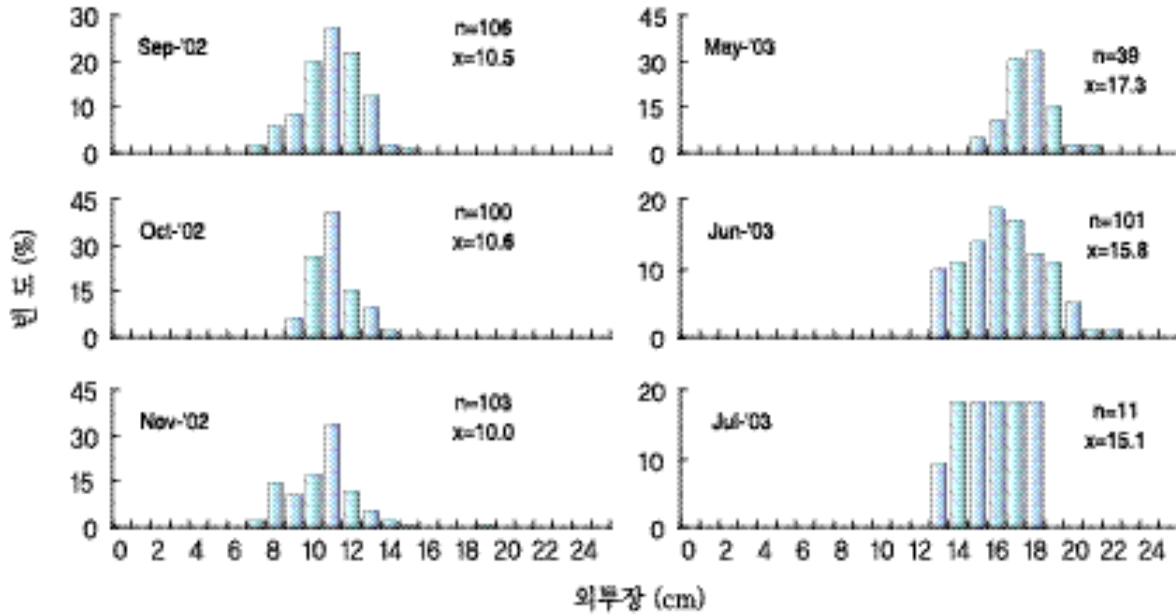


2-10.

2002 9 ~2003 7

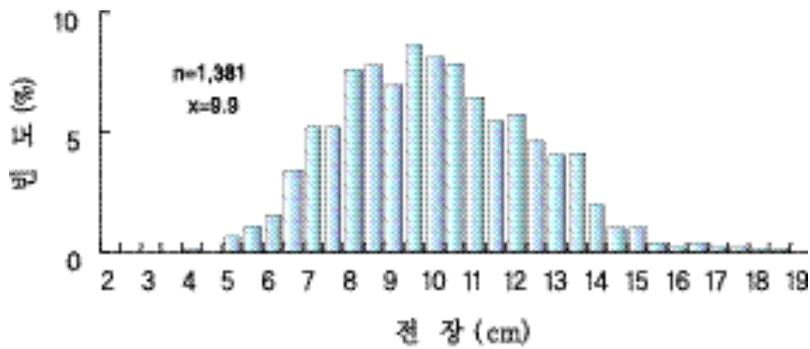
460

, 12.3cm(6.1~21.4m) , 10.1~11.0cm 가
 22.8% 가 .



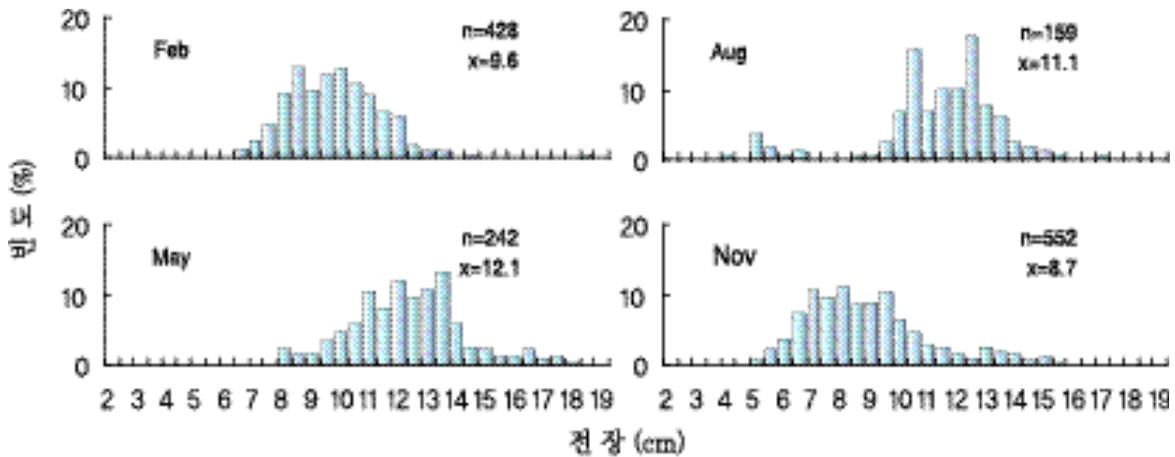
2-11.

, 2002 9 10.5cm(6.3~14.2m) ,
 10.1~11.0m 가 27.4% 가 . 10 10.6cm(8.2~13.5m)
 , mode 10.1~11.0m 41.0% . 11 10.0cm(6.1~18.2m)
 , mode 10.1~11.0m 34.0% . 2003 5 17.3cm
 (5.0~20.0m) 가 , 17.1~18.0cm 가 33.3% 가 . 6
 15.8cm(12.1~21.4m) , 15.1~16.0cm 가 18.8%
 가 .



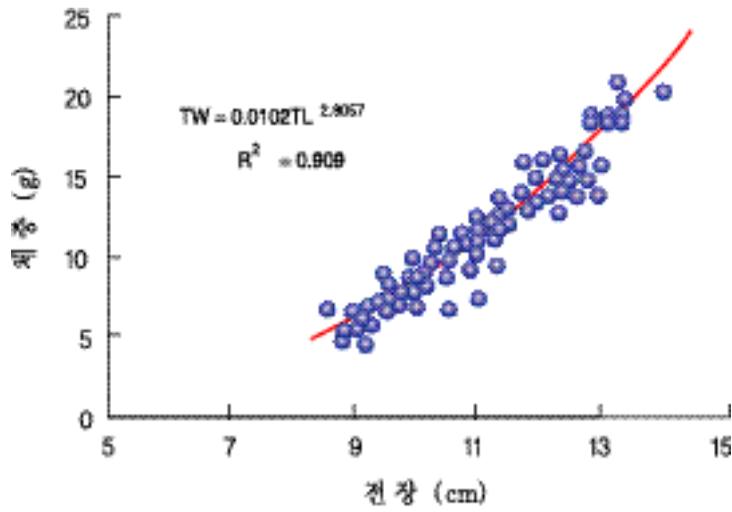
2-12.

2~11 , 1,381
 , 9.9cm(3.7~18.0) , 9.1~9.5cm 가 8.7%
 가 .



2-13.

, 2 , 9.6cm(6.2~18.0) , 8.1~8.5cm
 가 12.9% 가 . 5 , 12.1cm(7.6~17.0) , 13.1~13.5
 cm 가 13.2% 가 . 8 가 11.1cm
 (3.7~16.0) , mode 12.1~12.5 (17.6%) . 11
 8.7cm(4.7~15.0) 가 , 9.1~9.5cm 가 8.7% 가



2-14.

111

$TW=0.0102TL^{2.9057}$ ($R^2=0.909$) (TW: , TL:)

2003 7,468 10% 가 28%
 가 4~20% 2~17% 1994~1998
 0.5% 15~44% 가 2001~2003
 가

)

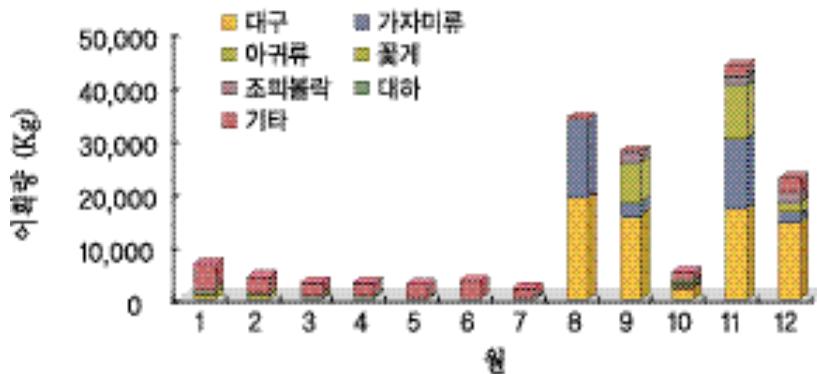
(CPUE)



2-15.

()

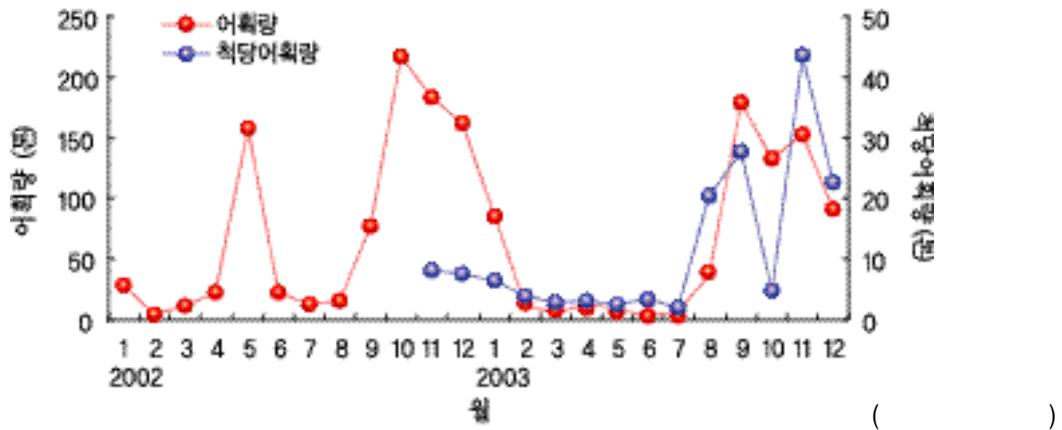
1998
 956 1999 526 , 2000 1,164 가
 . 2001 597 2002 914 가 2003 724
 1998 23 가
 2002 35 가 2003 25



2-16.

()

, 11 43.5 가 , 8~9 12 20.0
 . 7 1.8 가 , 3~5 3.0
 8 12 , 1~7
 , 8~12 38~64% , 가
 7~12 5~44% . 10~12 4~22%
 , 1~4 10 17~31% 11%

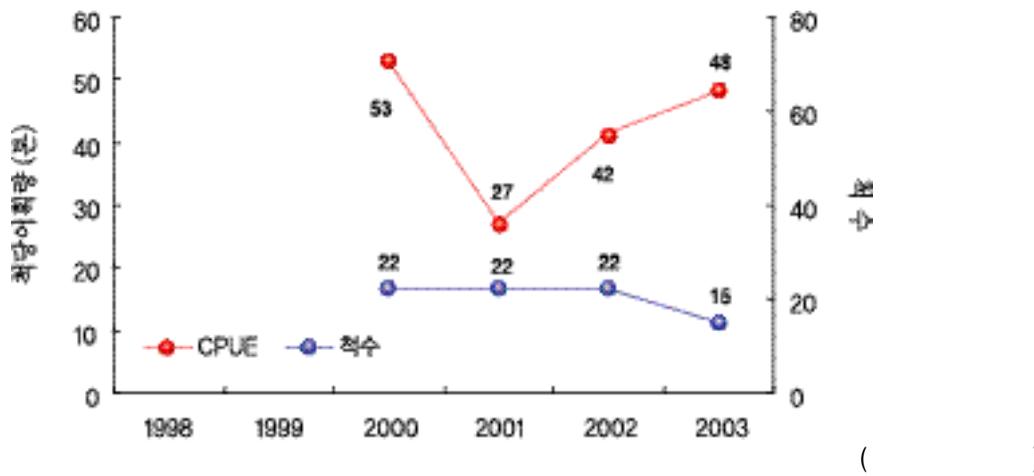


2-17.

2002 914 , 2003 724 21%
 (CPUE) 2003 13.3 , 9 27.6

가

, 9~11



2-18.

(CPUE)

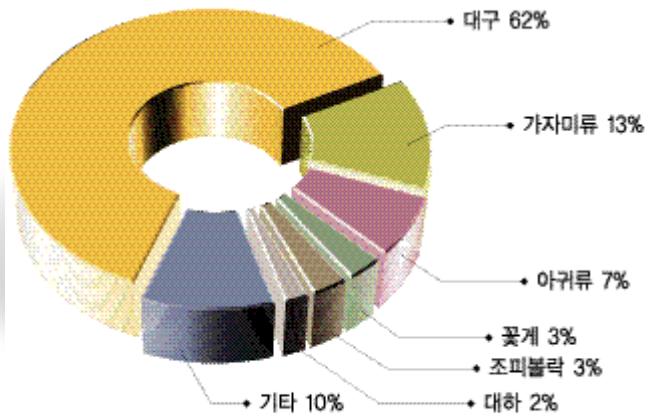
2000~2002 22 , 2003

15

(CPUE) 2000 53 2001 27

가

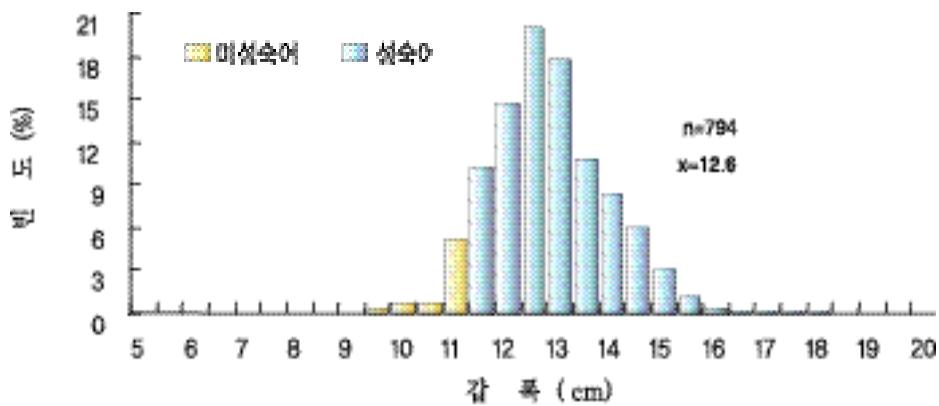
2003 48



2-19.

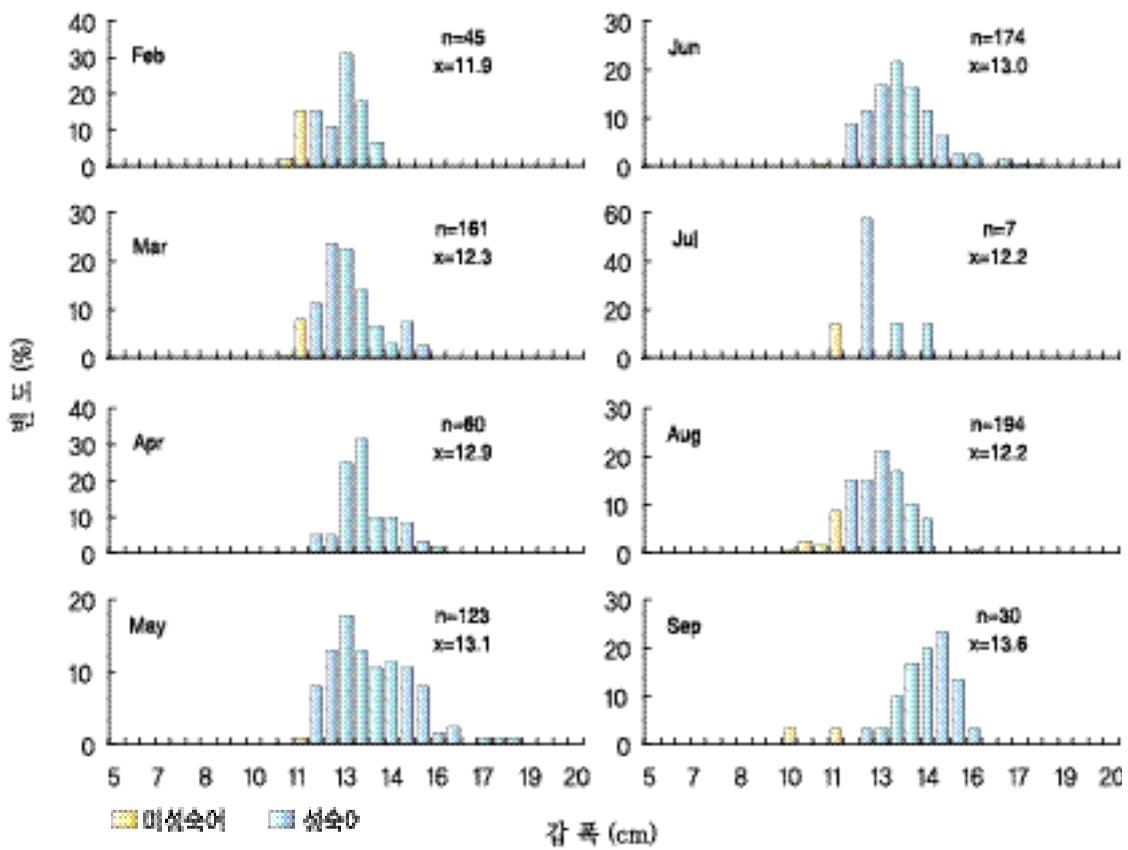
가 7%, 가 62%, 가 13%, 가 3%, 가 3%, 기타 10%, 대하 2% .

()



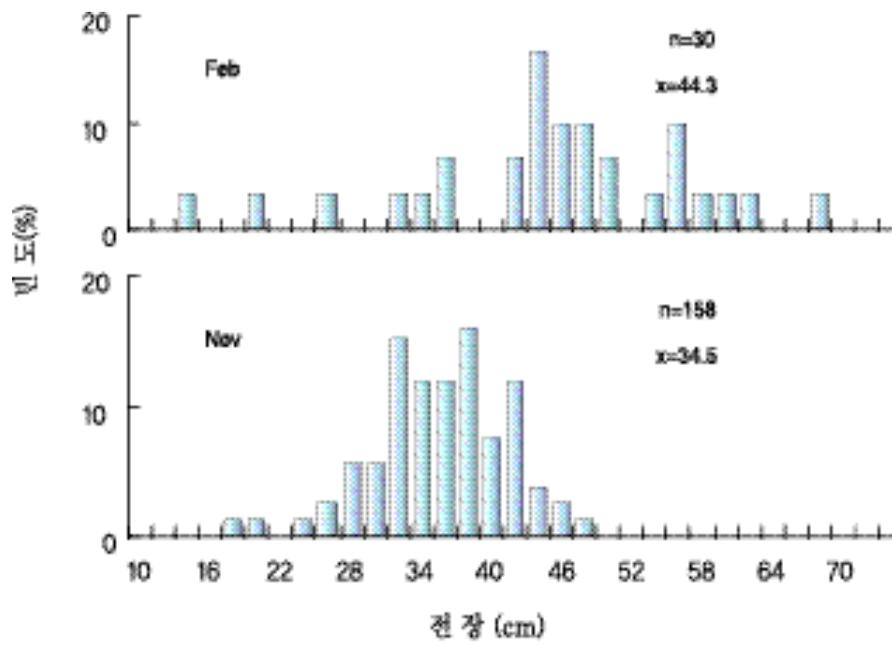
2-20.

2~9 794
 12.6m(9.5~17.9n) , 12.1~12.5cm 가 19.9%
 가 11cm 6.8% .



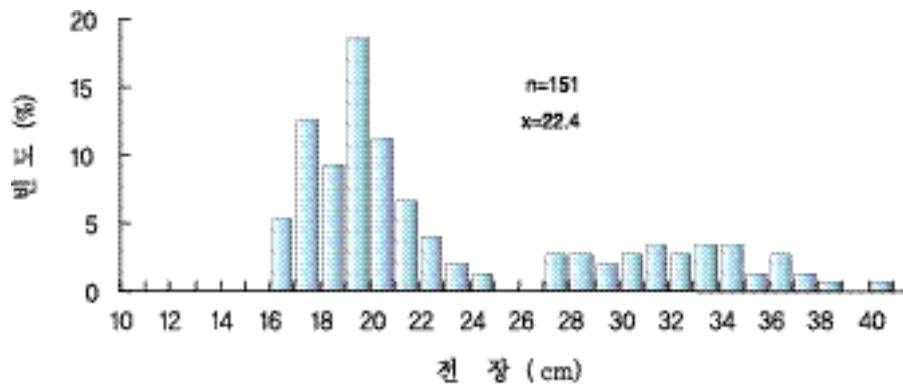
2-21.

, 2 11.9cm(10.1~13.4cm) , mode
 12.1~12.5cm 31.1% . 17.8% 가
 . 3 12.3cm(10.2~15.0cm) 11.6~12.0cm 가 23.6% 가
 . 8.7% . 4 12.9cm(11.1~15.4cm) ,
 12.6~13.0cm 가 31.7% 가 , . 5
 13.1cm(10.8~17.0cm) , mode 12.1~12.5cm 17.9% . 0.8%
 . 6 13.0cm(10.3~17.0cm), 12.6~13.0cm 가 21.8% 가
 , 0.6% . 7 가
 , 8 12.2cm(9.5~15.0cm) ,
 13.9% . 12.1~12.5cm 가 21.1% 가 . 9 13.6cm
 (9.5~15.0cm), mode 14.1~14.5cm 23.3% .



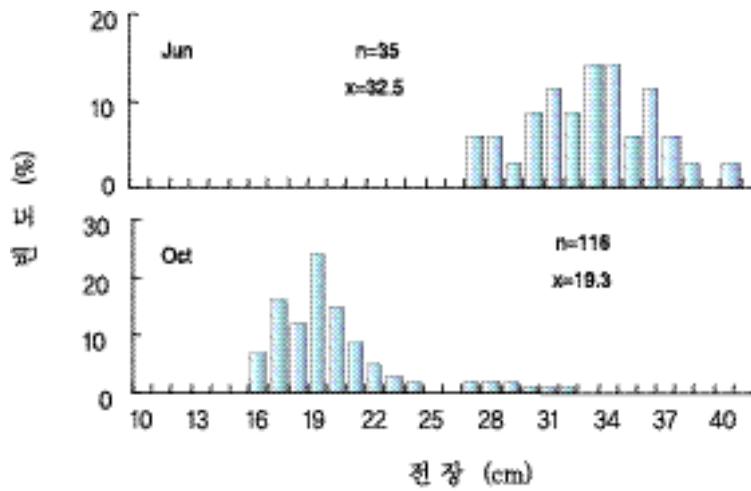
2-24.

, 2 44.3cm(13.1~68.0cm) , 42.1~44.0cm
 가 16.7% 가 . 11 34.5cm(16.5~47.0cm) 2
 , 36.1~38.0cm 가 15.8% 가 .
 가



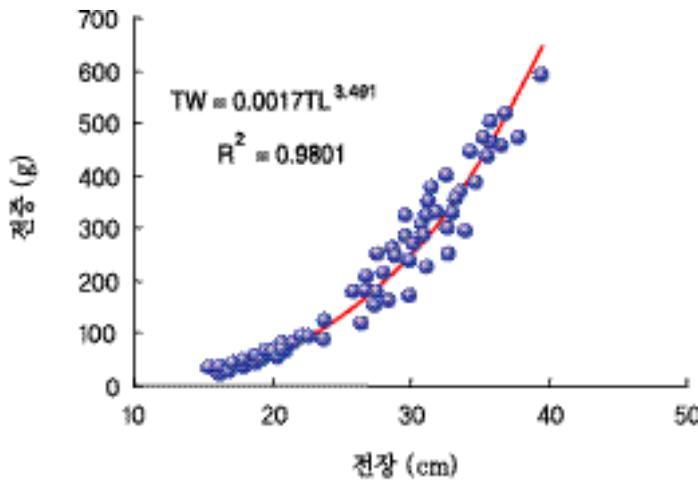
2-25. 가

6 10 가 151
 22.4cm(15.5~39.0cm) , 18.1~19.0cm 가가 18.5%



2-26. 가

, 6 32.5m(26.6~39.0m) , 32.1~33.0cm
 33.1~34.0m 가 14.3% 가 . 10
 19.3m(15.5~31.0m) , 18.1~19.0cm 가 24.1%
 가 .



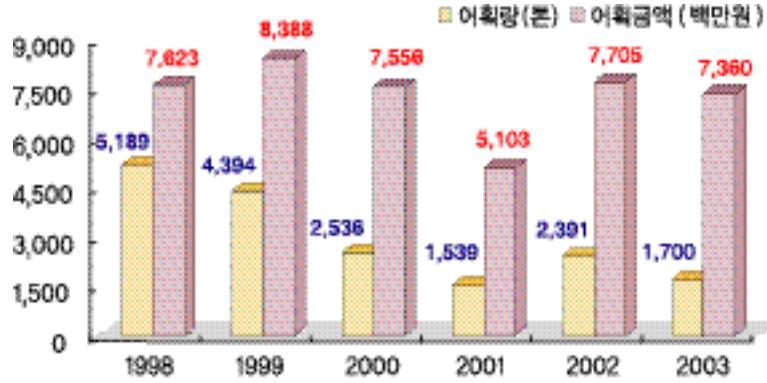
2-27. 가

가 151 .
 TW=0.0017TL^{3.491}(R²=0.9801)(TW: , TL:) .

, 1994 67 2000 1,164
 가 2001~2003 597~914
 . 1994~1998 2 가 2001~2003
 171~686 가

)

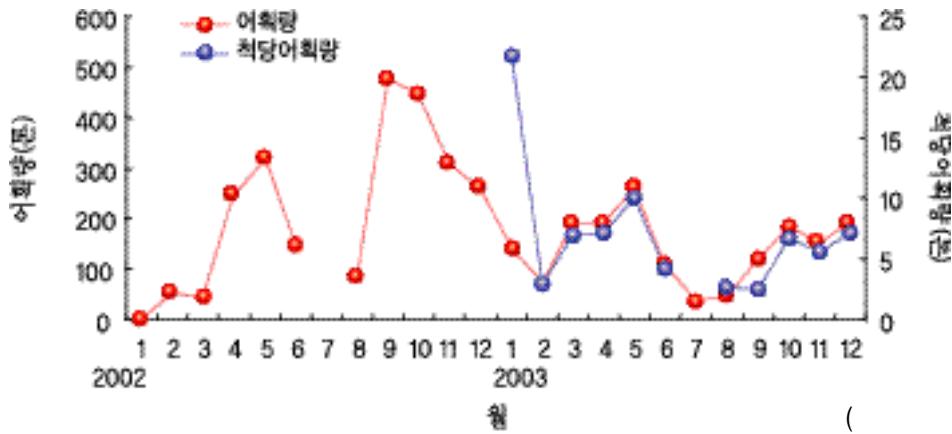
(CPUE)



2-28.

()

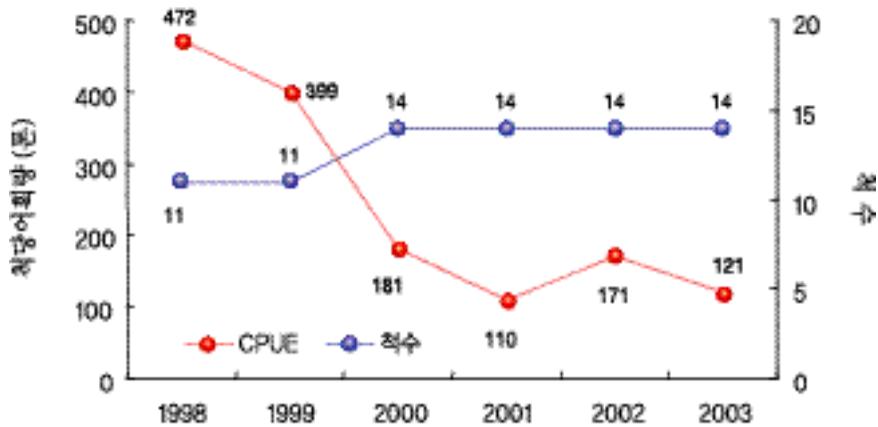
가 , 1998 5,189
 가 2001 1,539 가
 . 2002 가 2,391 2003
 1,700 1999 84 가
 2001 51 가 , 2003 73 .



2-29.

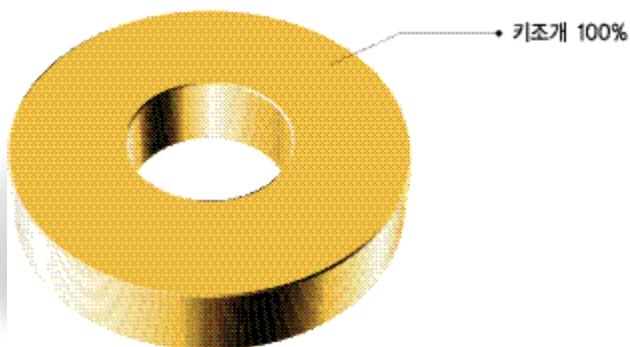
()

2002 2,391 , 2003 1,700 29%
 (CPUE) 2003 7.05 1 21.7
 가 5 10.05 , 5 10



2-30.

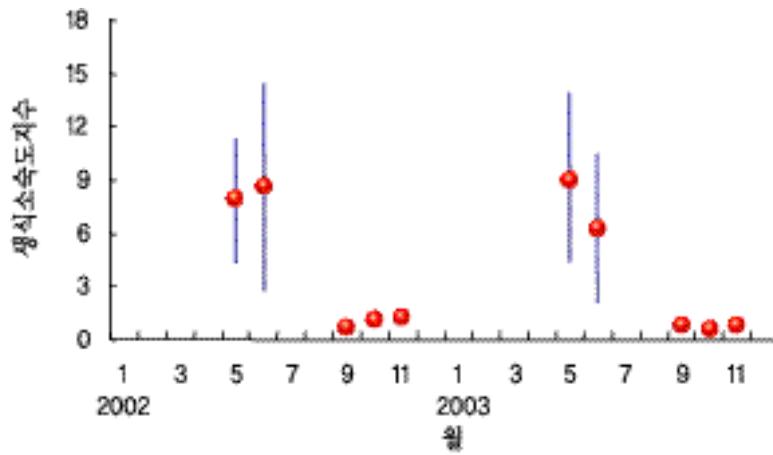
(CPUE)
 1998~1999 11 , 2000~2003 14
 (CPUE) 1998 472 2001
 110 , 2002 가 171 . 2003 121



2-31.

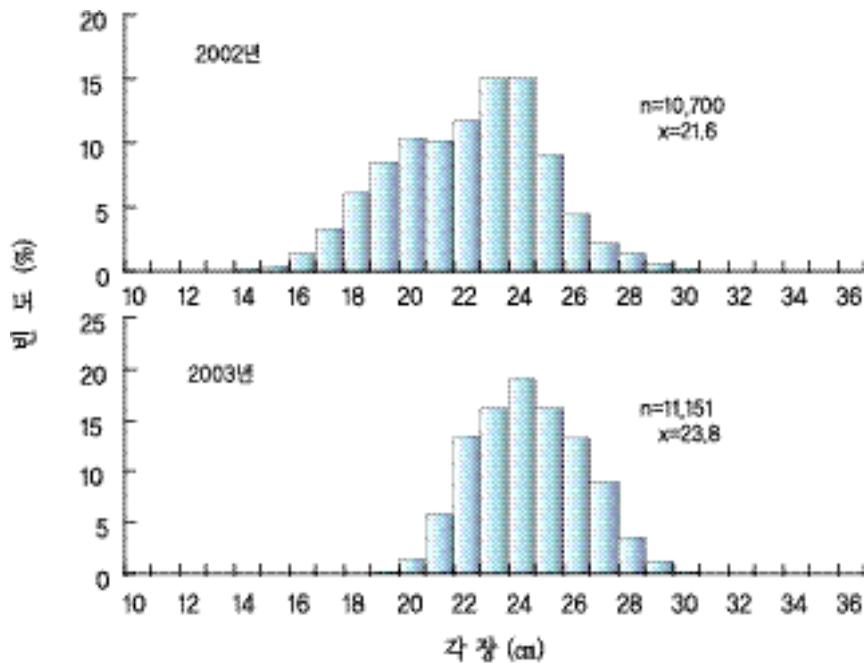
가 100%

174



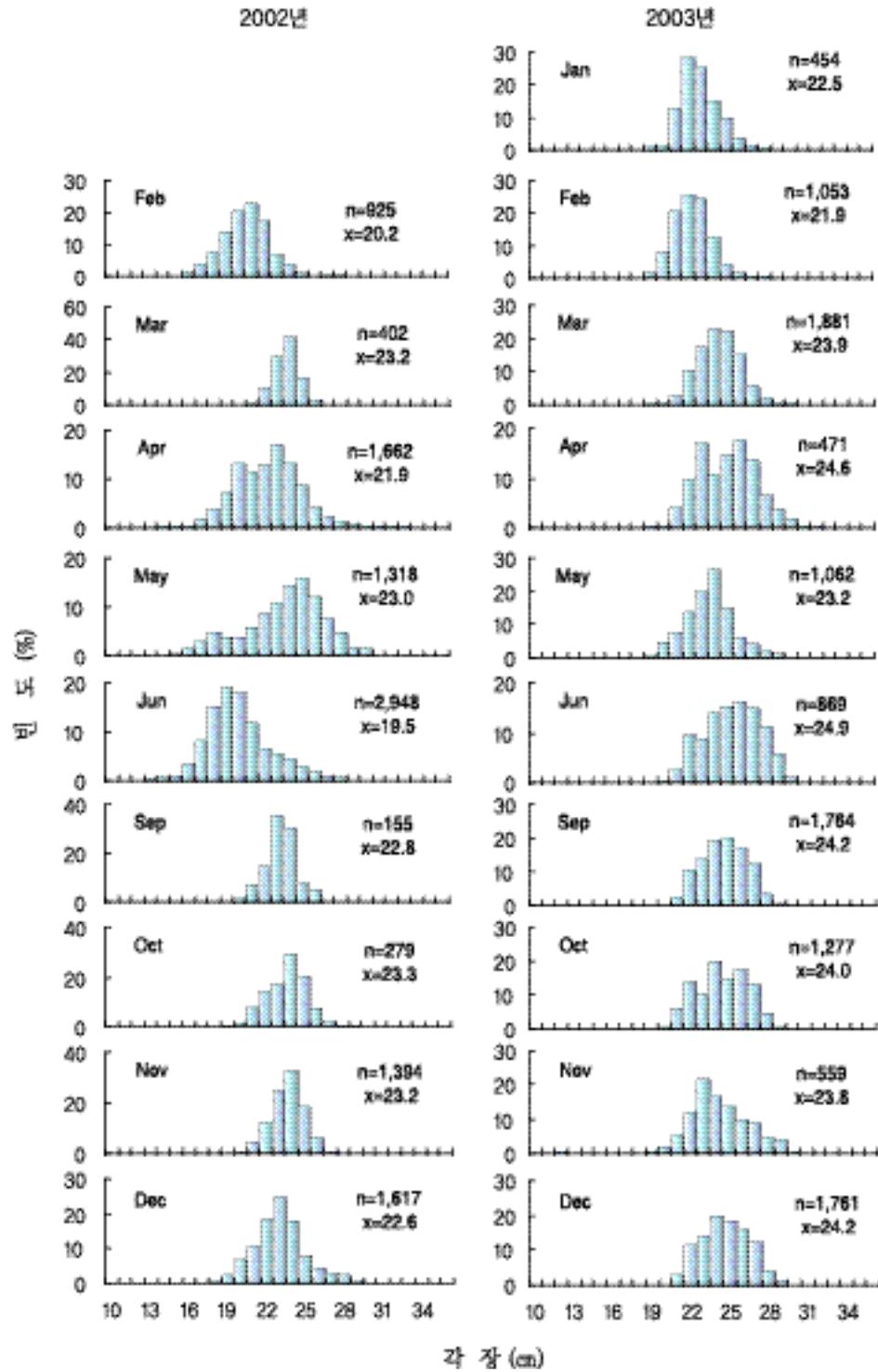
2-32.

(/ x100) , 1~5 4.0~9.1
 가 6 20.0 가 , 9 3.0
 6~8
 7~8



2-33.

2002 10,700 21.6cm(10.2~34.5
 cm) , mode 23.1~24.0cm 15.1% . 2003 11,151
 23.8cm(11.4~35.4cm) 2002 2.2cm



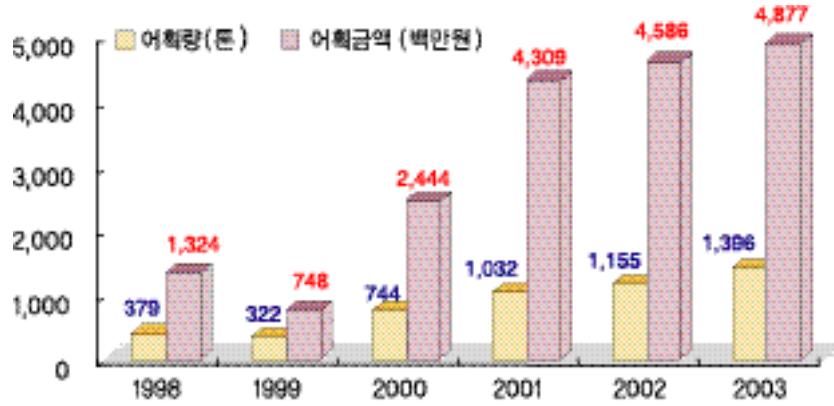
2-34.

1998 5,189
 2003 1,700
 1998

95%

)

(CPUE)



2-35.

()

1998
 379 1999 322 , 가 2003 1,396
 . 1999 7 가
 가 2003 49 가 .

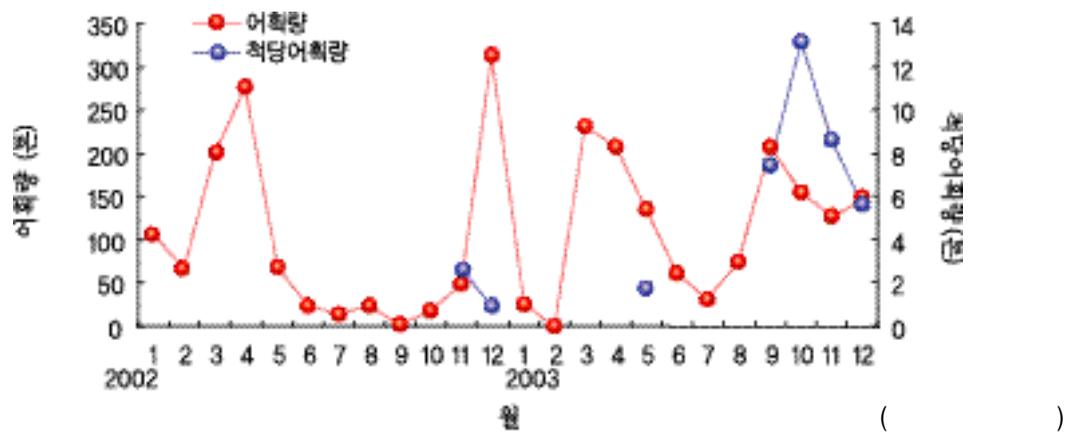


2-36.

()

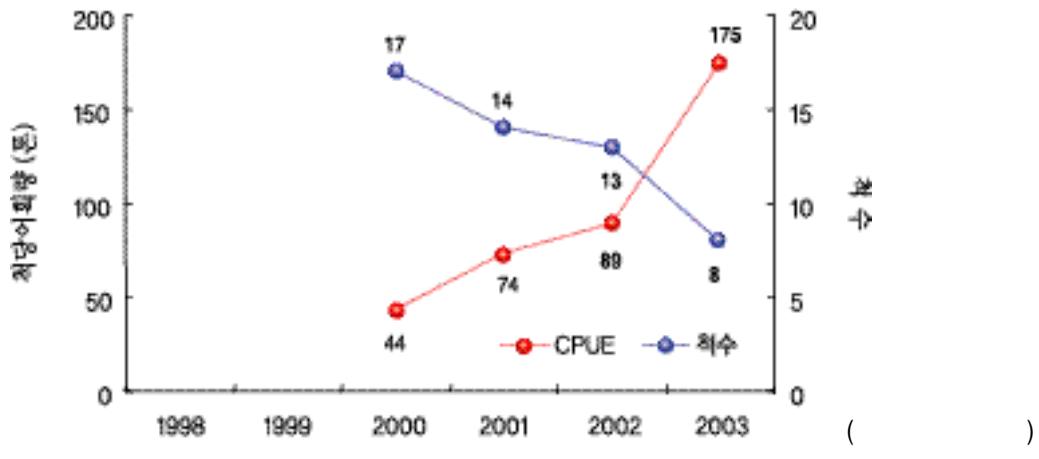
, 10 13.2 가 , 9 11~12 5.0
 . 5 1.6 가 . 9~12
 , 1~8 .

11 12 64% 9
 10 48% 22% 10 31%
 10~12 9~10% 11~12
 9~10%



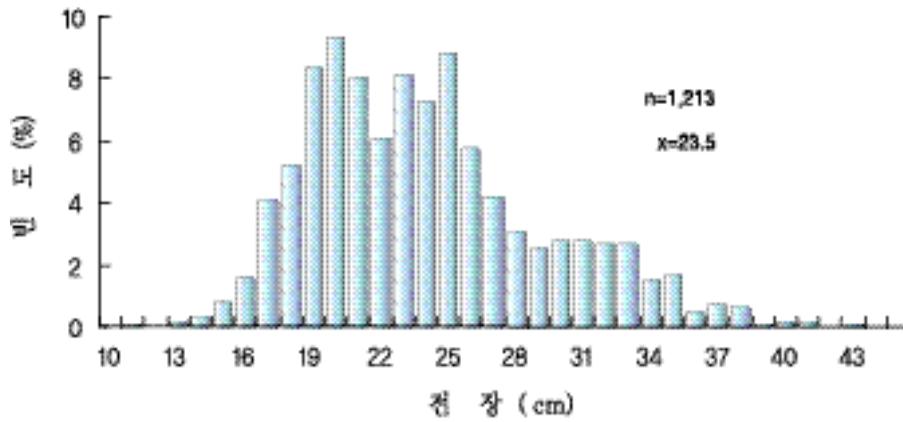
2-37.

2002 1,155 , 2003 1,396 21% 가
 (CPUE) 2003 7.93 10
 13.2 가
 , 3~4 9~12 , 6~8



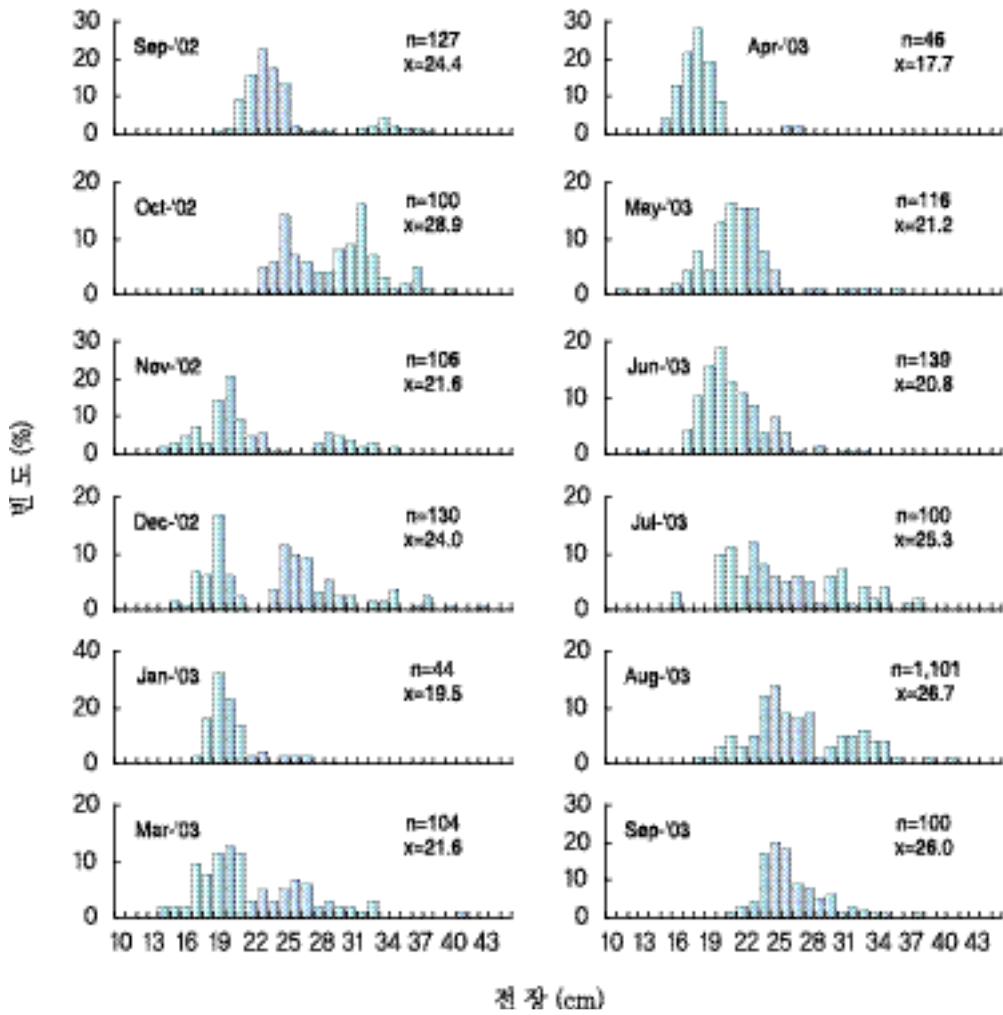
2-38.

(/ ×100)
 , 2002 9 1.5 10 3.8 . 11
 12 3.2, 1.3 , 2003 1~8 0.5
 . 9 3.7 가 9~12 (10~11)



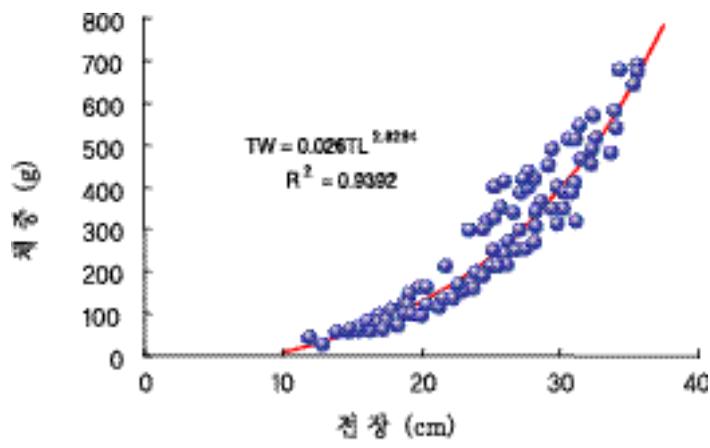
2-41.

2002 9 ~2003 9 1,213
 23.5m(11.0~42.0m) , 19.1~20.0cm 가
 9.3% 가 .



2-42.

, 2002 9 24.4cm(18.9~37.3cm) ,
 22.1~23.0cm 가 22.8% 가 .10 28.9cm
 (17.0~39.2cm) 가 , mode 31.1~32.0cm 16.0%
 .11 21.6cm(13.5~34.0cm), mode 19.1~20.0cm 20.8%
 .12 24.0cm(14.4~42.0cm) , 18.1~19.0cm 가 16.9% 가
 .2003 1 19.5cm(16.9~27.0cm), mode 18.1~19.0cm 31.8%
 .3 21.6cm(13.4~40.2cm) , 19.1~20.0cm 가 12.5% 가
 .4 17.7cm(14.5~26.2cm) 가 , 17.1~18.0
 cm 가 28.3% 가 .5 21.2cm
 (11.0~35.0cm) 20.1~21.0cm 16.3% 가 .6 20.8cm
 (12.6~32.0cm), mode 19.1~20.0cm 18.7% , 7 22.1~23.0cm 가
 12.0% .8 26.7cm(17.2~40.0cm) , mode
 24.1~25.0cm 13.9% .9 26.0cm(20.5~37.0cm) , 24.1~25.0
 cm 가 20.0%



2-43.

240

$TW = 0.026TL^{2.8294}$ ($R^2 = 0.9392$) (TW: , TL:)

1,032~1,388

1994~1998 1~379

2001~2003

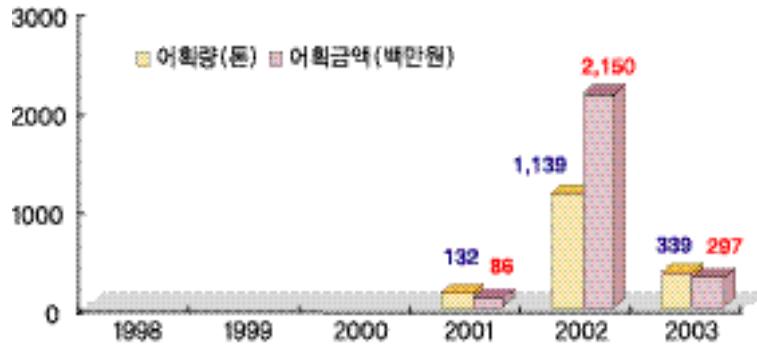
가

1999

가

)

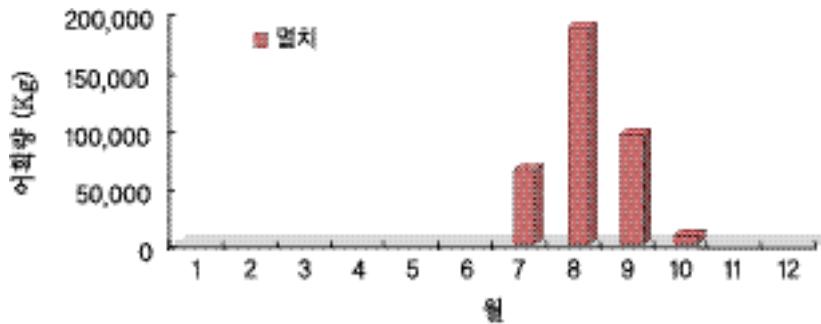
(CPUE)



()

2-44.

가 , 2001 132 가 , 2002 1,139
 가 . 2003 339 가 . 2001 86
 가 2002 22 가 , 2003 3



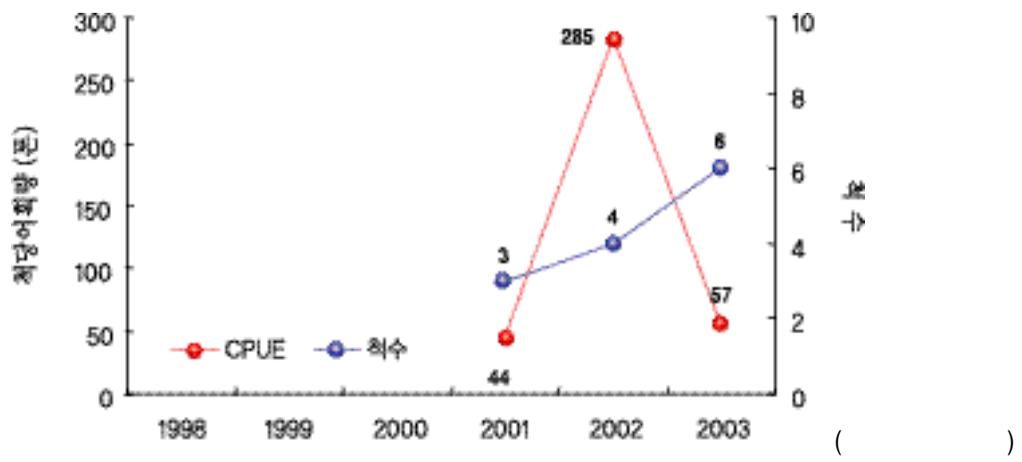
()

2-45.

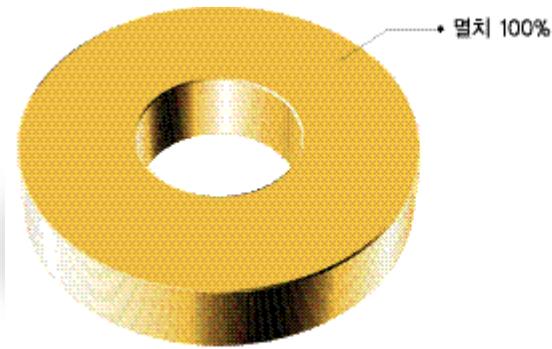
8 186.2 가 , 7 9 50
 . 10 8.3 가 . 7~10
 , 1~6 11~12

(CPUE)

2001 3 가 2003 6
 (CPUE) 2001 44 2002 285 가 2003



2-46.



2-47.

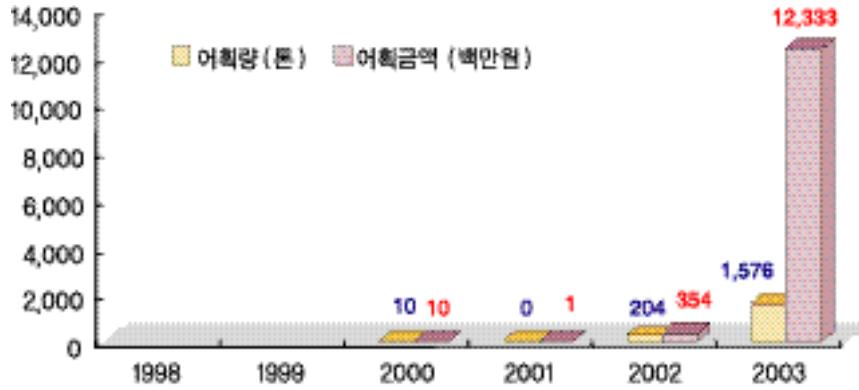
174

가
2001~2003

132~1,139 . 1990

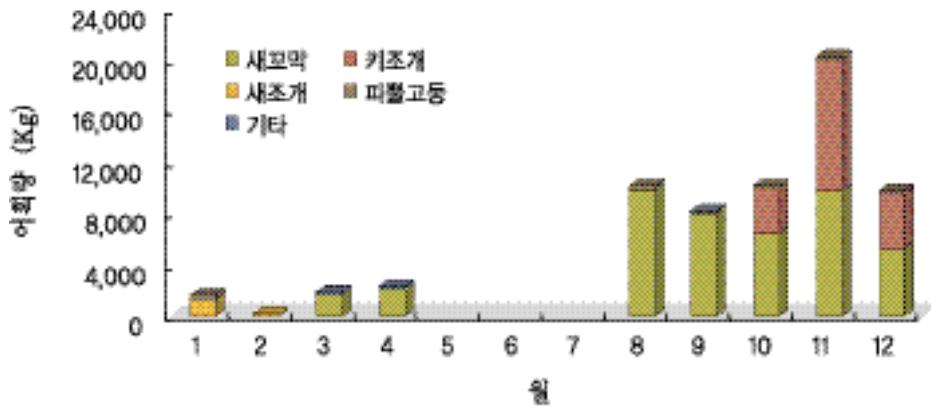
)

(CPUE)



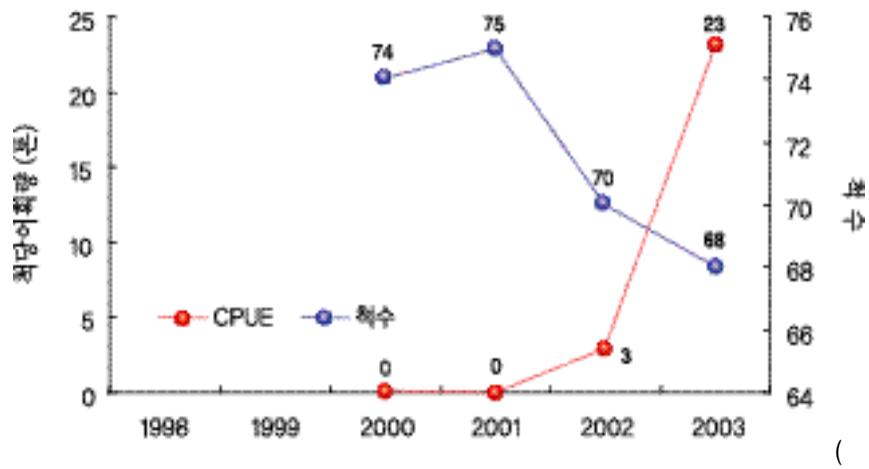
2-48.

2000
가 2000 10 , 2001 1
2002 204 , 2003 1,576 가
2001 1 가 , 2003 123 가



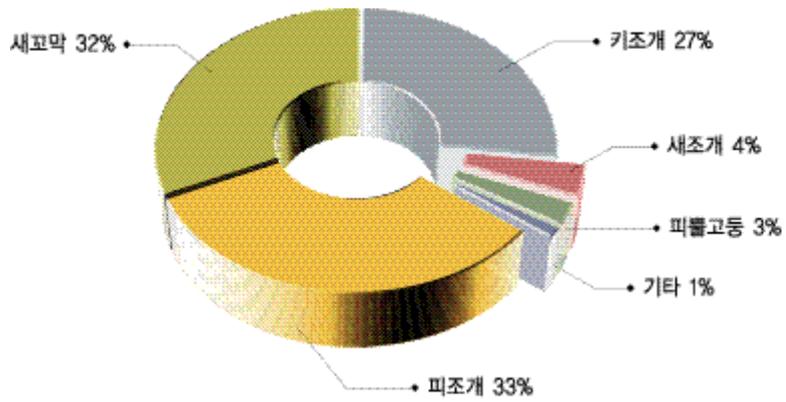
2-49.

11 20.3 가 , 2 70kg 가
8~12 8.0 , 1~4 3.0
. 5~6 . 1~2
48~99% , 1 2
가 79%, 100% . 10~12 가 33~50%
, 1 20%



2-50.

(CPUE)
 2000 74 , 2001 75
 2003 68
 1
 2002 3 , 2003 23
 가 . 2000 2001



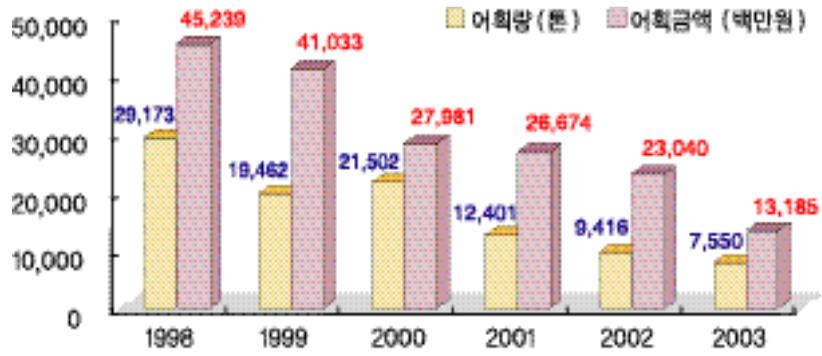
2-51.

가 가 33% , 32%,
 27%, 4%, 3%
 153 174

2)

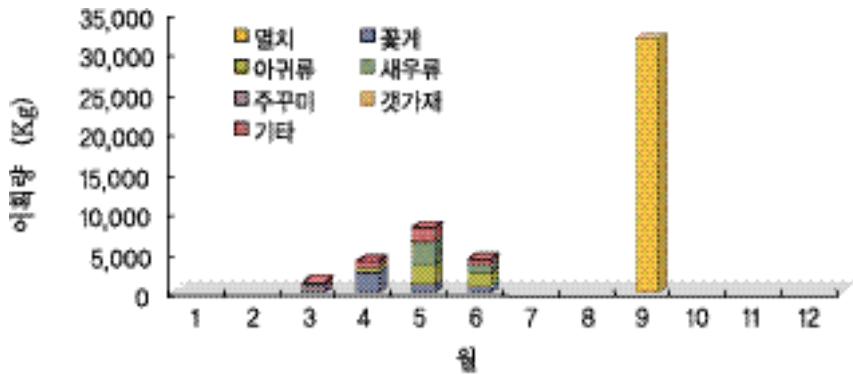
가)

(CPUE)



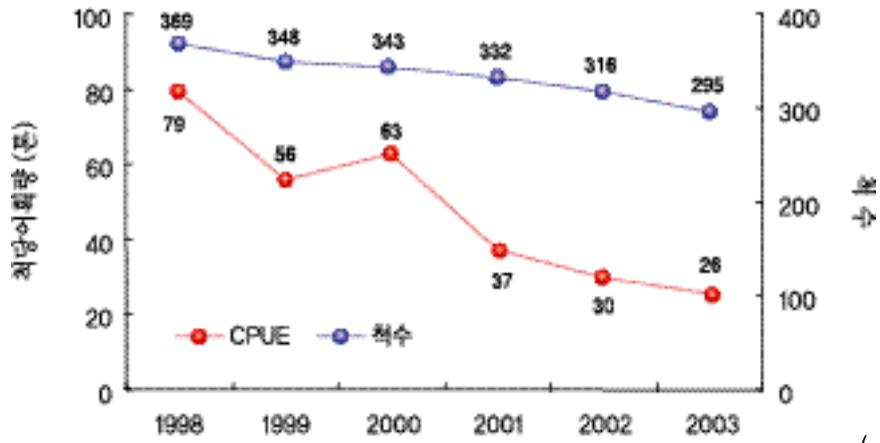
2-53.

1998 29,173 가 , 2003 7,550 가 , 2003 132 가 , 1998 452 가



2-54.

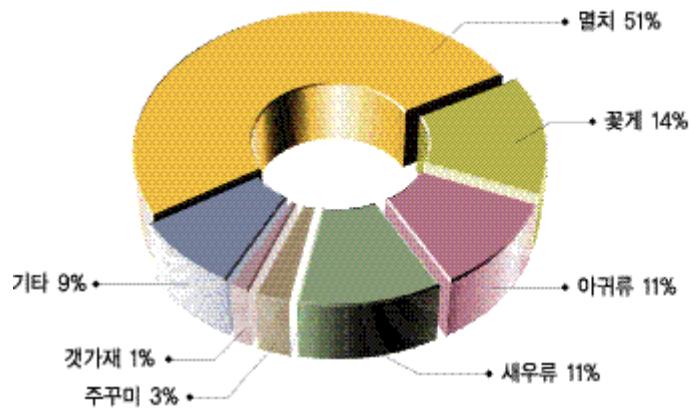
9 31.6 가 , 5 8.0
 .3 1.2 가 , 1~2 7~8 10~12
 , 9 , 3
 65% 가 . 4~6 가 14~66%, 가 11~39%
 .5 6 가 22% 35%



2-55.

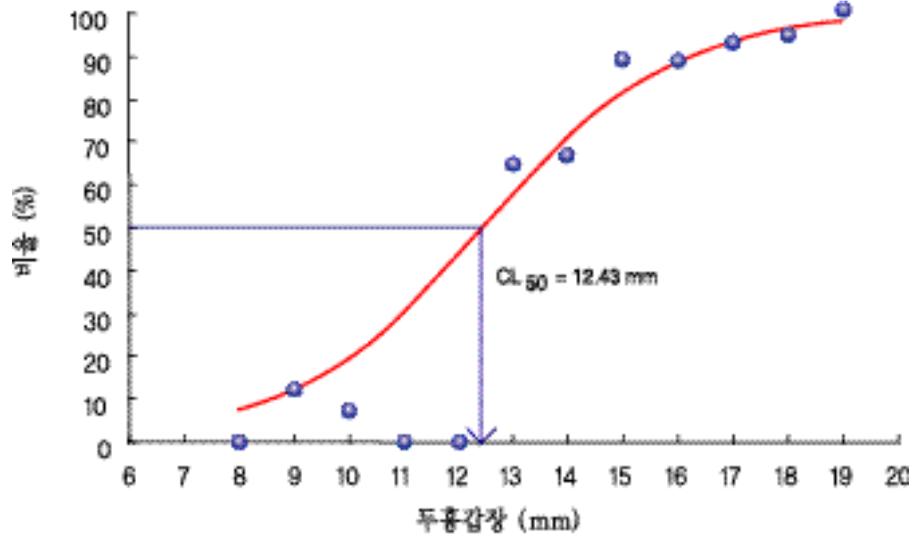
(CPUE)

1998 369 2003 295
 (CPUE) 1998 79 , 1999 56 , 2000 63
 2003 26



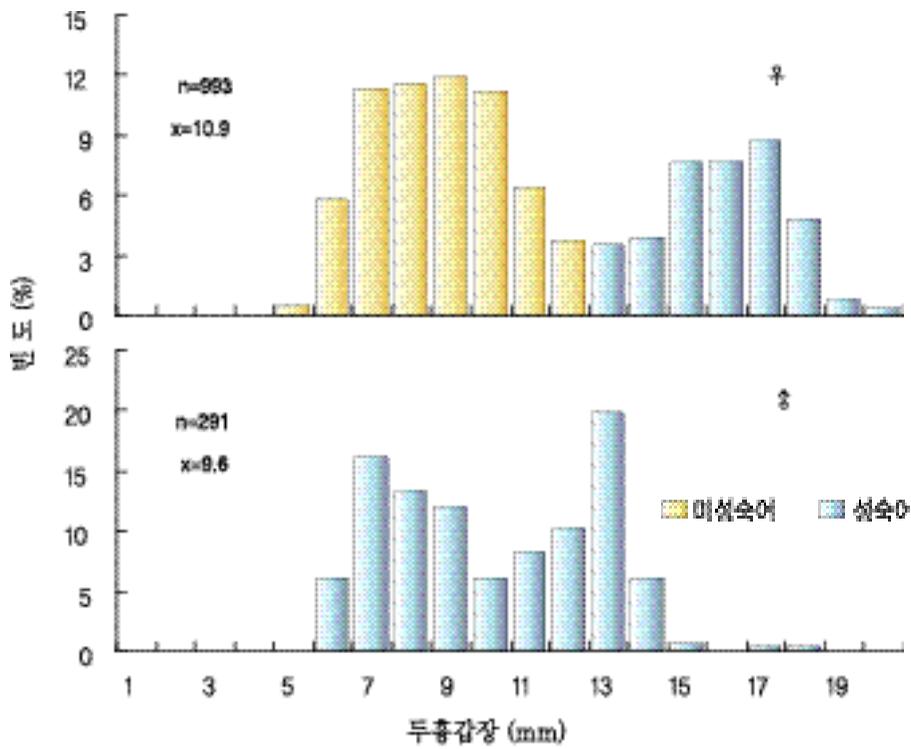
2-56.

가가 51% , 가 14%, 11%,
 11%, 가 3% ,
 174 163, 164



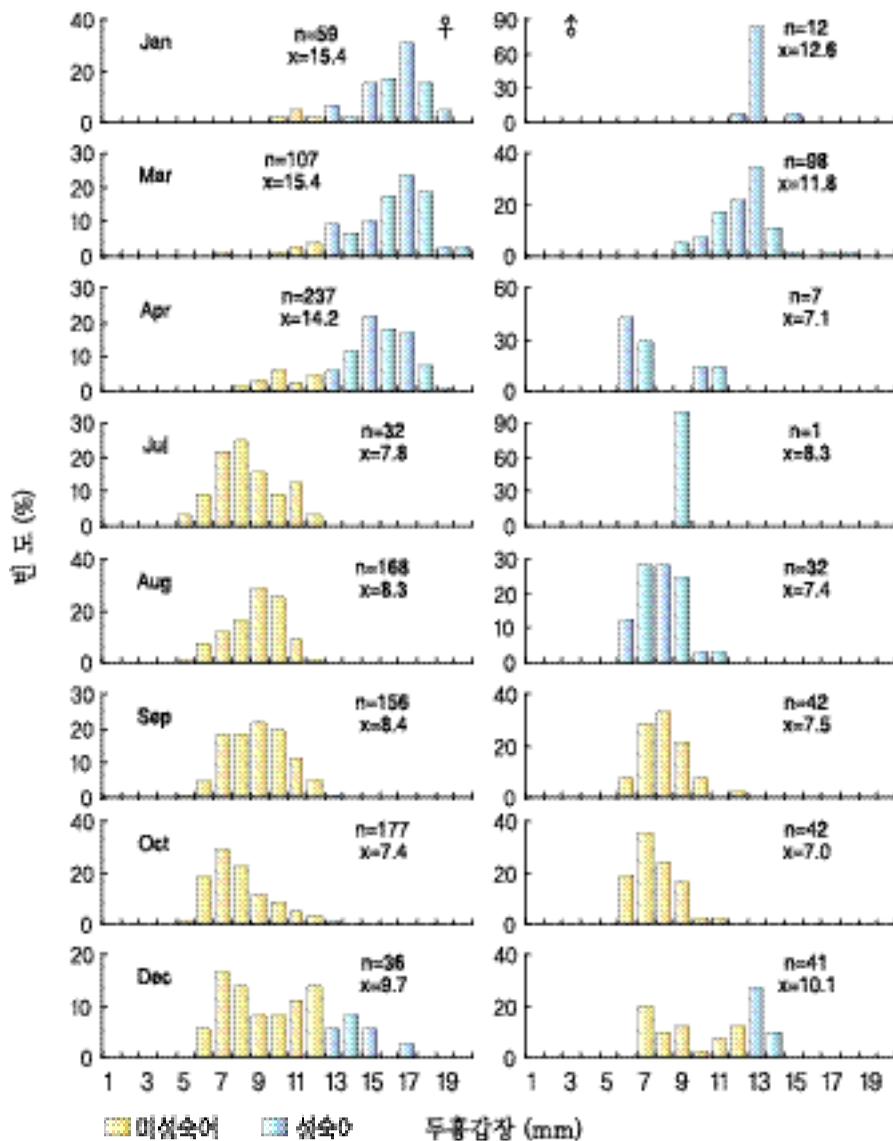
2-57.

50% 12.43mm



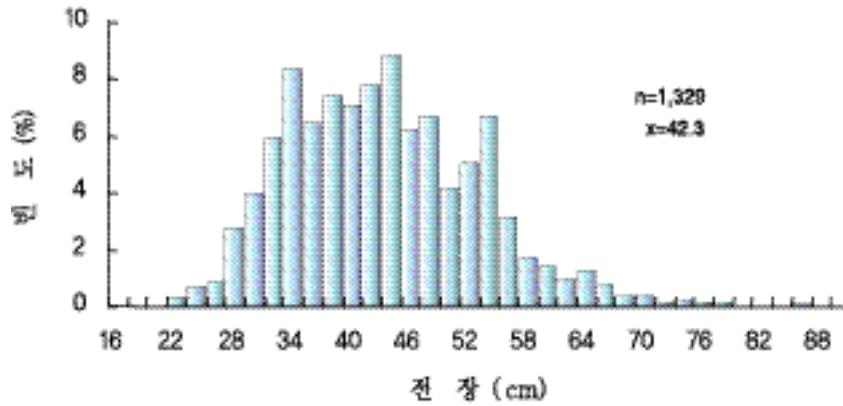
2-58.

1~12		993	291
		10.9mm(4.4~19.0mm)	, 8.1~9.0mm
가	12.0%	62.5%	
9.6mm(5.1~17.0mm)	, 12.1~13.0mm	가 19.9%	가



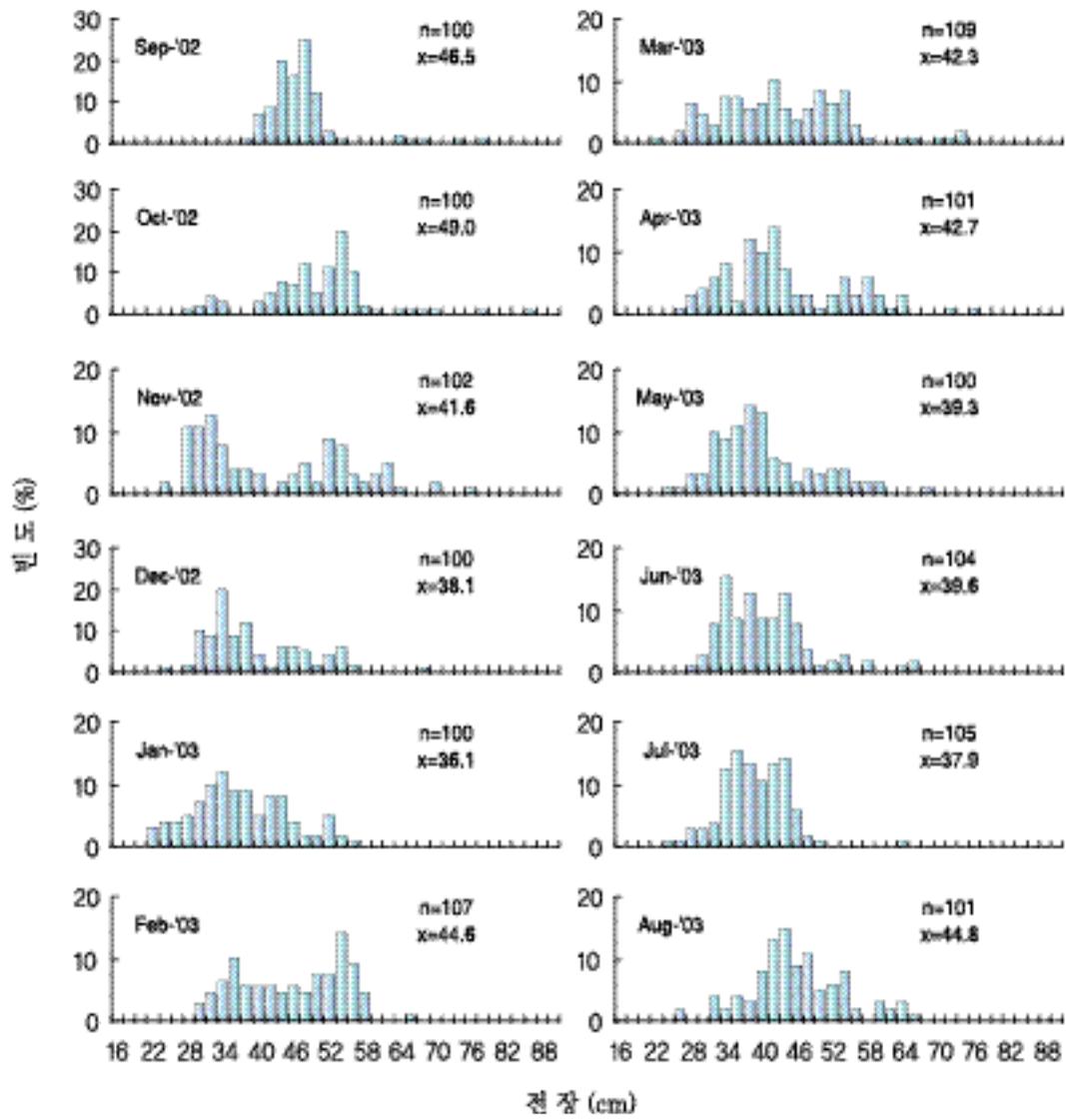
2-59.

, 1 15.4mm(9.6~18.0mm) , mode 16.1~17.0mm 30.5% , 8.5% . 3 15.4mm(6.2~19.0mm) , 16.1~17.0mm 가 23.4% 가 , 8.4% . 4 14.2mm(7.2~18.4mm), mode 14.1~15.0mm 21.5% . 17.7% . 7 8 7.8mm(4.9~11.4mm), 8.3mm (4.9~11.0mm) , mode 7.1~8.0mm(25.0%), 8.1~9.0mm(29.2%) . . 9 8.4mm(4.7~12.5mm) , 12 9.7mm (5.3~16.0mm) . 3 11.8mm(8.0~17.0mm) , 12.1~13.0mm 가 34.7% 가 . 8 7.4mm (5.4~10.0mm) , 6.1~7.0mm 7.1~8.0mm 가 28.1% 가 . 12 10.1mm(6.1~13.4mm) , 12.1~13.0mm 가 26.8% 가 .

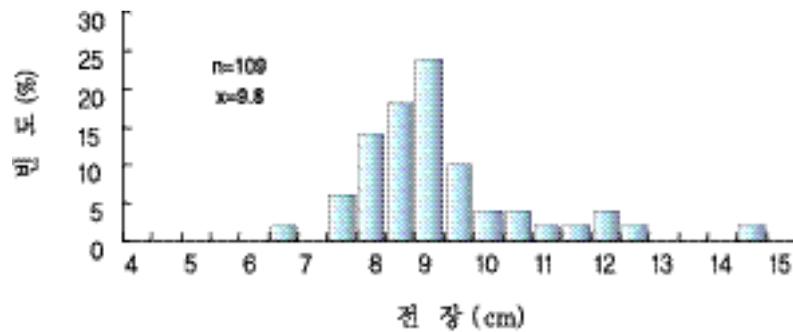


2-60.

2002 9 ~2003 8 1,329
 , 42.3m(20.6~85.0m) , 42.1~44.0cm
 가 8.8% 가 . , 2002 9
 46.5m(37.2~77.0m) mode 46.1~48.0m 25.0% .
 10 49.0cm(28.0~85.0m) 가 ,
 52.1~54.0cm 가 20.0% 가 . 11 41.6cm
 (23.5~75.0m) mode 30.1~32.0cm 12.7% . 12 38.1cm
 (23.9~66.0m), 32.1~34.0cm 가 20% 가 . 2003 1
 36.1cm(20.6~55.0m) 가 , mode 32.1~34.0m 20.0%
 . 2 44.6m(29.1~64.0m) , 34.1~36.0cm 가 10.3% 가
 . 3 42.3m(21.2~73.0m) mode 40.1~42.0m 10.1% .
 4 42.7m(25.4~74.0m), mode 40.1~42.0m 13.9% . 5
 39.3m(23.2~67.0m) 36.1~38.0m 가 14.0% 가 . 6
 39.6m(27.8~65.0m) , mode 32.1~34.0m 15.4% . 7
 37.9m(24.0~63.0m), mode가 42.1~44.0m 14.3% . 8
 44.8m(24.2~64.0m) , 42.1~44.0cm 가 14.9% 가 .

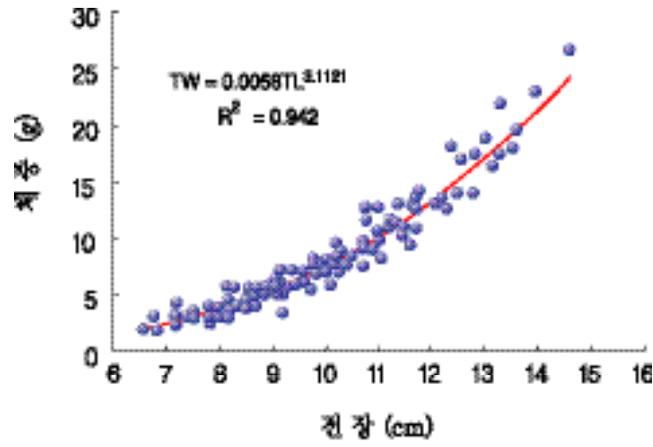


2-61.



2-62.

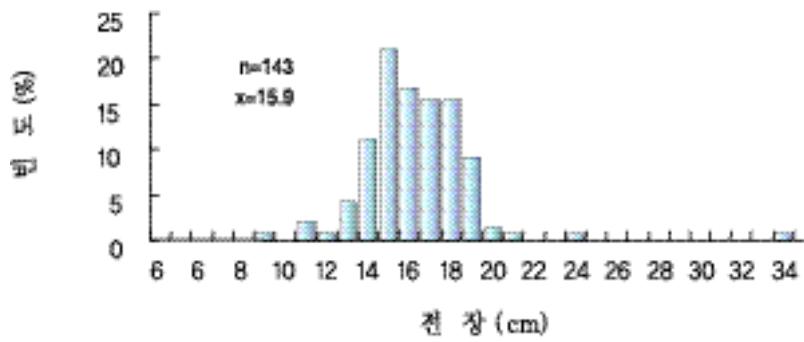
2003 4 109 가 23.8% 가
 9.8cm(6.6~14.0m) , 8.6~9.0cm 가



2-63.

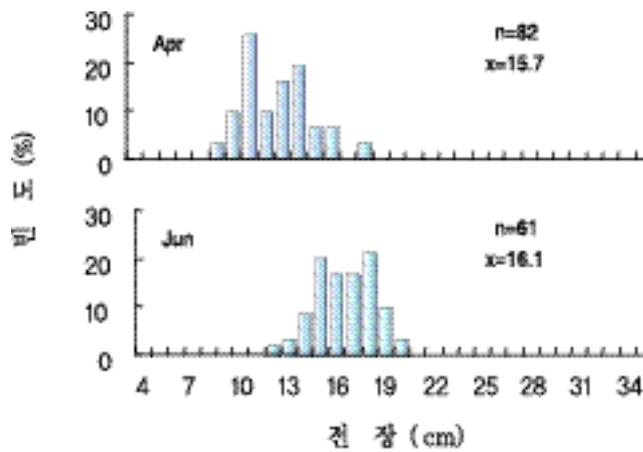
109

$TW=0.0058TL^{3.1121}(R^2=0.942)$ (TW: , TL:)



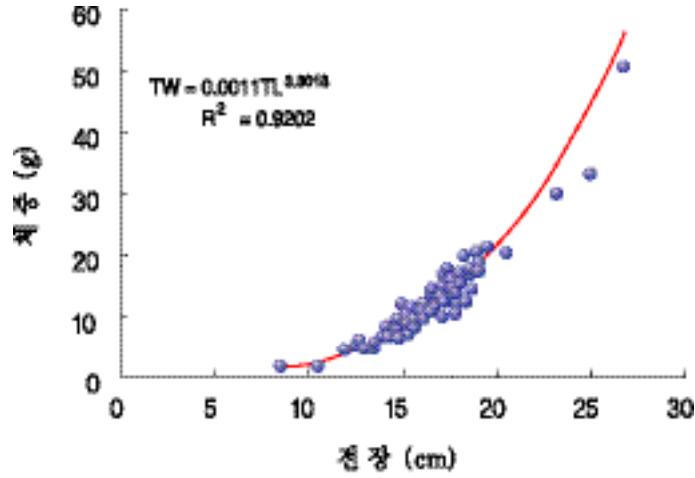
2-64.

2003 4 6 143
 15.9cm(8.6~33.0m) , 14.5~15.9cm 가 21.0% 가



2-65.

가 22.0% , 4 15.7cm(8.6~33.0m) , 14.1~15.0cm
 , 17.1~18.0cm 가 21.3% 가 16.1cm(12.0~19.5m)



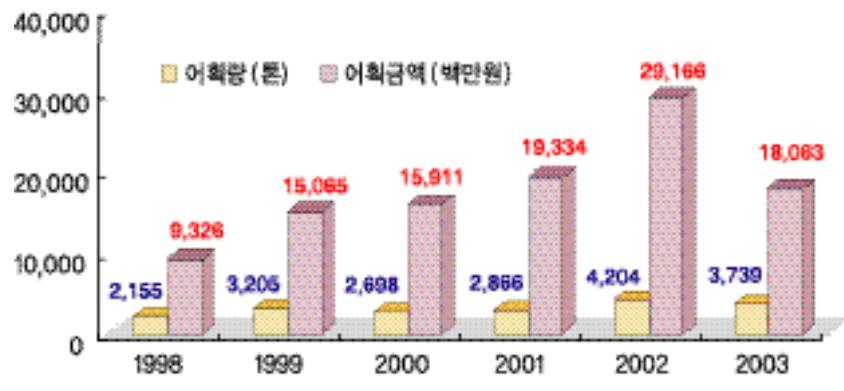
2-66.

132
 TW=0.0011TL^{3.3018} (R=0.9202)(TW: , TL:)

9,710~13,433 , 1998 29,173 1994~1997
 2001 12,7401 2003 7,550 가

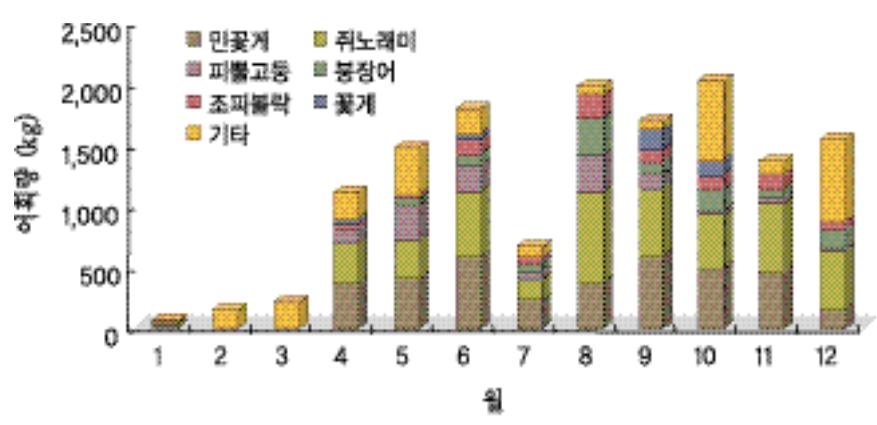
)

(CPUE)



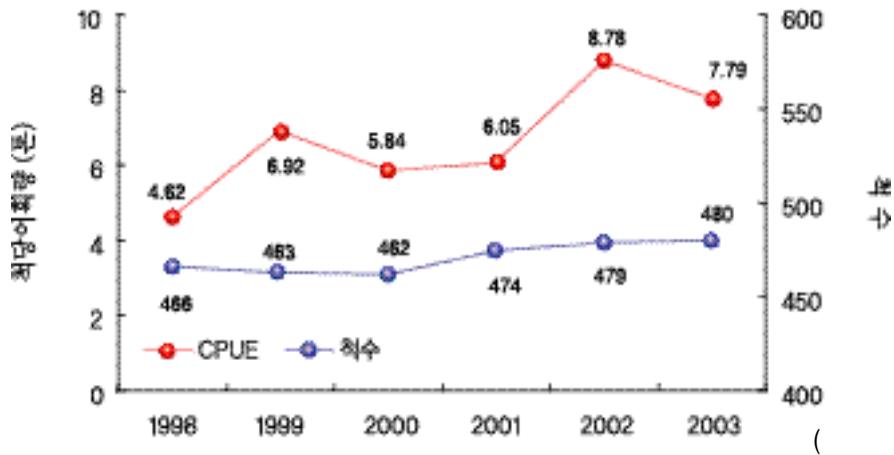
2-67.

1998
2,155 1999 3,205 가 2000 2,698 1998 93
4,202 가 , 2003 181
가 2002 292 가



2-68.

10 2,021kg 가 , 8 1,97kg
.1 65kg 가 , 2~3 200kg
가 8~10 , 1~3
가 2~3
10~42% 16~41% , 4~12 2~19%
, 2~3 2~9%
9 10%



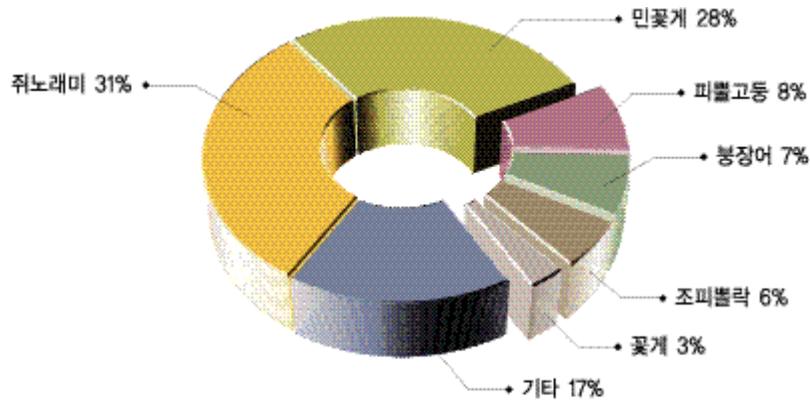
2-69.

(CPUE)

1998 466 , 2001 474 , 2003 480

(CPUE) 1998 4.62 , 1999~2001 5~7

, 2002 8.78 가 2003 7.79

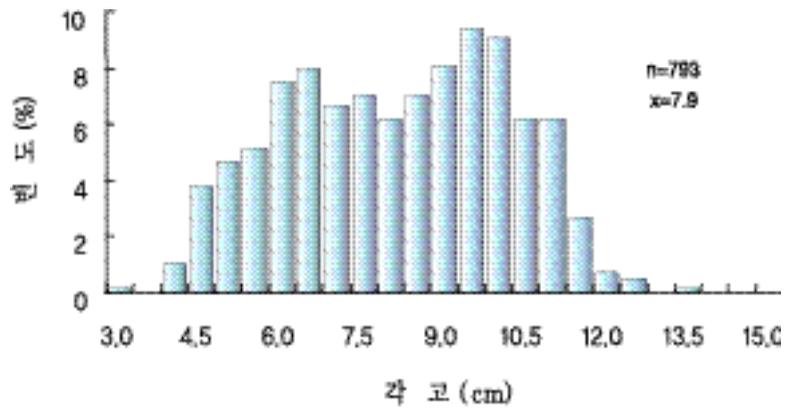


2-70.

가가 31% , 28%,

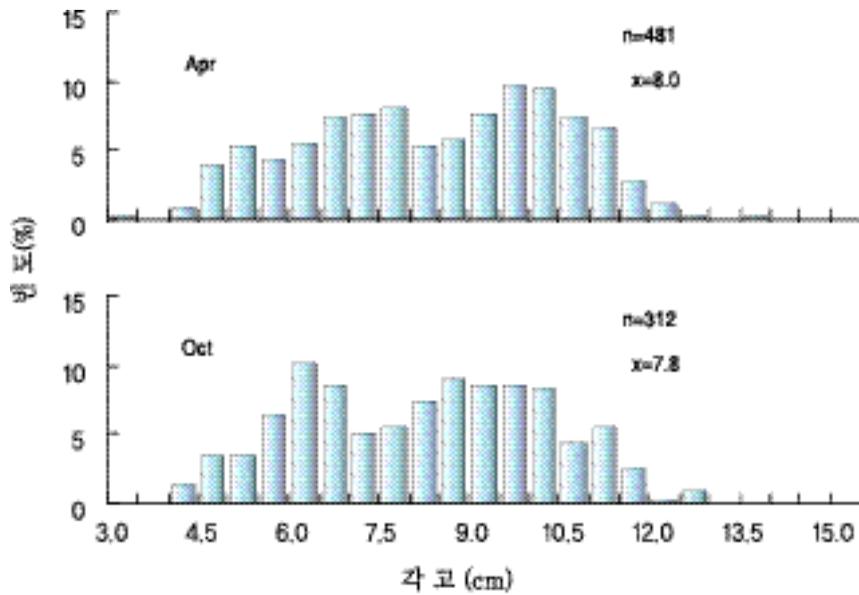
8%, 7%, 6%, 가 3%

164, 174



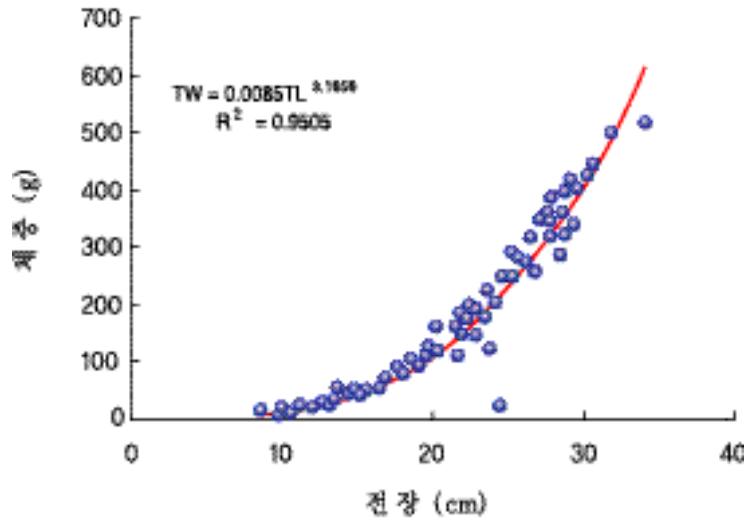
2-71.

4 10 793
 7.9cm(3.0~13.4m) , 9.1~9.5cm 가 9.3% 가



2-72.

, 4 8.0cm(3.0~13.4m) , 9.1~9.5cm
 가 가 7.8% . 10 7.8cm(3.6~12.5m) ,
 mode 5.6~6.0m 10.3%



2-75.

106

$TW=0.0085TL^{3.1656}$ ($R^2=0.9505$)(TW: , TL:)

2001~2003

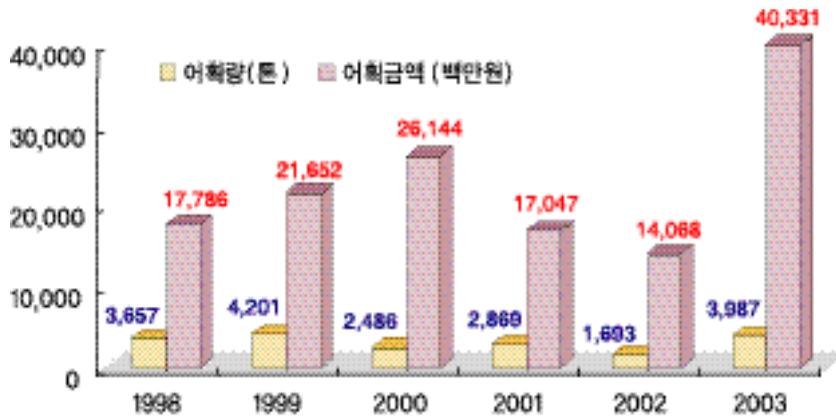
2,866~4,204 1994~1998 2,155~3,946

2003 () 40%

10 3,000

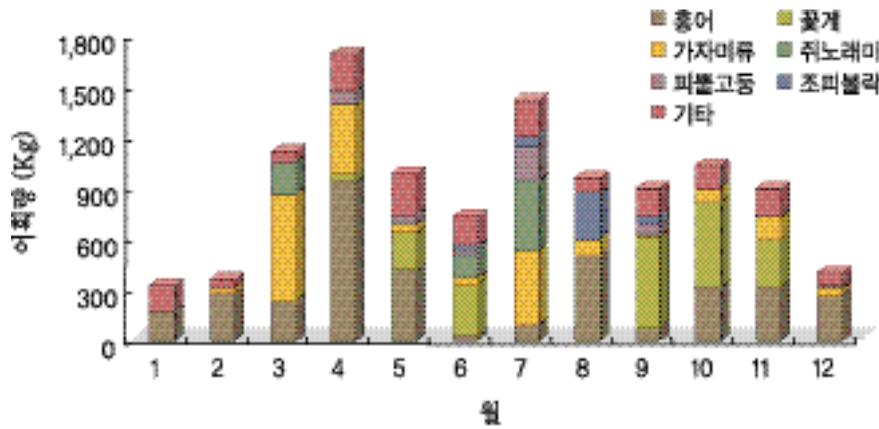
)

(CPUE)



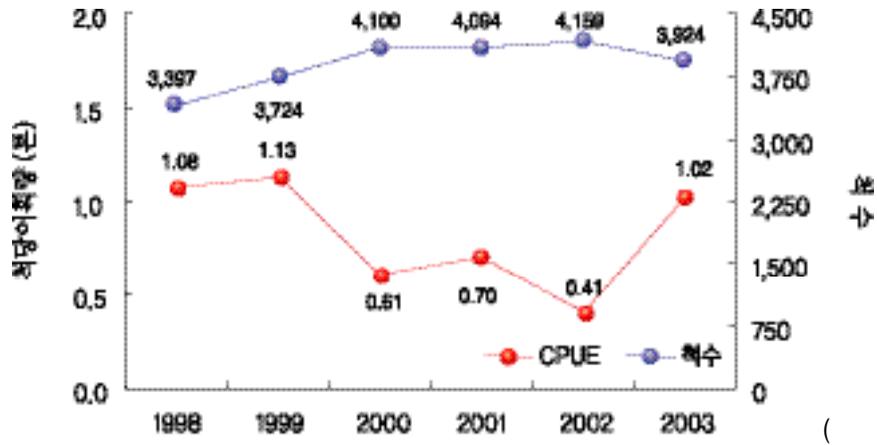
2-76.

1998 3,657 1999 4,201 가 , 1998 178 가 2000 261 가 2002 141 가 . 2003 403 가 . 2003 3,987 가 . 2002



2-77.

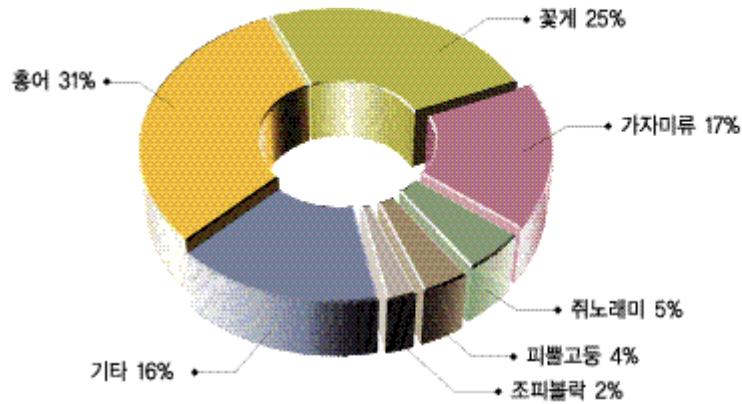
4 1,687kg 가 , 7 1,409kg
 . 1 315kg 가 , 2 12 400kg
 3~7
 , 12~2 가
 4~78% , 가 1~56%
 . 5~6 9~11 22~42% 32~58%
 5 6 20% 30% , 8
 29% . 7 15% .



2-78.

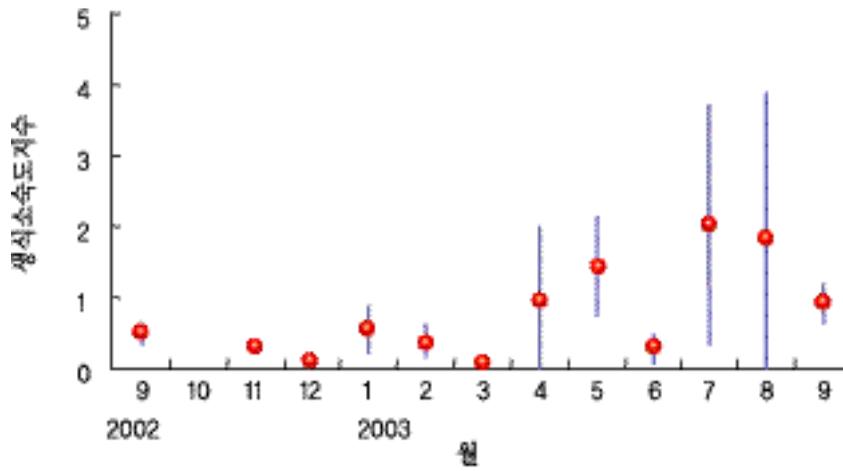
(CPUE)

1998 3,397 2002 4,159 가 ,
 2003 3,924 (CPUE) 1998 1999
 1.08 1.13 2000~2002 0.41~0.70 ,
 2003 1.02 가 .



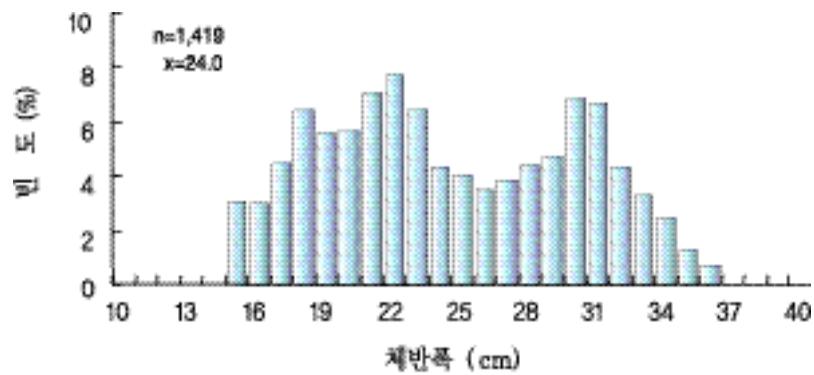
2-79.

가 가 31% , 가 25%, 가
 17%, 5%, 4%, 2% .
 , 가 , ,
 16, 174 .



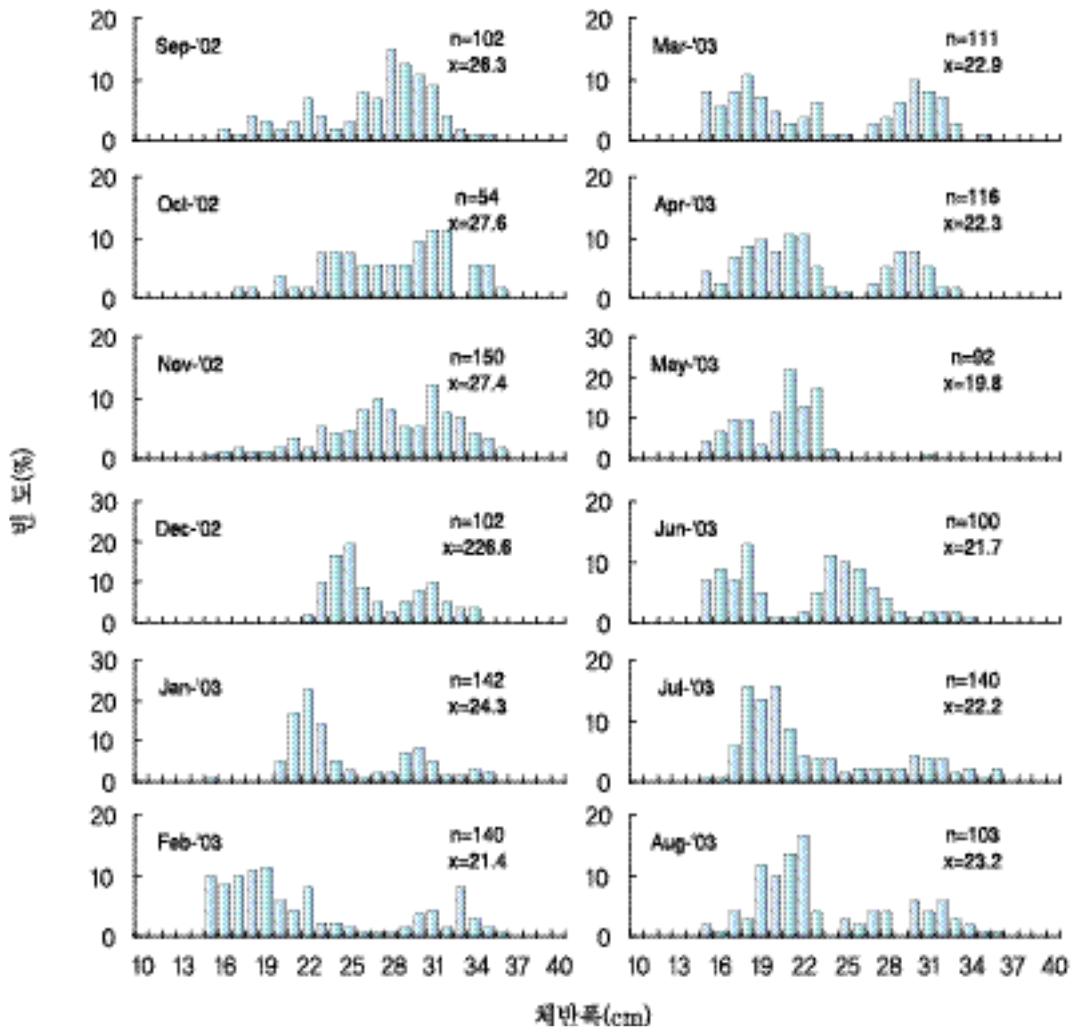
2-80.

(/ ×100) , 2002 9 ~2003 3 0.60
 가 4 0.95 가 7 2.02
 . 8 9 1.80, 0.91 . 4~9
 (5~8) .

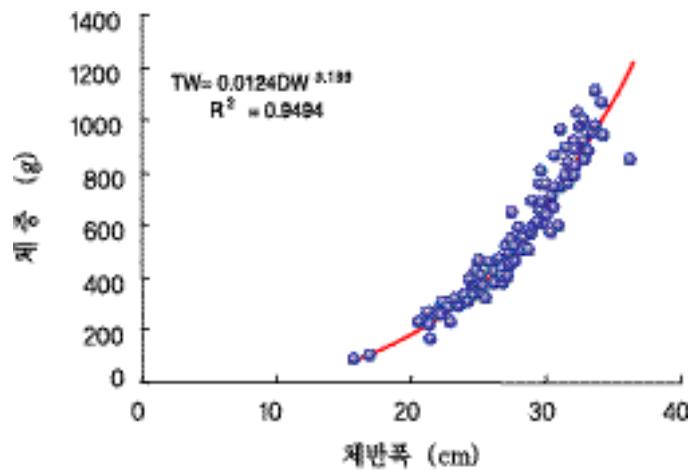


2-81.

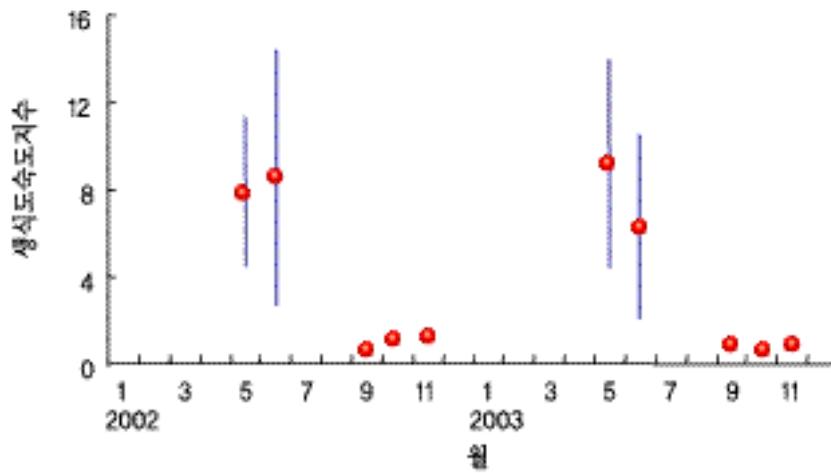
2002 9 ~2003 8 1,419
 24.0cm(9.9~36.0n) 21.0~22.0n 가
 7.7% 가 .



2-82.

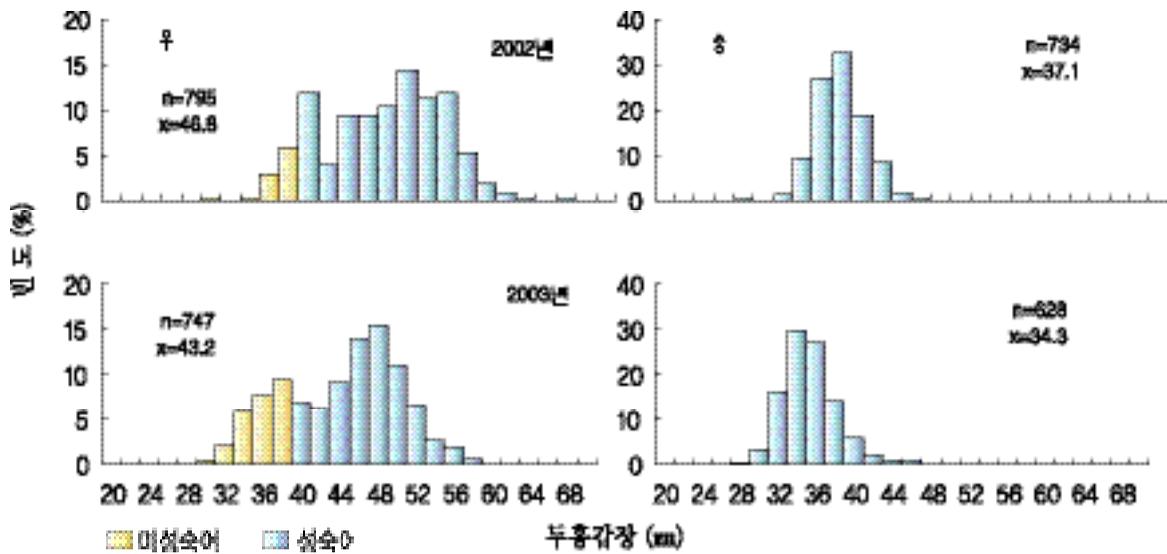


2-83.



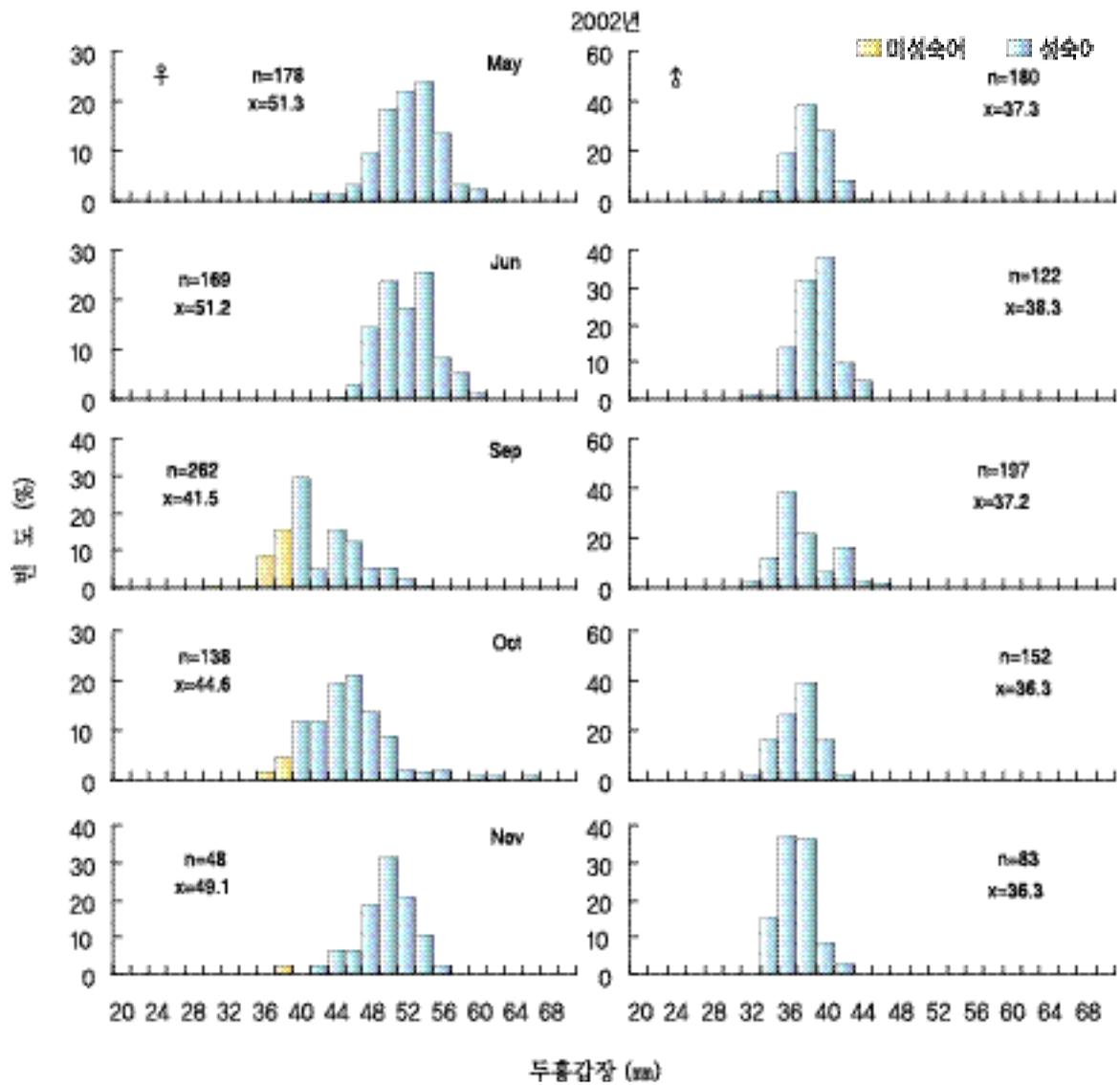
2-84.

, 5 6 5.0 , 9 1.0
5~6 .



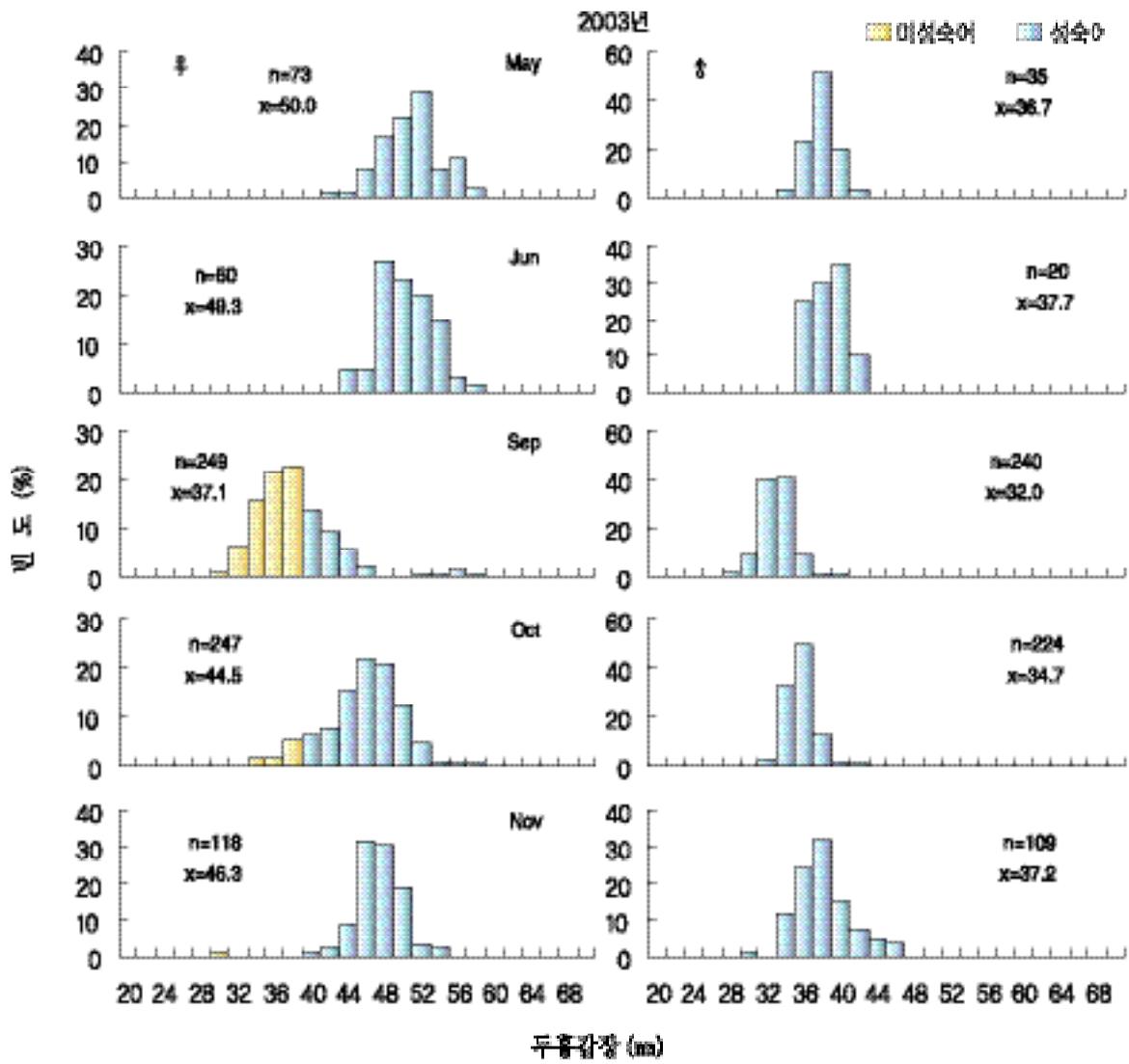
2-85.

() , 2002
46.8mm(30.0~66.0mm) , 2003 43.2mm(29.4~57.0mm)
(38mm) 2002 73 9.2% ,
2003 189 25.3% . 2002 37.1mm
(27.9~46.0mm) , 2003 34.3mm(27.7~45.0mm)
가 .



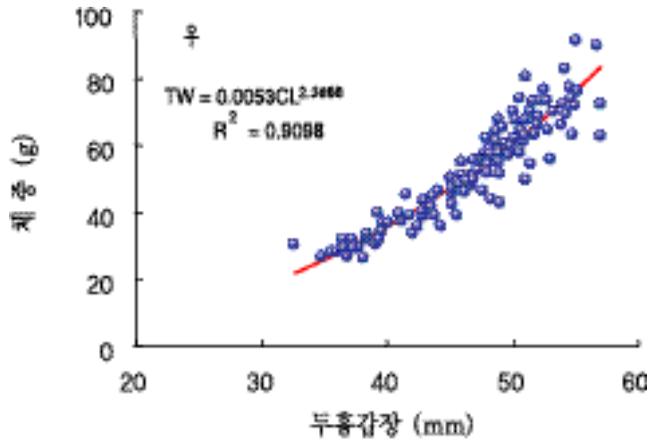
2-86.

가 , 2002 5~6 51mm
 , 7~8 4~7 가
 9 41.5mm 가 6 38.3mm
 가 , 10 36.3mm 가 .



2-87.

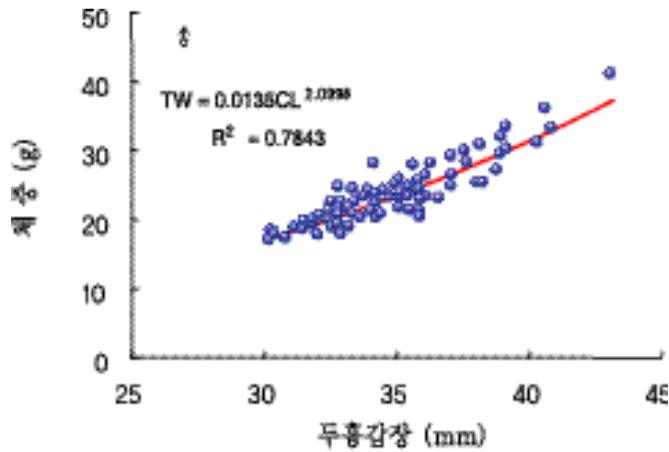
2003 5 50.0mm 가 , 2002 1
. 9 37.1mm 가 , 2002
4.4mm . 6 가 9 가 , 2002
1mm . 9 2002 4.2mm 32.0mm
. 38mm , 5~6 2002 2003
. 9 가 2002 24.4%,
2003 67.0% 가 10
5.8%(2002), 8.5%(2003))



2-88. ()

203

$TW=0.0053CL^{2.3866}$ ($R^2=0.9098$)(TW: , CL:)

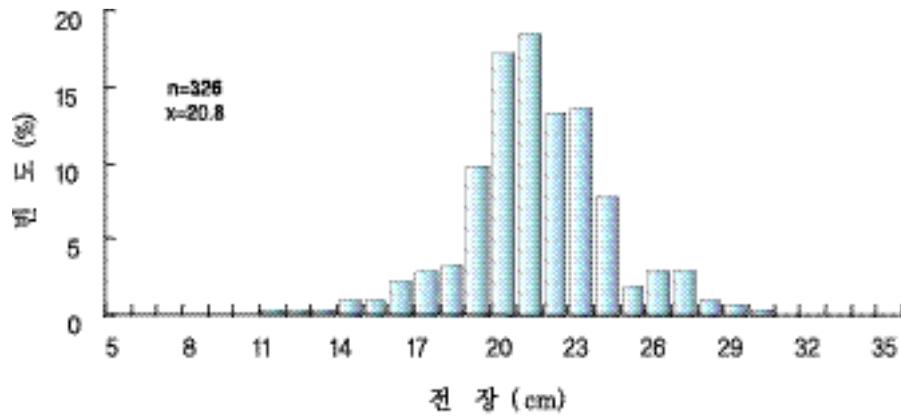


2-89. ()

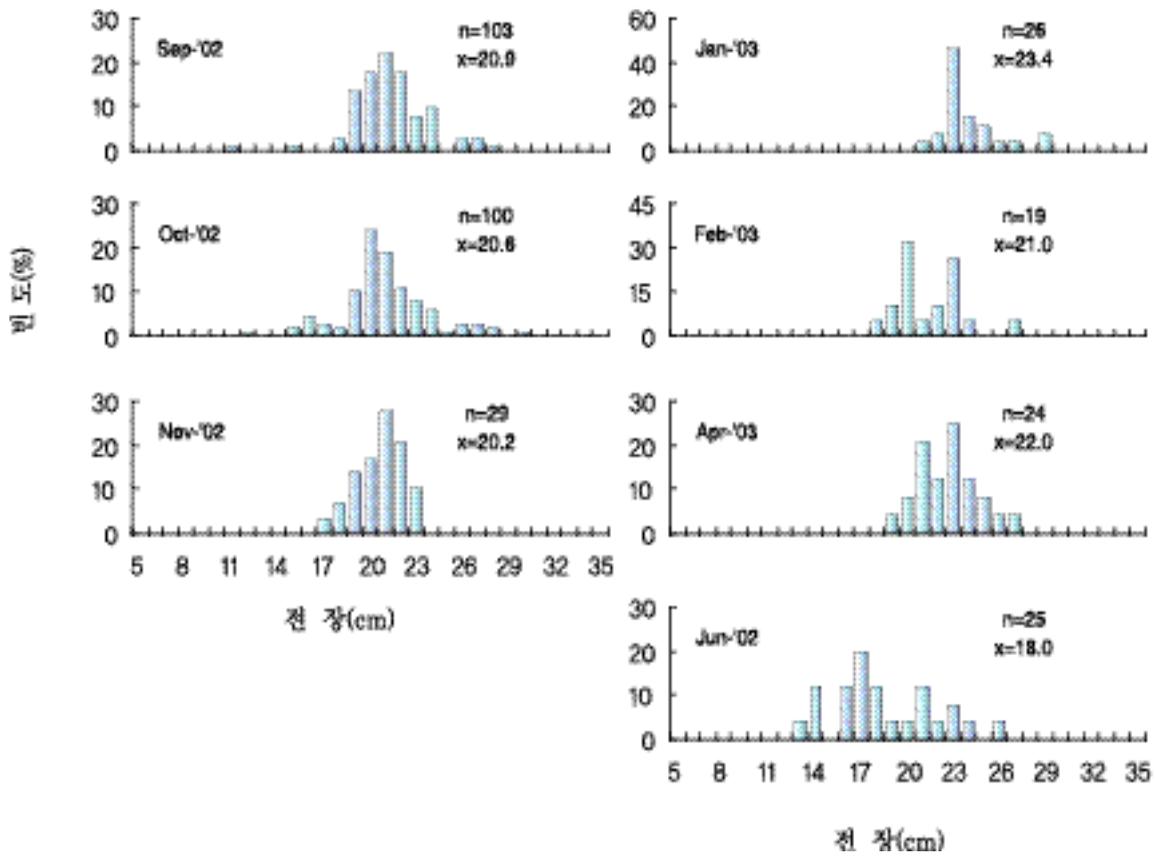
104

$TW=0.0135CL^{2.0999}$ ($R^2=0.7843$)(TW: ; CL:)

2002 9 ~ 2003 6 326
 20.8cm(10.8~29.5) , 20.1~21.0cm 가 18.4%
 가 , 2002 9
 20.9cm(10.8~27.5) , 20.1~21.0cm 가가 22.3%
 . 10 20.6cm(11.5~29.5) , mode 19.1~20.0 24.0% .
 11 20.2cm(16.6~22.7) , 20.1~21.0cm 가가
 27.6% . 2003 1 23.4cm(20.4~28.9) ,
 22.1~22.0 가가 46.2% . 2 4
 21.0cm(17.6~26.0) , 22.0cm(18.6~26.0) . 6 18.0cm(12.4~25.0)
 , 16.1~17.0cm 가 25.0% 가 .



2-90.

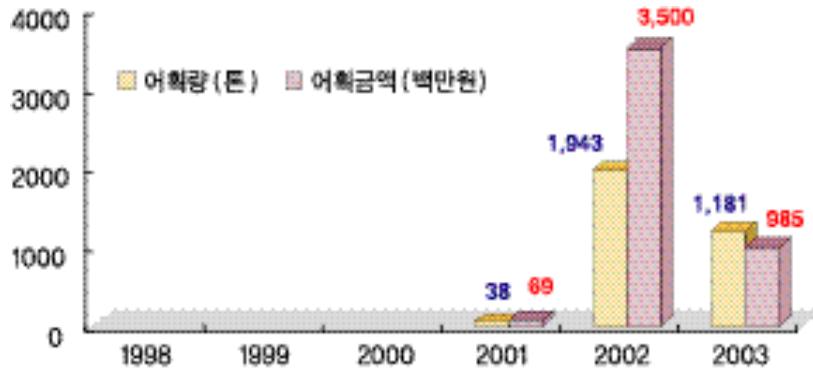


2-91.

1994~1998 3,230~4,706 , 2001~2003 1,693~3,987
 3,987 2.5 가 . 2003
 252~494 1994~1998 , 1999 4,201
 3 99~199

) ()

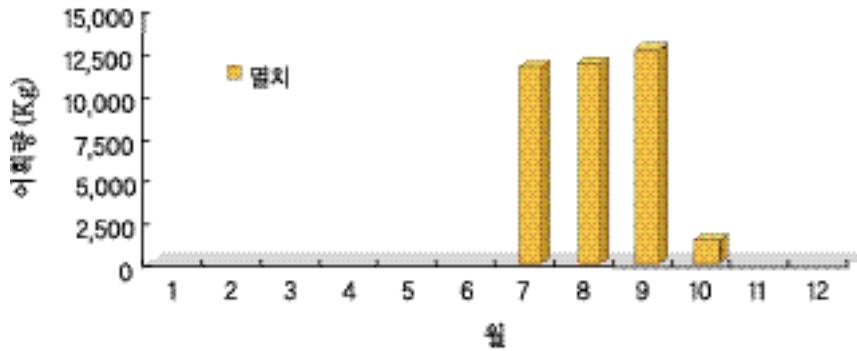
(CPUE)



2-92.

()

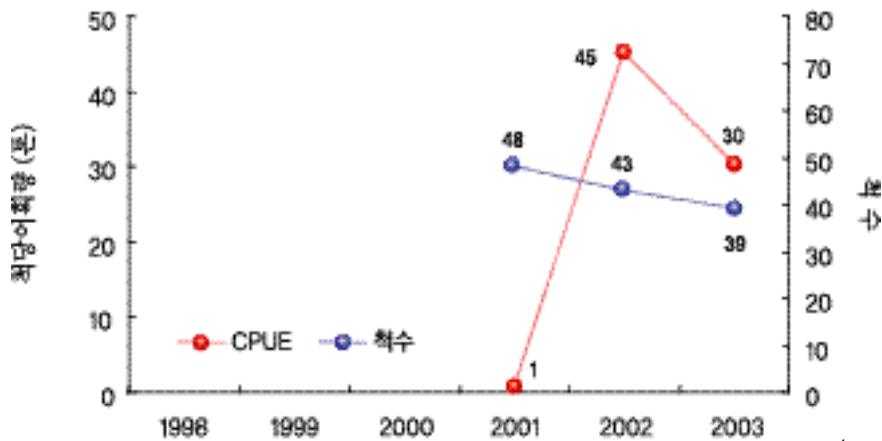
2001 , 2001 38 2002
1,943 가 2003 1,181 .



2-93.

()

() 9 12.6
가 , 10 1.3 가 .
7~10 , 1~6 11~12 .

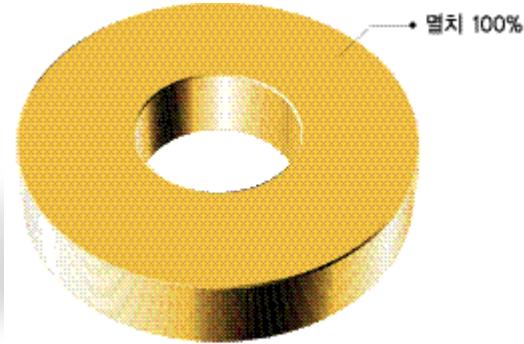


2-94.

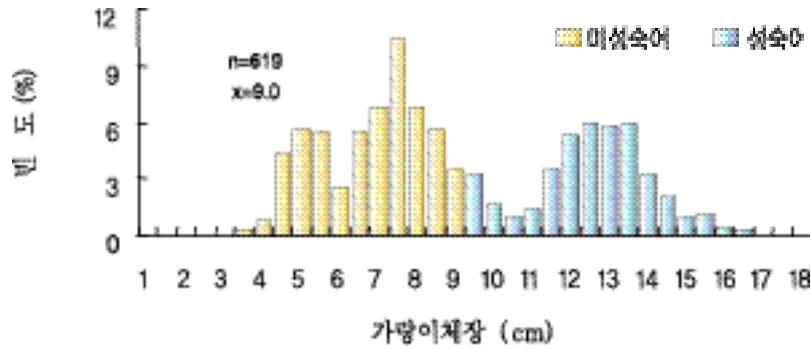
()

(CPUE)

2001 48 2002 43 , 2003 39



2-95.



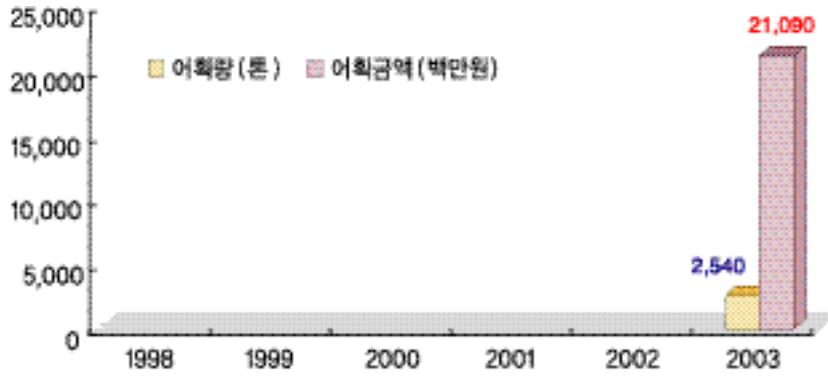
2-96.

8 () 619
 가 9.0cm(3.2~16.4cm) , 7.1~7.5cm 가 가
 10.3% . 9.0cm 57.8% . 5~6
 가

() , 2001~2003
 38~1,943

)

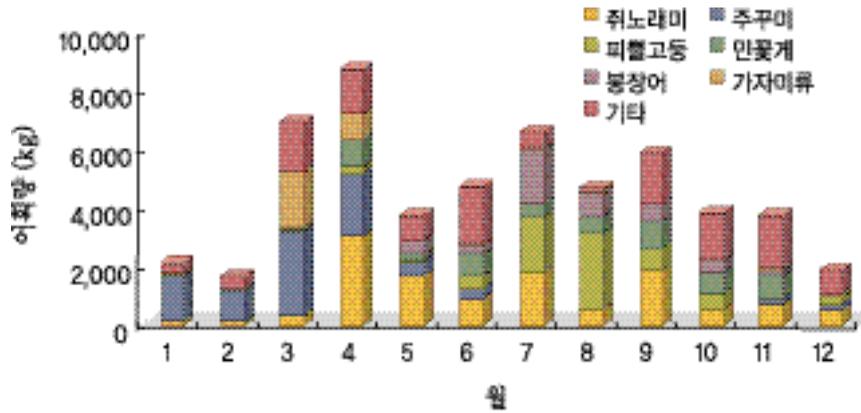
(CPUE)



()

2-97.

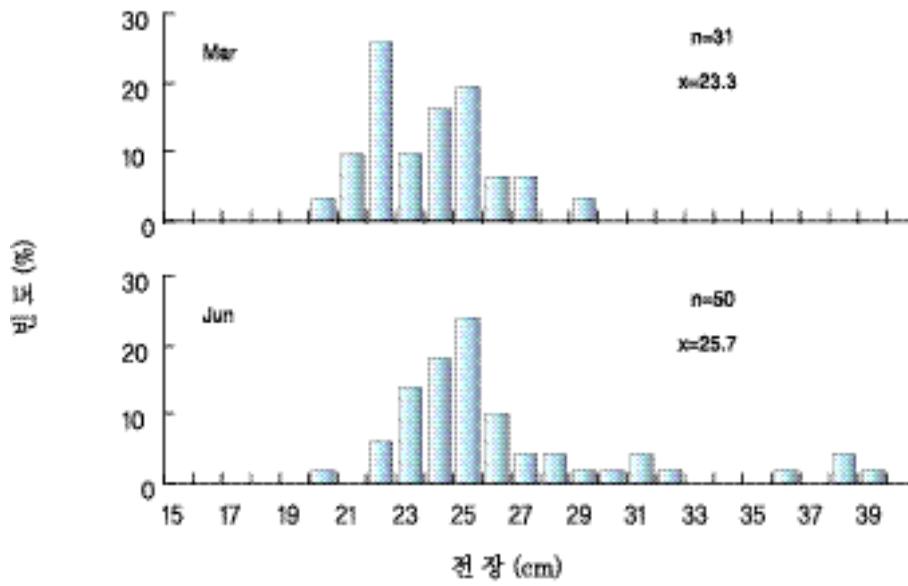
, , , , 2003 가
 , 2003 2,540 , 211



()

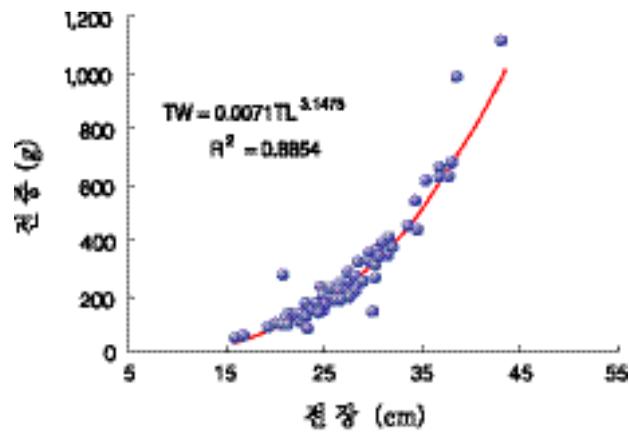
2-98.

4 8.7 가 , 3 7 6.5
 . 2 1.6 가 , 1 12 2.0
 3~4 7~9 , 1~2 12
 5~46% ,
 1~6 11~12 6.0~73% , 6~10 10~56%
 , 1~2 1~20%



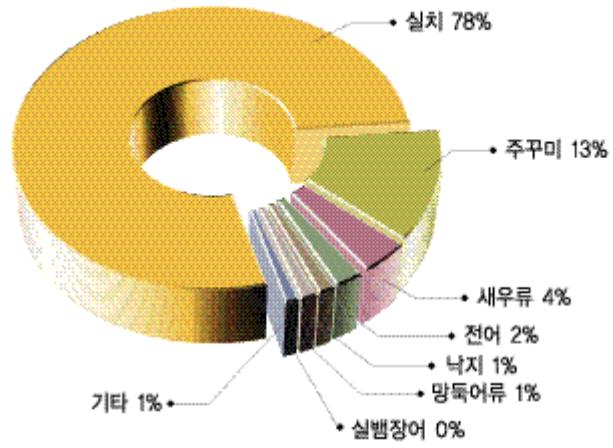
2-101. 가

, 3 23.3cm(19.7~28.1cm) , mode
 21.1~22.0cm 25.8% . 6 25.7cm(20.0~38.9cm) ,
 24.1~25.0cm 가 24.0% .
 가 123 -
 $TW=0.0071TL^{3.1479}$ ($R^2=0.8854$)(TW: , TL:) .



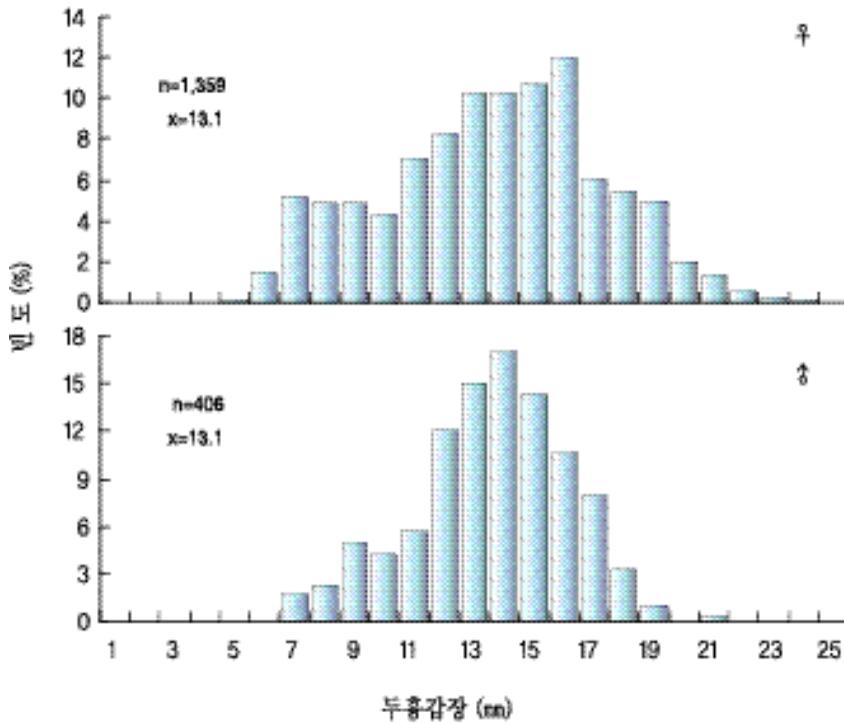
2-102. 가 .

2003 2,540
 61% 1,559 가 가 .



2-105.

()가 78%, 가 13%, 가 4%, 2%, 가 1%, 1%, 0%.



2-106.

1~12

1,359

406

13.1mm(4.7~23.0m)

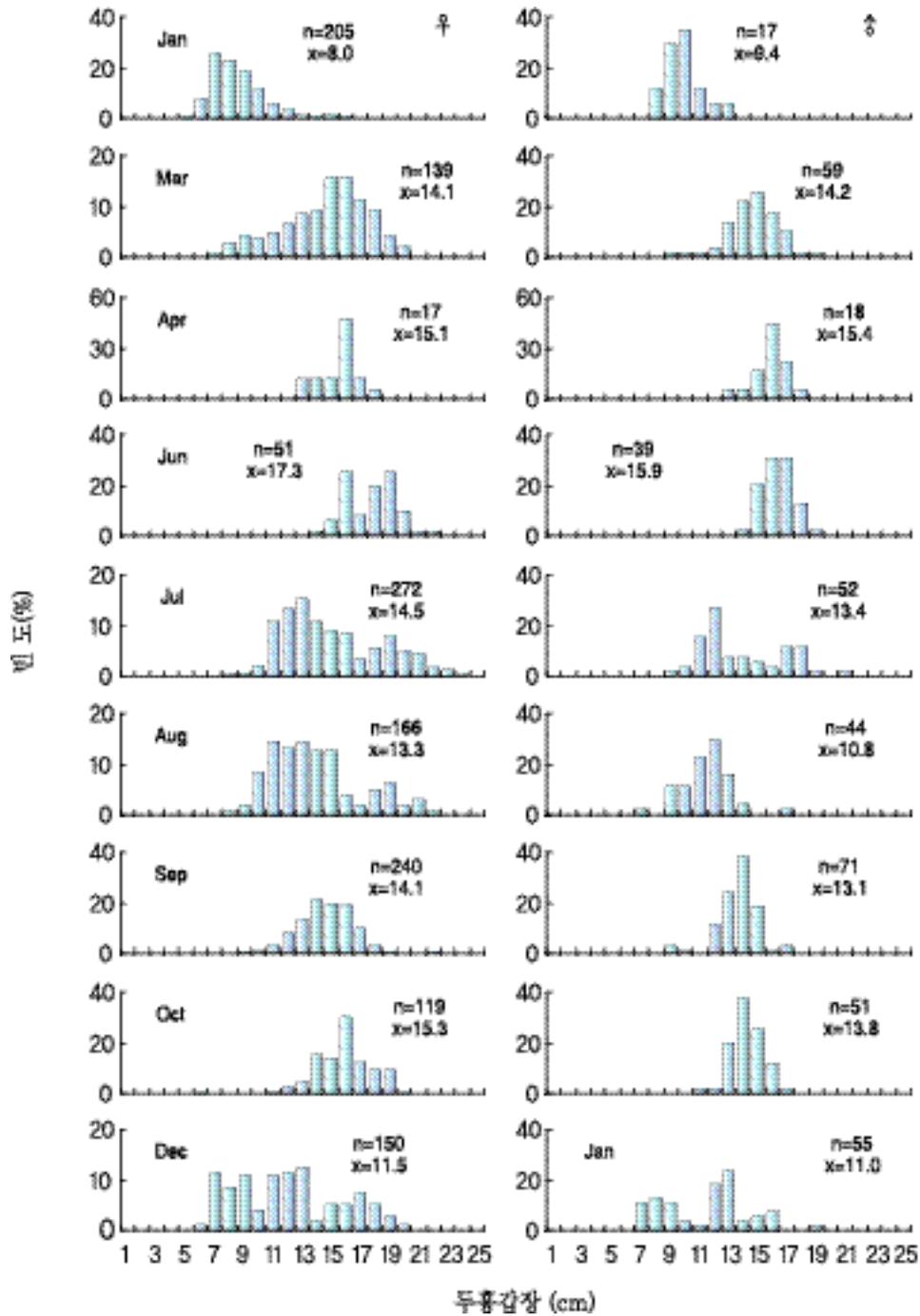
15.1~16.0m 가 12.0%

가 .

13.1mm(6.1~20.7m)

, 13.1~14.0mm 가

17.0% 가



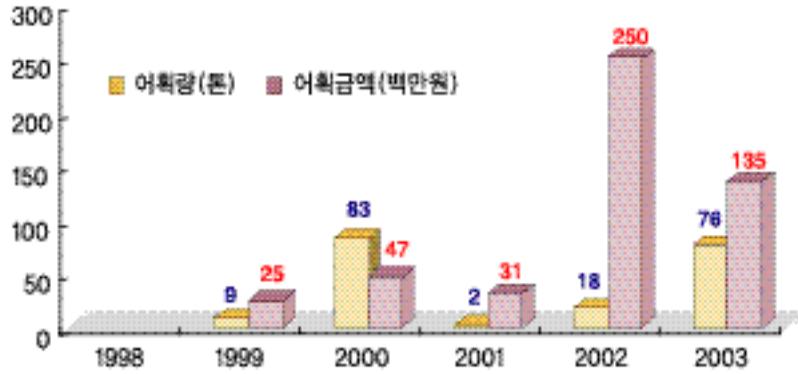
, 1 8.0mm(4.7~15.7mm)
 가 , 6.1~7.0mm 가 25.9% 가 .3 14.1
 mm(6.9~19.7mm) , mode 14.1~15.0mm 15.1~16.0mm 가
 15.8% 가 .4 15.1mm(12.2~17.0mm), mode 15.1~16.0mm
 (47.1%) .6 17.3mm(13.5~21.7mm) 가 ,
 15.1~16.0mm 19.1~20.0mm 가 25.5% 가 .7 8
 가 14.5mm(7.5~23.0mm), 13.3mm(7.8~21.0mm) ,
 mode 12.1~13.0mm 15.4% 14.5% .10
 15.3mm(5.4~19.0mm) , mode 13.1~14.0mm 15.1% .12
 7.0~9.0mm 가 11.5mm(5.5~19.4mm) ,
 11.1~12.0mm 가 11.3% 가 .1 9.4mm
 (7.7~12.0mm) 가 , 9.1~10.0mm 가 35.3% 가
 .3 14.2mm(8.1~18.8mm) , mode
 14.1~15.0mm 25.4% .6 15.9mm(13.9~18.4mm)
 가 , 16.1~17.0mm 17.1~18.0mm 가 30.8%
 가 .7 8 가 13.4mm(8.7~20.7
 mm), 10.8mm(6.1~16.0mm) .10 13.8mm(10.8~16.7mm)
 , mode 13.1~14.0mm 37.3% .12 가
 11.0mm(6.1~18.0mm) , 12.1~13.0mm 가 23.6% 가

가

() 2~4 , ,

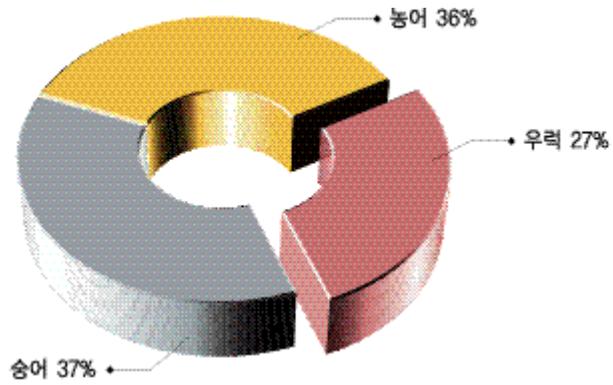
4)

(CPUE)



2-108.

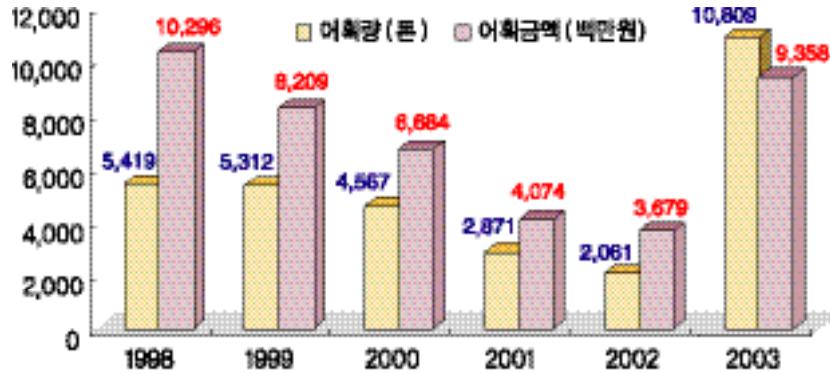
1998
 , 1999 9 , 2000 83 가 2001
 2 , 2002 18 , 2003 76
 2000 47 2001 31 2002
 250 가 2003 135



2-109.

12 , 가 37% 가 ,
 가 36%, 27%

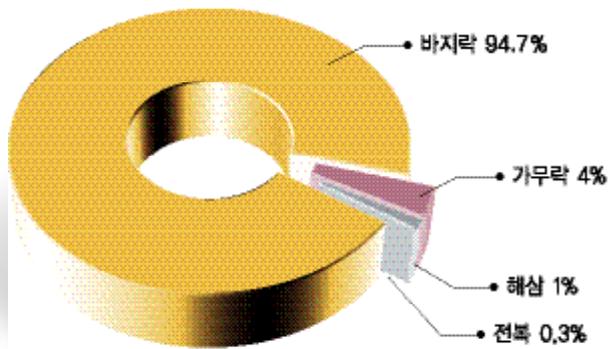
5)



()

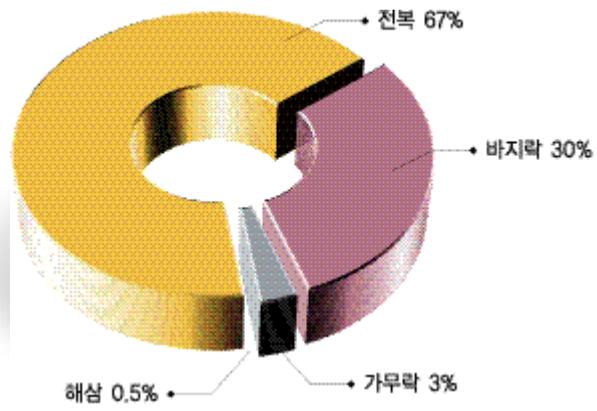
2-110.

1998 5,419
 2000 4,567 , 2002 2,061 가
 2003 가 10,809 1998 103
 가 , 2000 67 , 2002 37
 , 2003 94 가



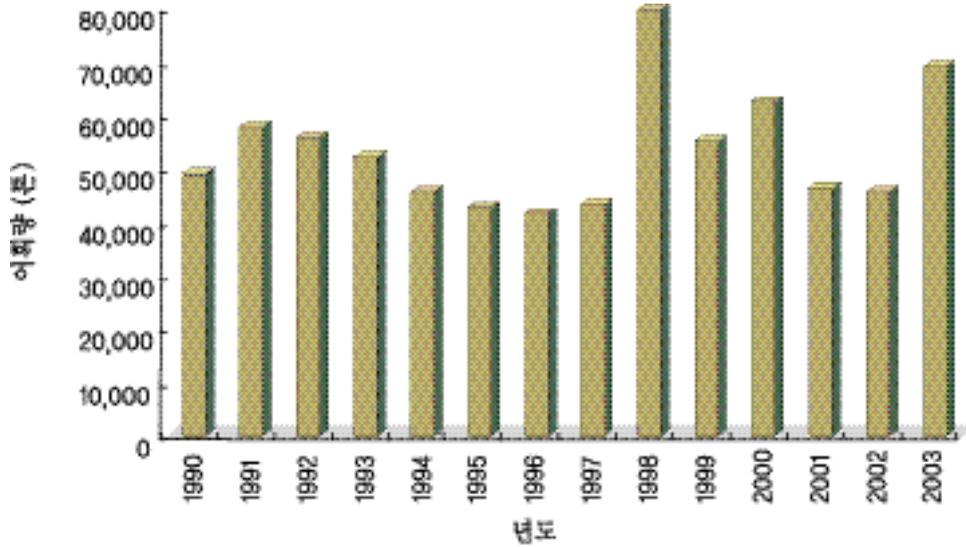
2-111.

2002 , 94.7%
 , 가 4%, 1%, 0.3%



2-112.

2002
67% 가 , 30%, 가 3%, 0.5%

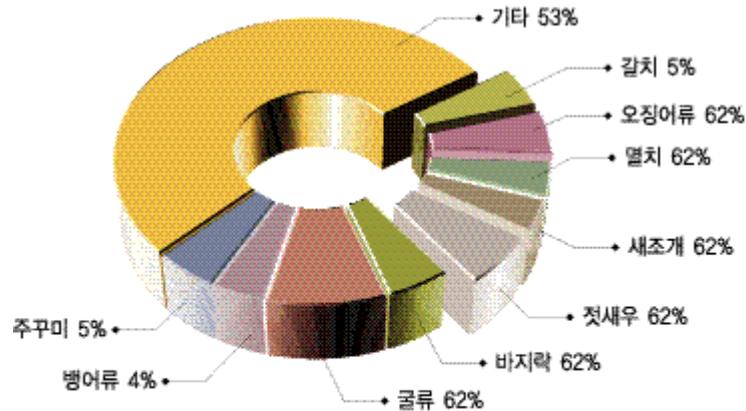


2-113.

가 1990 2003 1998 79,685
, 1996 41,522 가 . 1991 1996
1998 가 2003 . 3
(53,218) 100.6% , 2002 2003
45,351 69,079

1)

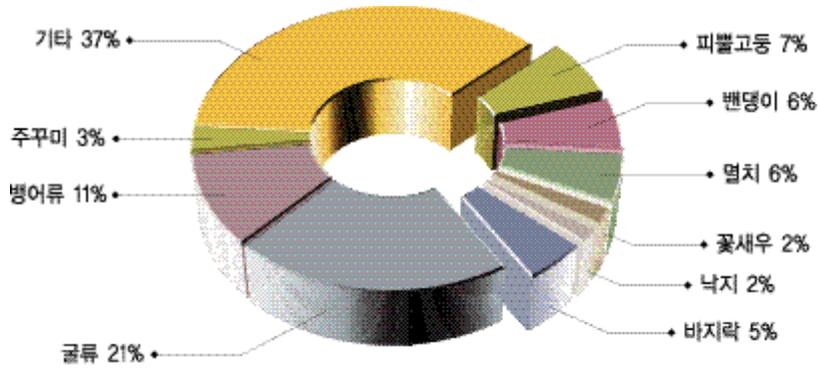
가 1990 2003 , 1990 가 3,636
, (2,487), (2,161), (2,174), (2,122),
(1,903), (1,695), (1,449),
(1,431)



2-114.

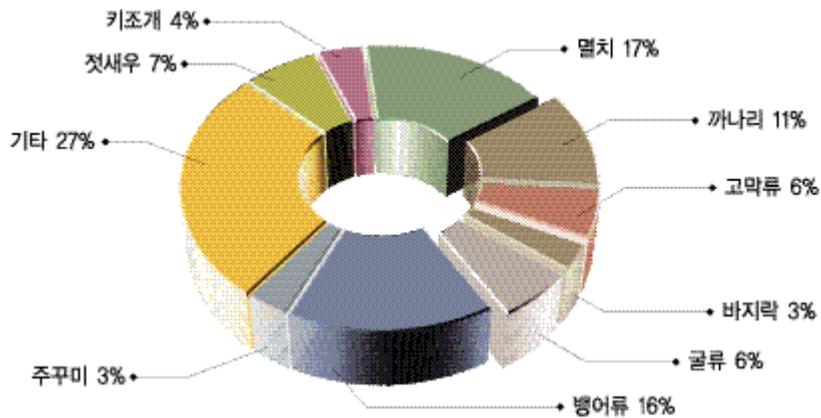
(1990)

1995 가 9,136 가 , (4,805), (3,001),
 (2,595), (2,565), (1,995), (1,308),
 (963), (836) .



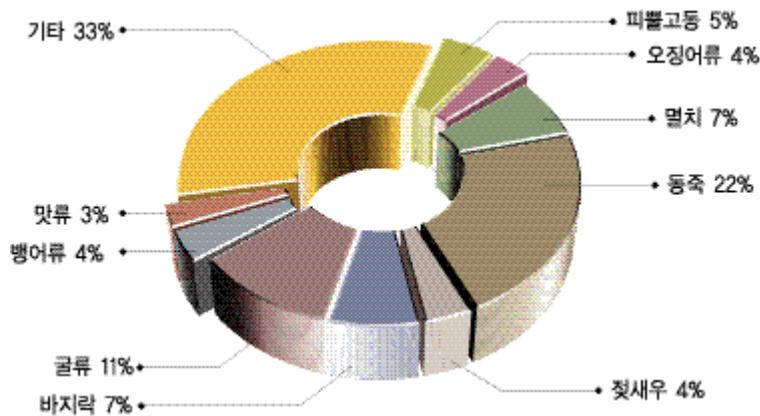
2-115. (1995)

2000 가 10,845 가 , (9,674), (4,605),
 (6,724), (3,891), (3,441), (2,535), (2,131),
 (1,601) .



2-116. (2000)

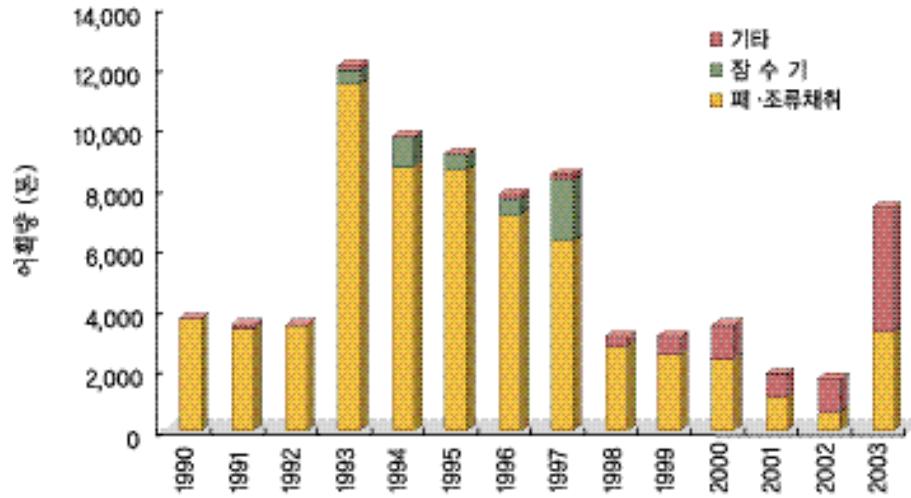
2003 15,026 가 , (7,337), (4,741),
 (4,528), (3,523), (3,021), (2,648), (2,457),
 (2,413) . 1990 가
 가가 .



2-117. (2003)

2)

가)



2-118.

1990~2003

가

1993 12,047 가

, 2002 1,707 가

1993~1997

1998

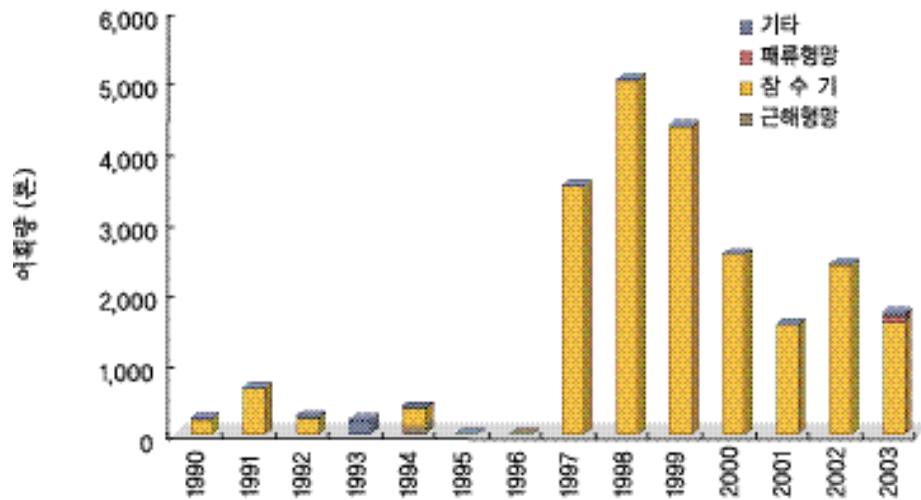
2003 7,337

34~100%가

, 1997

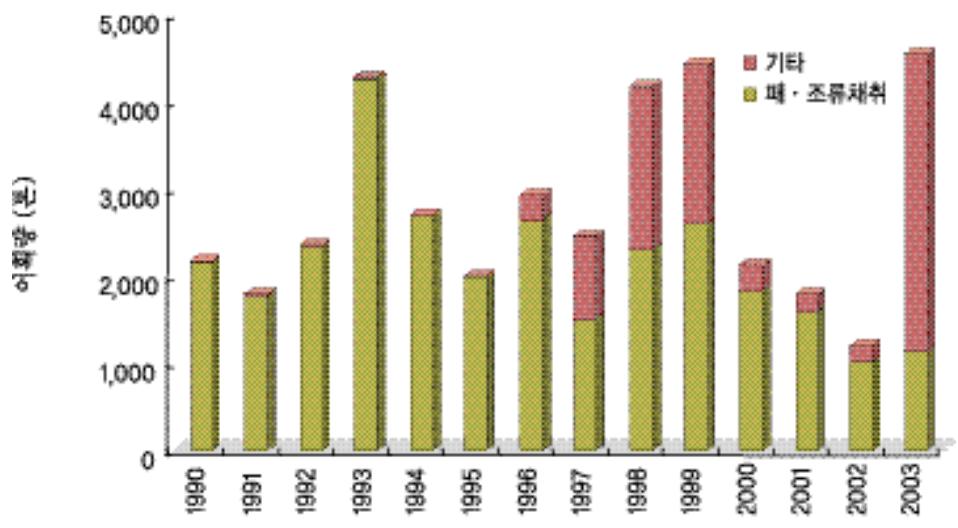
24%가

)



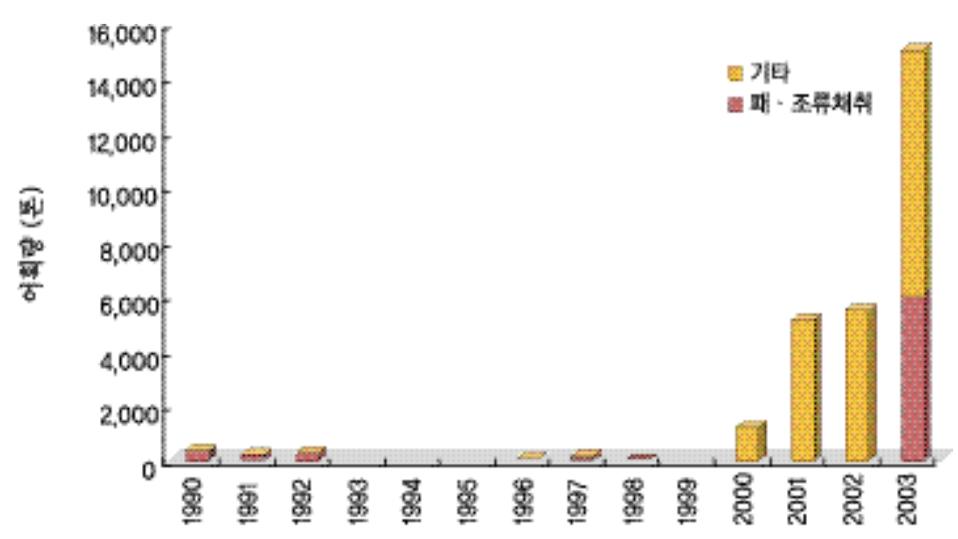
2-119.

가 . 1990~1996 , 1997 , 1994
 65~100%가
 33%가



2-120.

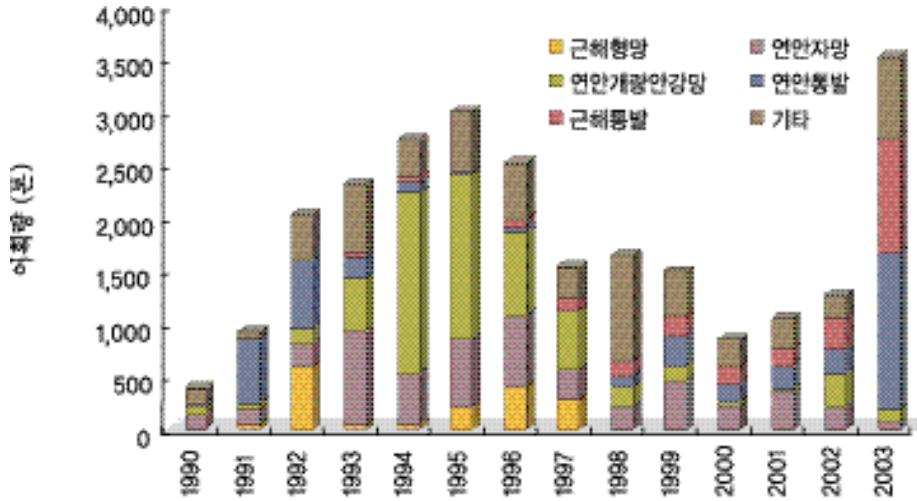
가 . 2003 , 2002 , 2000
 4,273 , 4,171 , 4,420
 4,528 가 , 1993 , 1999 , 2000
 25~100%가



2-121.

1999 7~324
 2000 1,194 가 2001 , 2002 , 2003 5,140 ,
 5,478 , 15,026 가 . 2000~2002
 2003 40%가 .

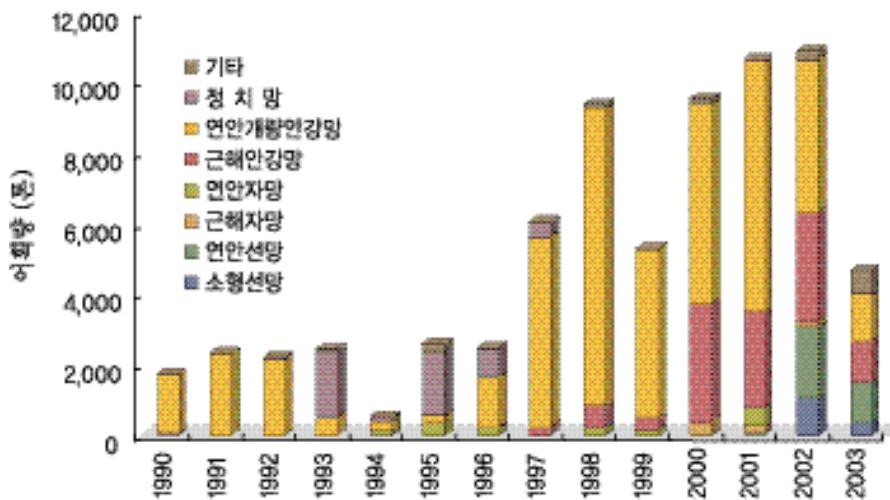
)



2-122.

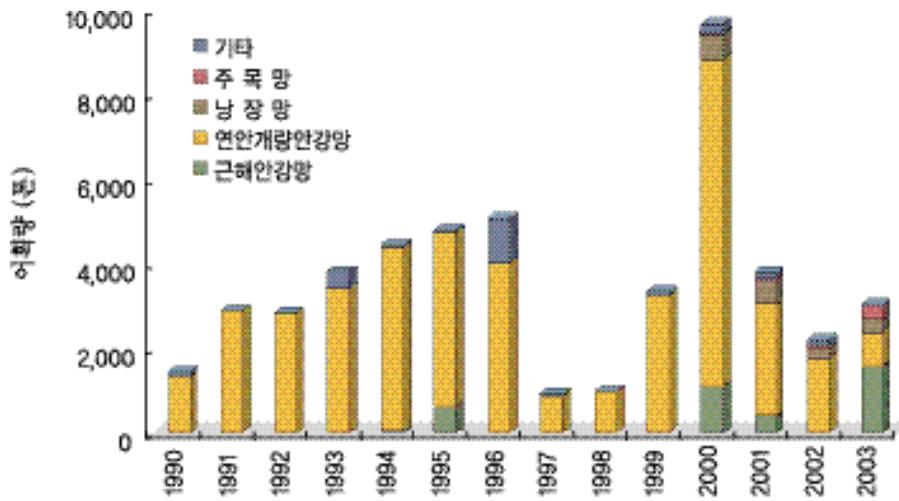
2003 3,523 가 ,
 1990 394 가 . 1990 가 1995
 3,001 2000 851 . 2001 가
 가 . 1990~1993
 , 1994~1997 31~62%가
 . 1999

)



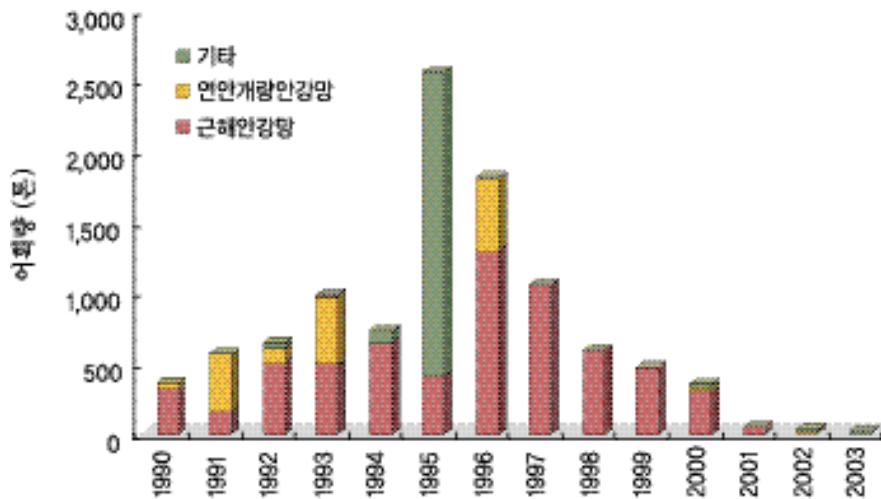
2-123.

가 , 2002 10,905
 가 , 1994 515 가 , 1997
 가 7~99%가
 , 1993~1996 21~75% . 2000
 25~34% 2002 2003
 () 18%, 25%
)



2-124.

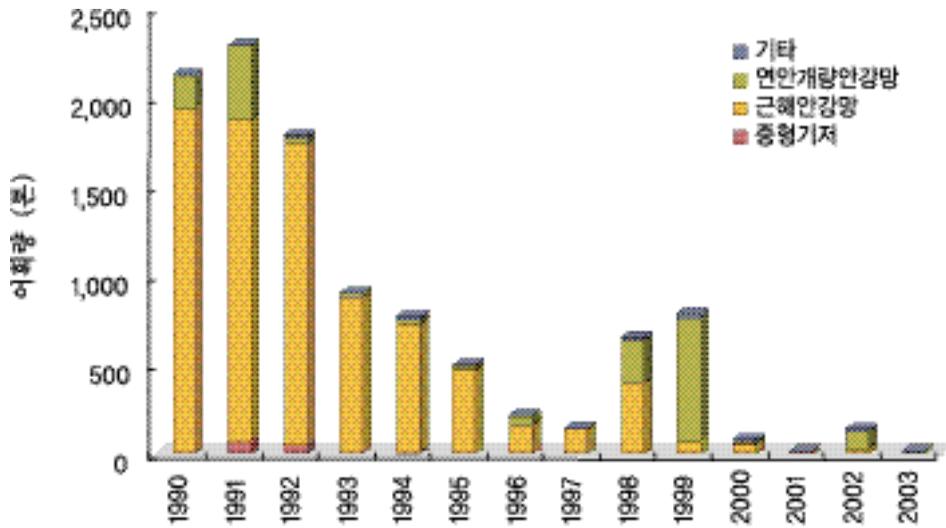
4~6
 , 2000 9,674 가 , 1997 916 가
 1990~2002 70~99%가
 2003
 26%, 535, 10%, 10%



2-125.

2003 17 가 . , 1990 357 , 1995 2,565 가 ,
 , 0~79%가 4~100%가
 59~100%가 2

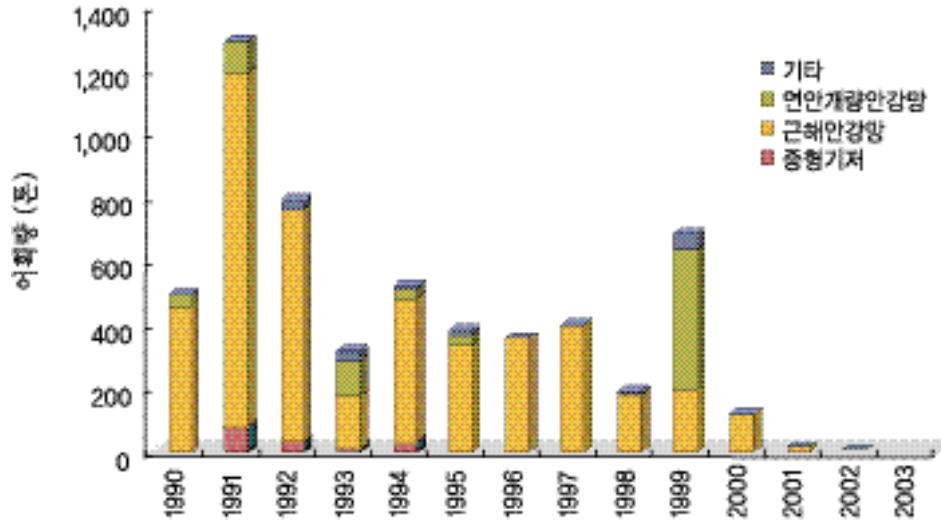
)



2-126.

1991 2,292 가 , 2003 12 가
 , 1998 1999
 657 , 794 가 2000
 9~99%가 , 0~87%가
 2 83~100%가
 1999 2002 87%, 76%

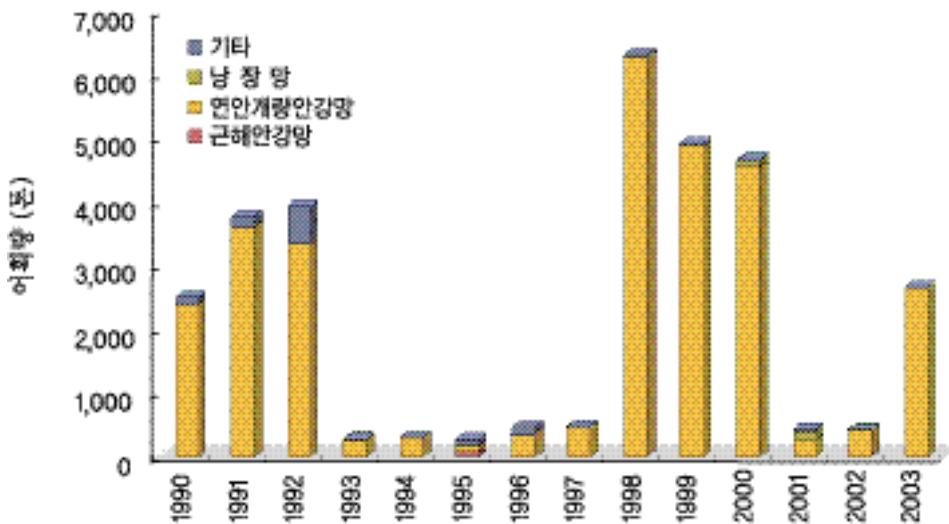
)



2-127.

1991 1,287 가 , 2002 1
 , 2003 . 1991
 , 1999 681 가 2000 117 , 2001 12
 28~100% , 0~65%가
 2 87~100%
 가 1999
 65%

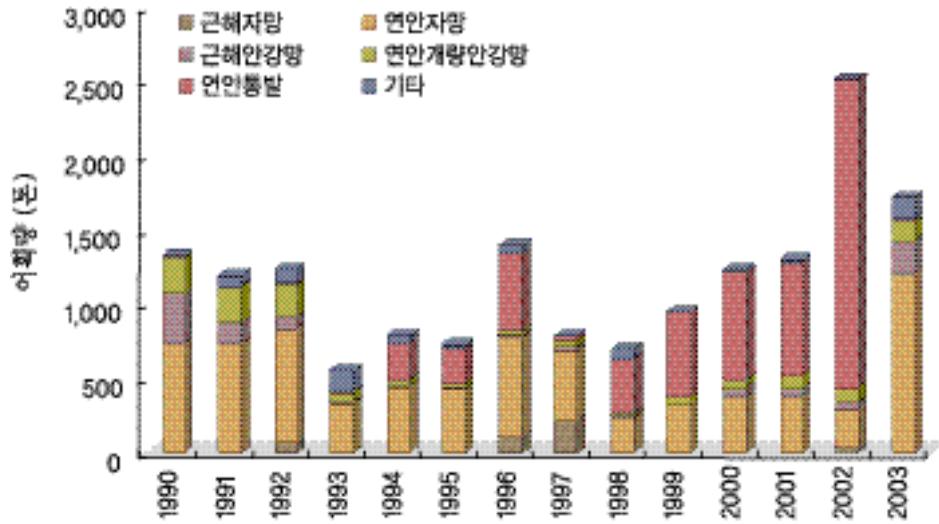
)



2-128.

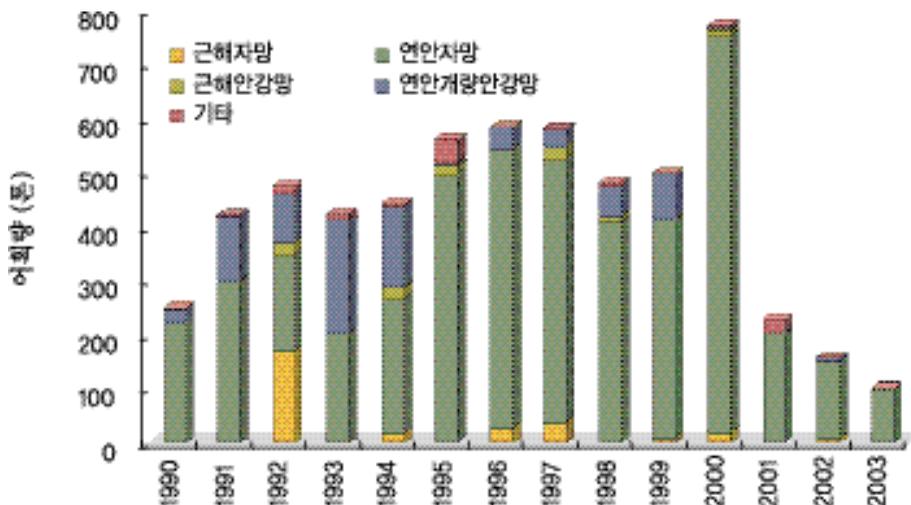
가 , 1998 6,314
 가 , 1993 265 가 . 1990~1992 ,
 1998~2000 , 1993~1997 , 2001~2002

2003 2,648 가
 25~100%
 1995 32% 2001 29%



2-129.

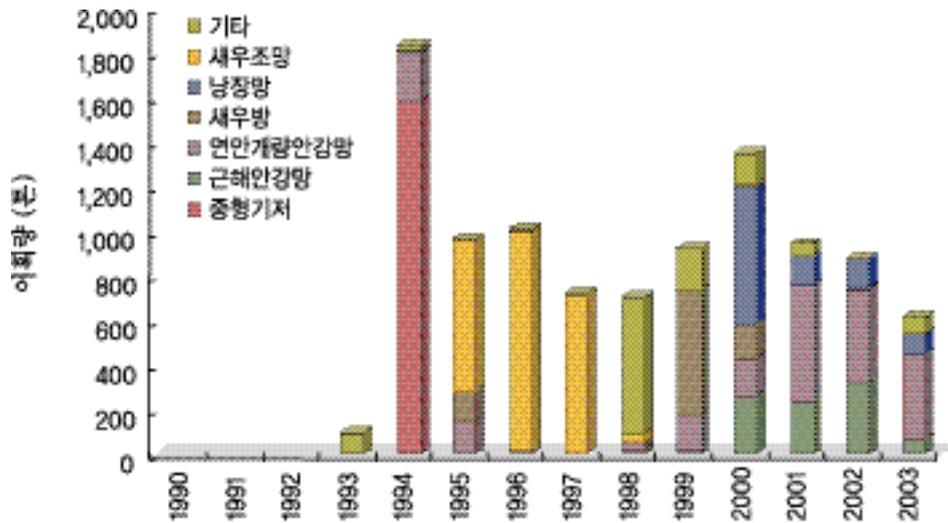
2002 2,524 가 , 1993 546 가
 1998 가
 10~70% , 1990~1995
 56~63% 1~82%
 1998~2002 52~82%
 1990~1991 17~19% , 2003 70%,
 13%, 7%



2-130.

가 , 2000 774
 가 , 2003 99 가 . 400~600
 2000 가 2001
 37~100% 가
 0~49% 1991~1994
 19~49%

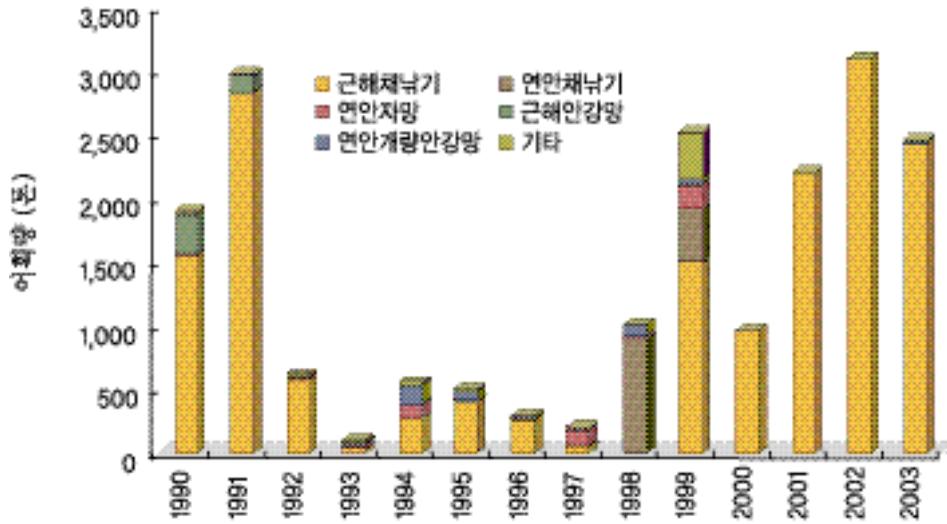
)



2-131.

1993 가 1994 1,834 가
 , 1993 98 가 . 1993 600~1,000
 , 2000 1,353 2003 614
 . 1994 86% ,
 1995~1997 70~98% . 2000
 13~63% ,
 14~46%, 11~36%

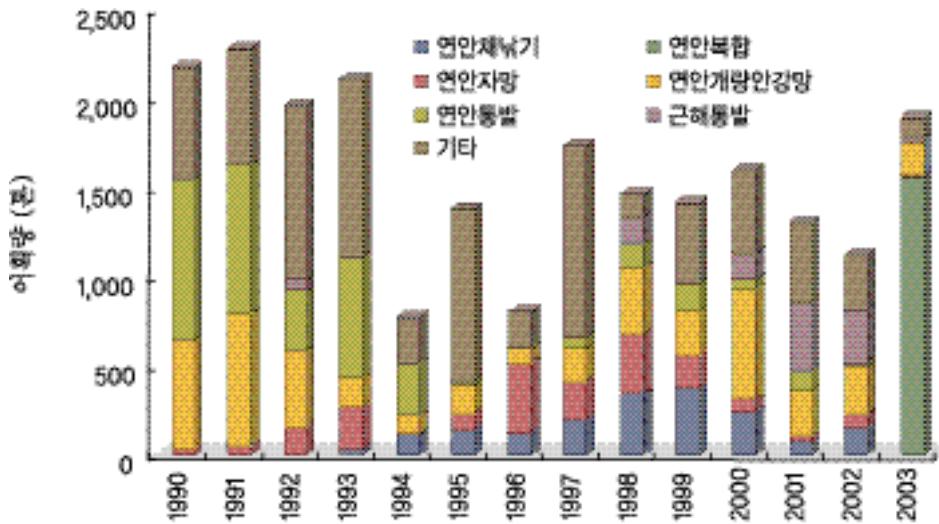
)



2-132.

2002 3,096 가 , 1993 104
 가 . 1992~1997 , 1,000~2,500
 , 3 2,500
 . 1998 26~99%
 , 1998 89% . 1997
 57% 가 , 1993 25%,
 1994 1995 27%, 15% .

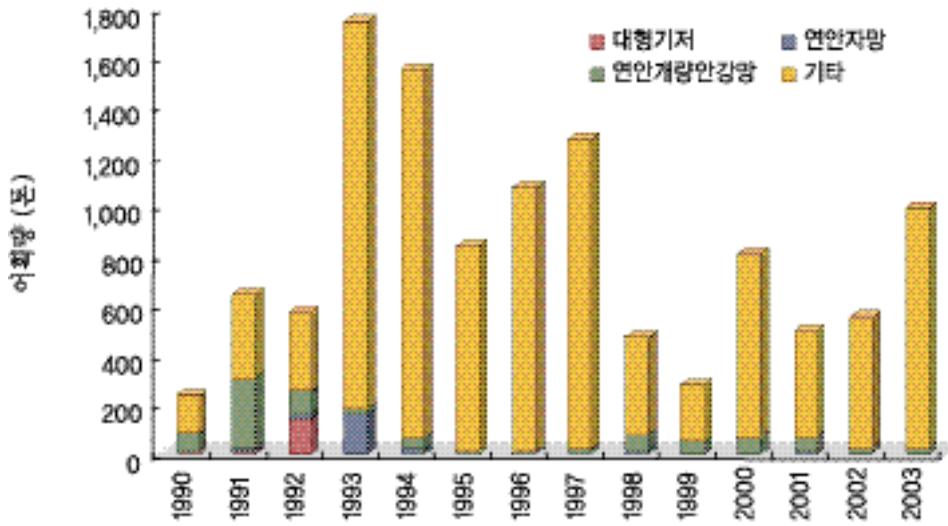
)



2-133.

1991 2,275 가 , 1994 768
 가 . 1990~1994 18~42%, 1996~1999
 13~48%, 2000~2002 20~39%

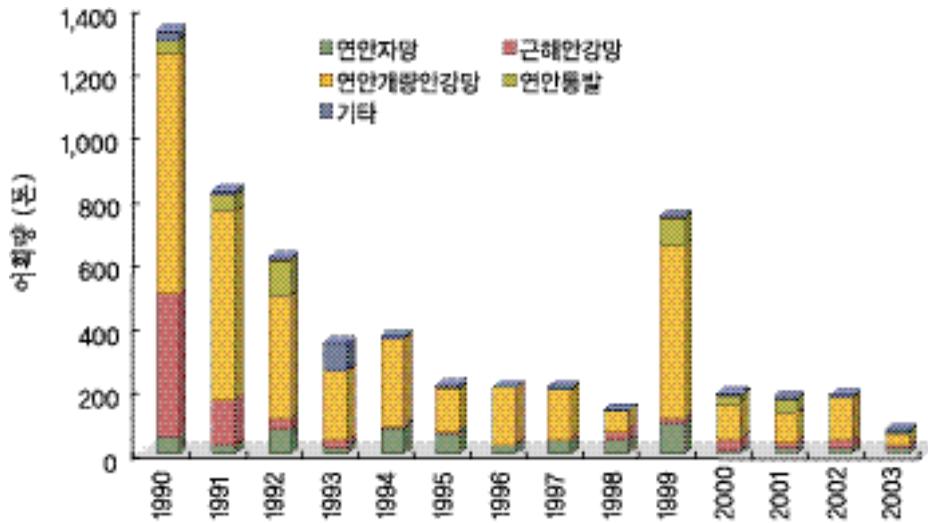
)



2-134.

1993 1,747 가 , 1990 237 가
 1993~1997 , 2003 652
 1~44%
 53~99%가

)



2-135.

1990 1,325 가 , 2003 73
 가 1999 747 가 1990
 47~85%가
 , 1990 34%, 1994~1999
 12~29%

가	吳		吳		吳		吳
							吳
	吳			吳			吳
		吳			吳		
	吳			吳			
			吳			吳	
				吳			吳

(吳 : , :)

1)

3-3.

		()	()	()		
	,	12~2	9~10	3 4	53mm	2 4
	,	3 6,9 11	4 8	3 4	,	1 2
	,	9 1	12 29	8 11	105 135mm,189.4mm	100 250
	, ,	3 6 8 12	10 70	3 6	35 303mm	2 14
	, ,	3 11	9 15	4 5	35 37mm	1,600 2,000

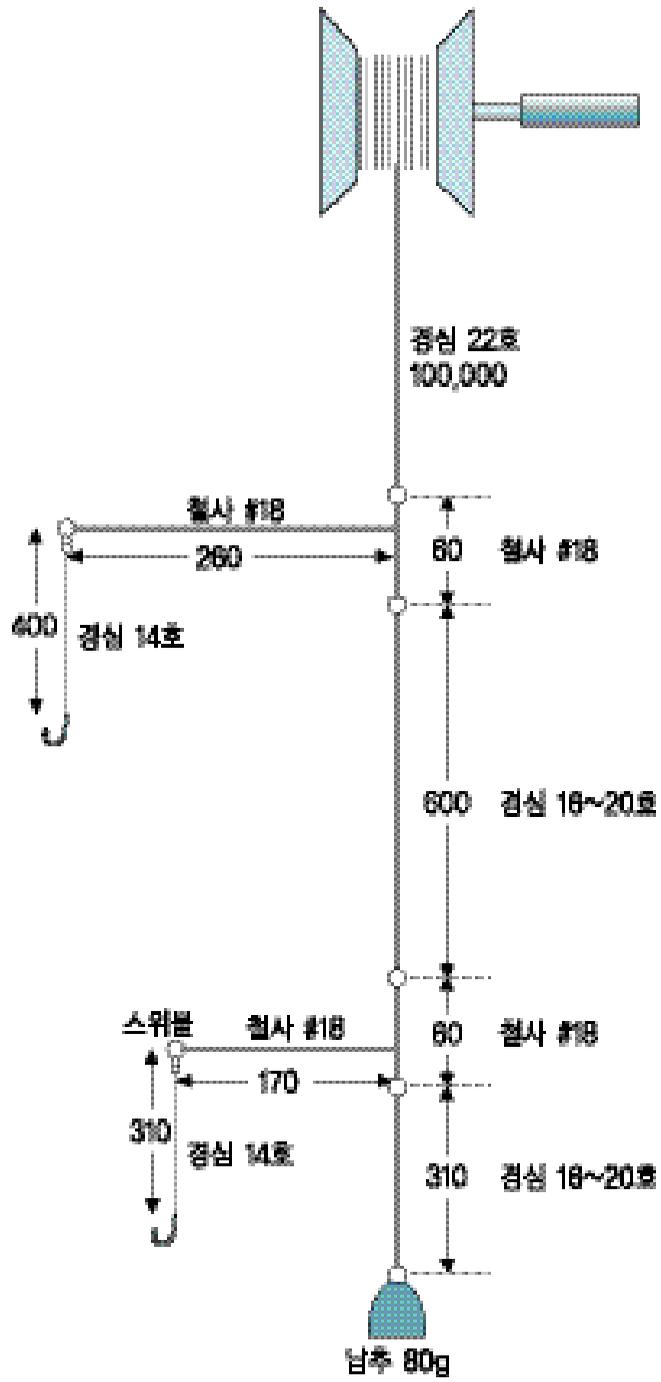
2)

3-4.

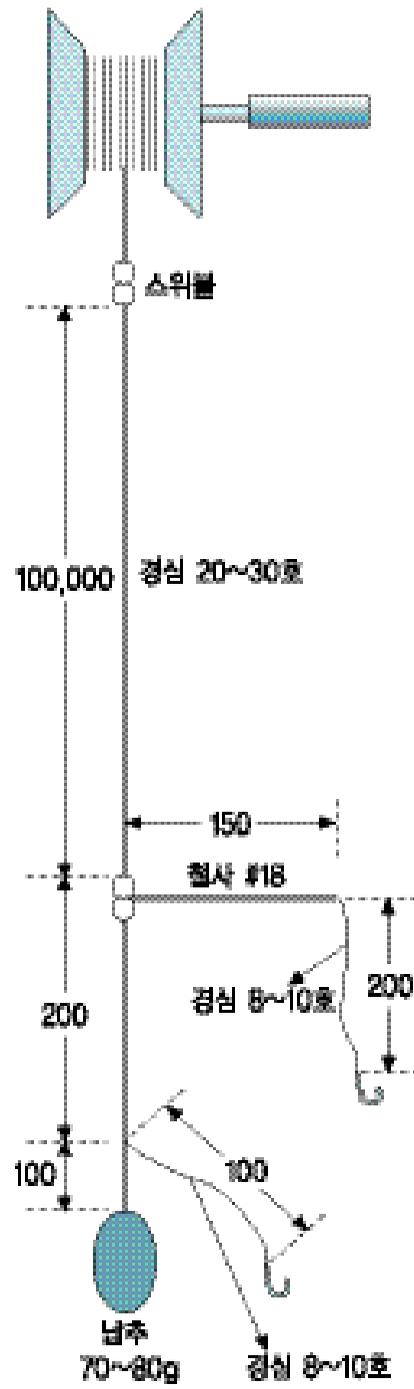
		()	()	()		
					,	
	,	3 12	1 3	2 5	2 /	1 /
	,	6 12	4 5	2 3	60~180 /	20 50
	,	4 11	1 7	1 3	19~27 /	1
		11 5	1 3	2 3		4 10 (1,500 /)
		4 11	1 2	2	100~120 /	10 30
	,	3 12	4 6	2 5	37.6~43.4mm 50~100 /	20 25
	,	9 2	1 3	2 4	27.5~121.2mm	2 6
	,	4 6	3 5	3 4	50.5~121.2mm	4 5
	,	4 11	5 8	3 4	25~303mm	5
		2 5	4 10	2 3	4.3~75.6mm	2
	,	3 6 9 11	3 5	2	11.2~151.5mm	5 6
	,	4 6,9 12	3 8	2 3	4.3~151.5mm	5
	,	5 9	4 8	2 4	23.3~33.7mm	1
		8 11,5 6	2 8	5 7	30.3~37.8mm	1
	,	9 10	0.5 3	2	43.8mm(303mm)	30 80
	,가	10 11	5 9	4 6	189.4mm(678mm)	300
		3 6,9 11	0.5 5	2 3	151.5mm	50 300

3)

가)



)



: 3~11

: 20~30m,

: (50%), , , , ,

: - ,

, , -

, -

:

가 1

가

가 .

20~30 100m , 70~80g

10cm 8~10 10cm 1 ,

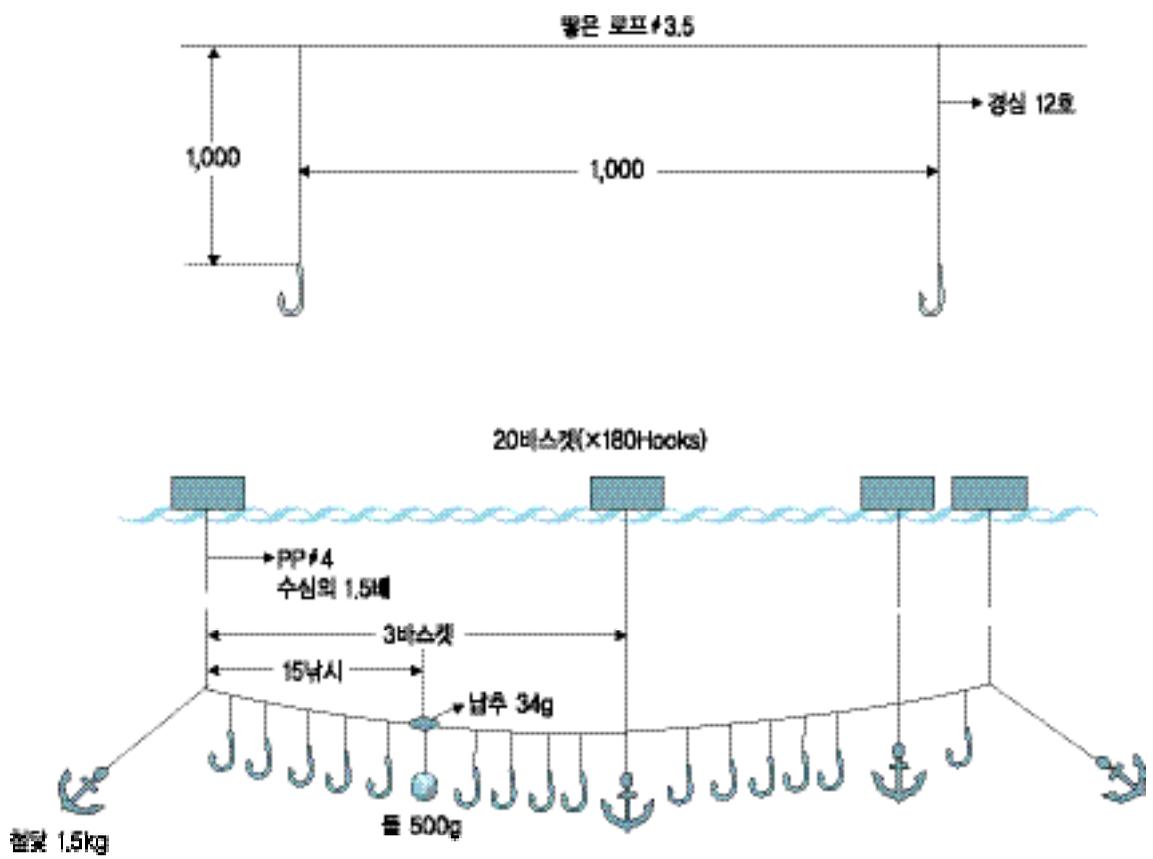
30cm 18 15cm 8~10

20cm 1 .

1 1

가

)



: (9~12)

: 40~80m,

:

:

:

100cm		3.5mm	100cm	12
		,	180	. 15
34g	500g		, 3	20

가 가 4.5

, 2~3

가

20

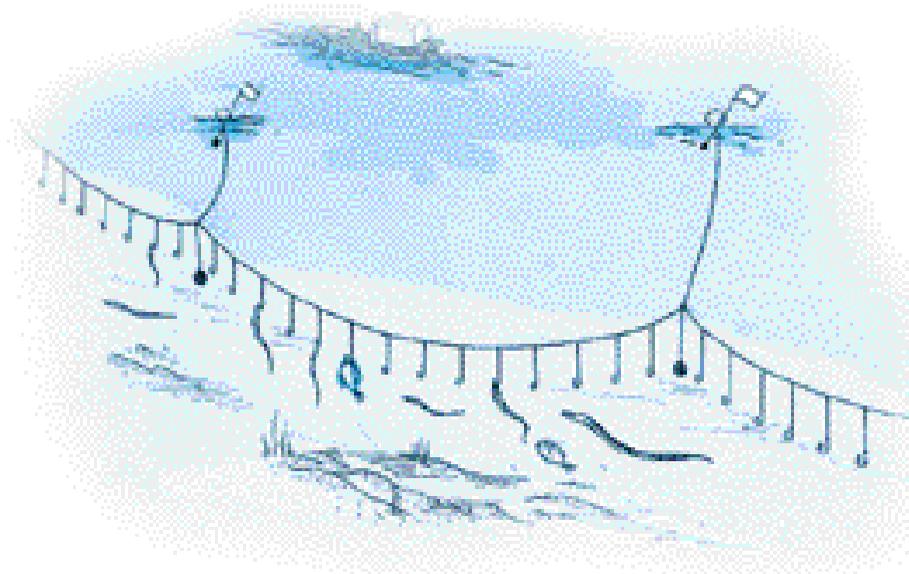
2

가

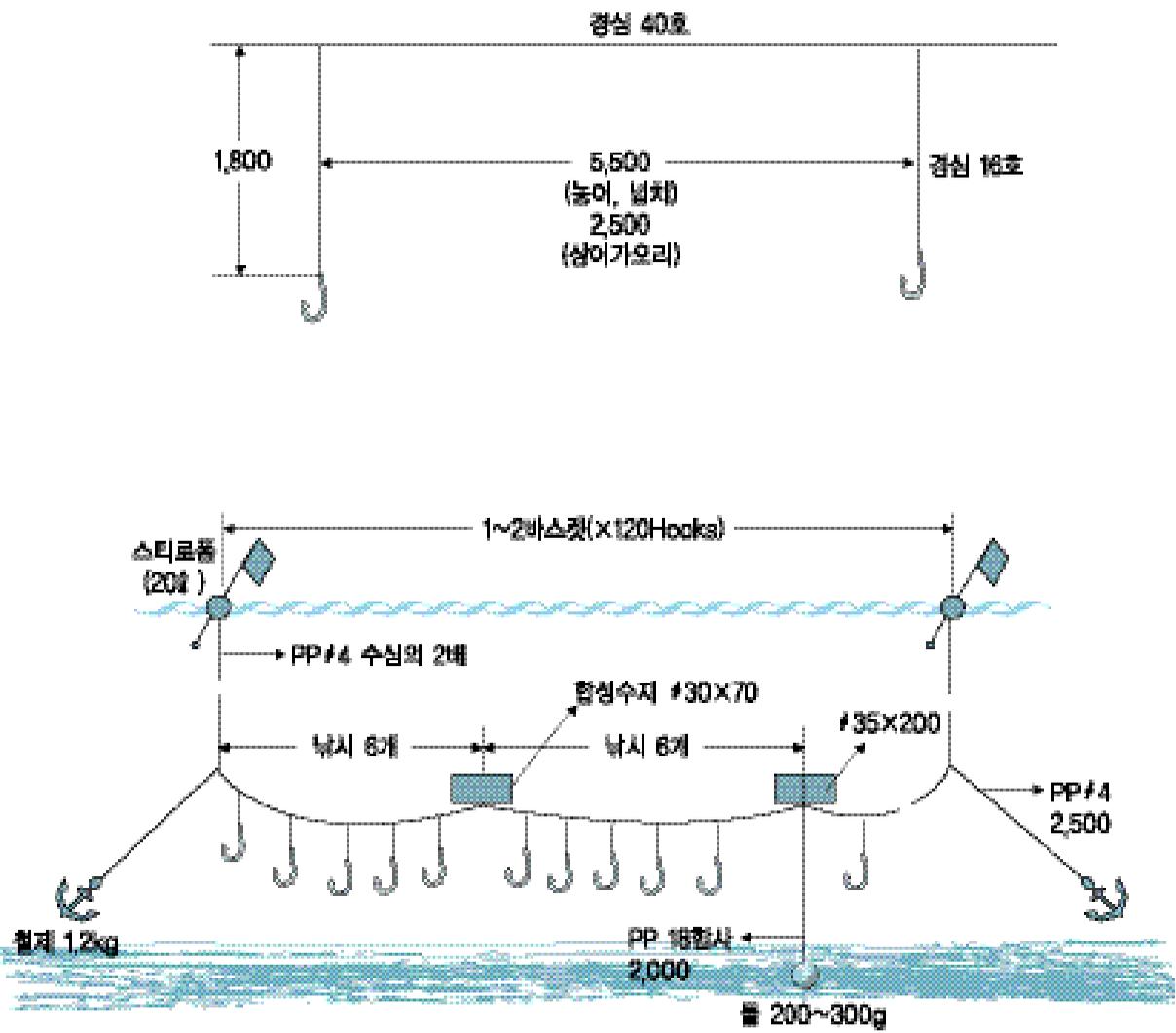
,

2

.1 1~2



)



: (9~10), (6~7), 가 (12~3)

: 10~80m, (), (,), (가)

: , , 가 ,

: - , , , 가

- ,

:

40

550cm , 가

250cm

16

180cm

120

.

6

,

12

200~300g

, 1~2

.

1 15~20

, 1 1

.

1~2

.

가

가

.

120

1 15

, 60

1 20

. 가

1

100

1 50

.

1~1.5m , 가

2~3 ,

1 , 가

7~8

(15m)

,

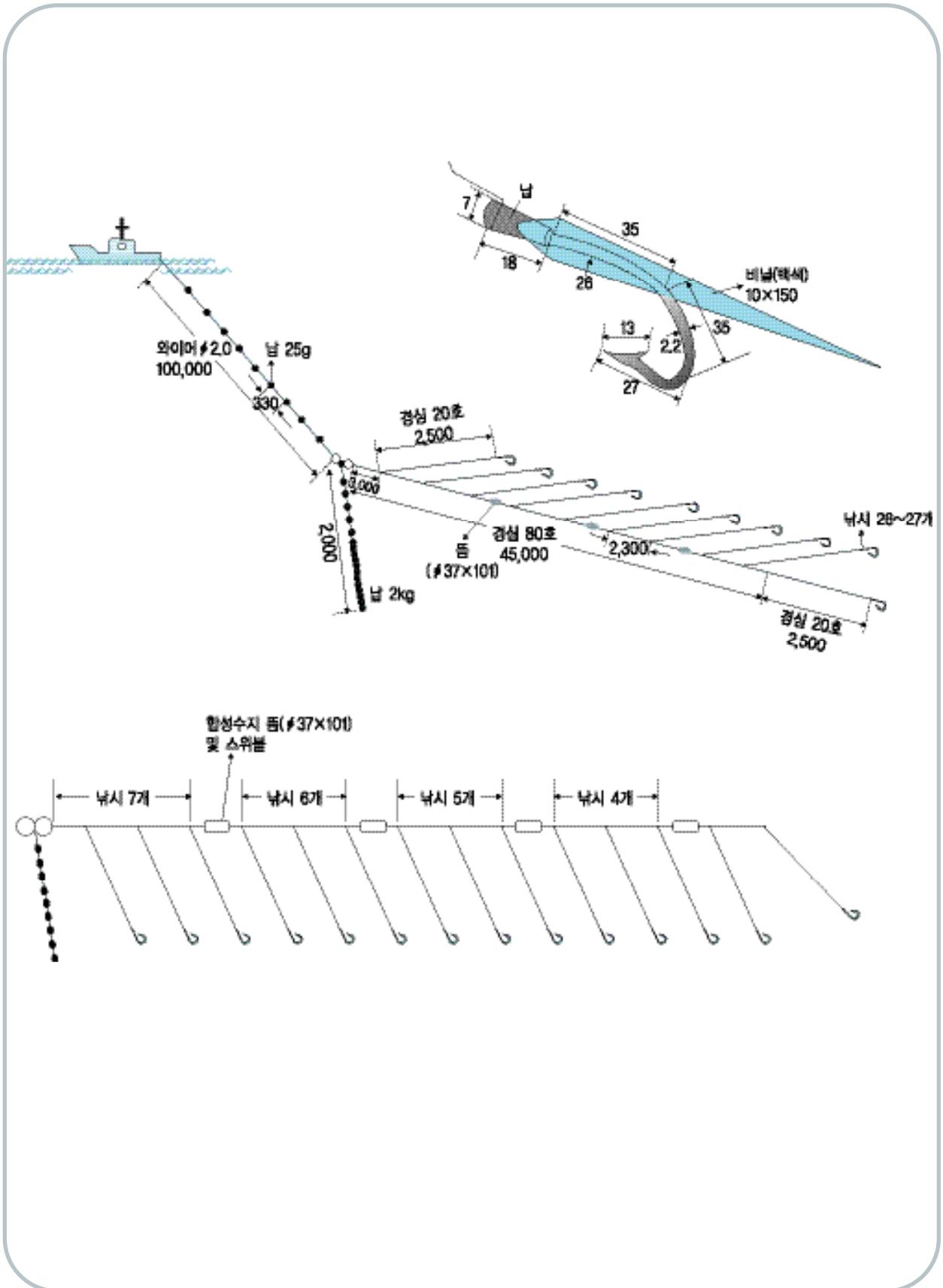
(15m)

,

,

.

) (.)



: 4~11

: 30~50m, , ,

: , ,

:

:

2.0mm , 80 ,
 20 , 100m 25g 33cm ,
 2.0m 2kg . 2.5m
 2.3m 26~27 , 7~4 (37x101) 3~4 .

2

2~4.5

가 ,

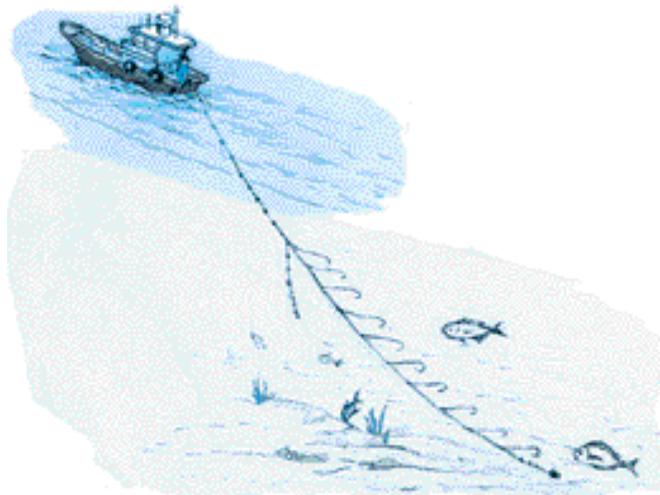
. 가

, 가

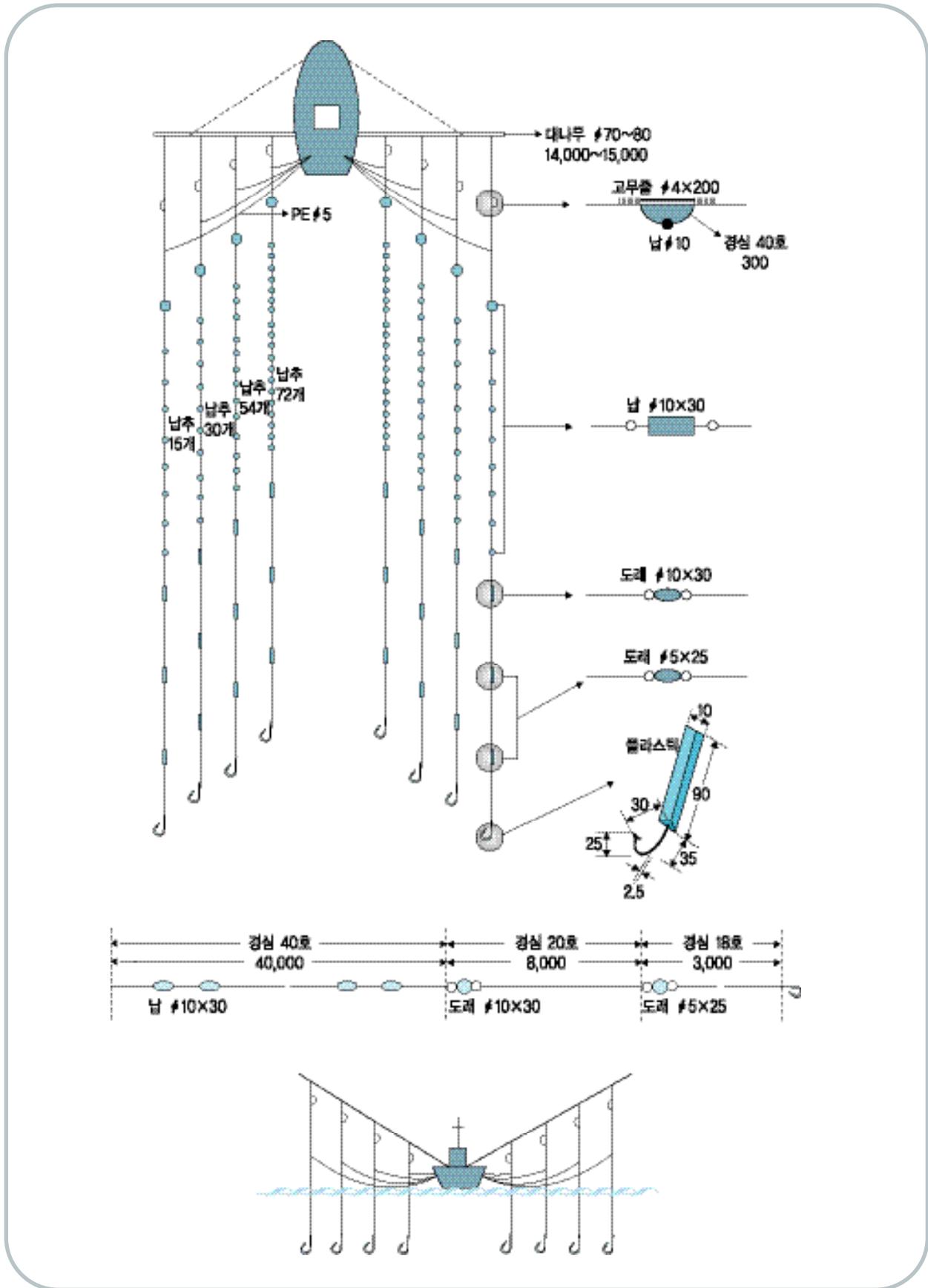
. 가

, 가

1~2 .



) ()



: 8~10

: 40~50m, , ,

:

: ()

:

4

1 . 가

가

2kg, 1.5kg, 1kg, 700g).

40 ,

20 ,

18 .

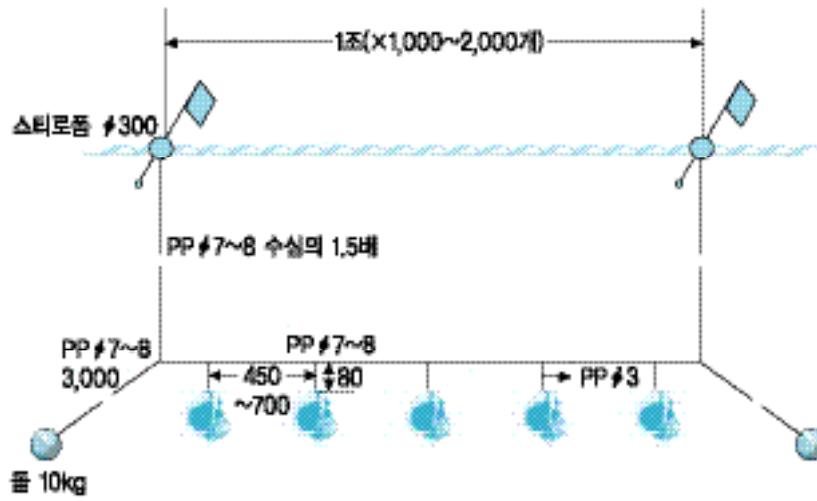
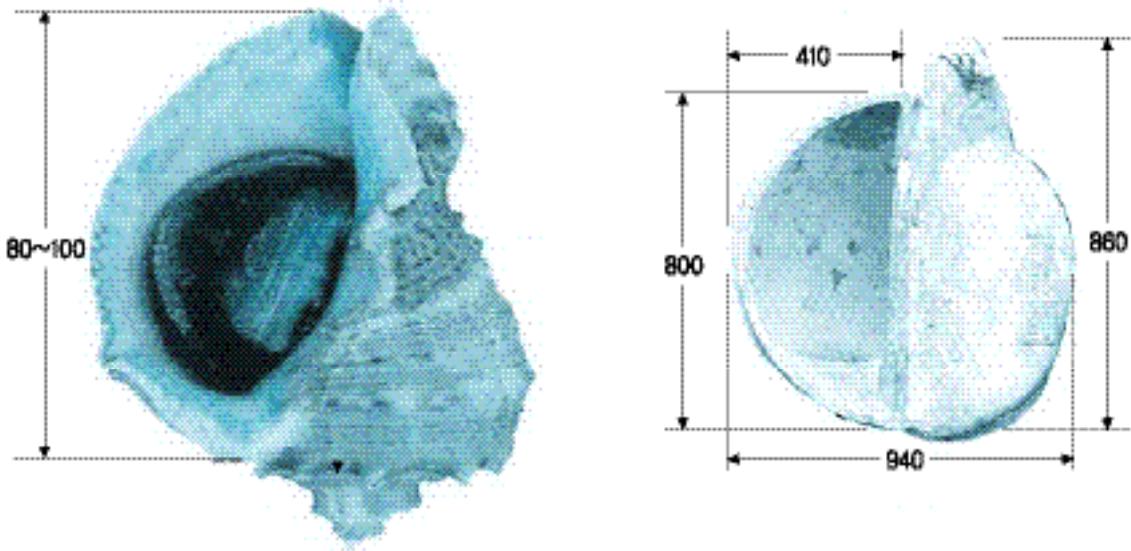
4~5

8~9

10m

4

)



: 11~5

: 5~25m,

:

:

:

	PP 3mm	PP 7~8mm
45~70cm		, 1
2,000~30,000 , 3	100,000~140,000	1,000~2,000

1

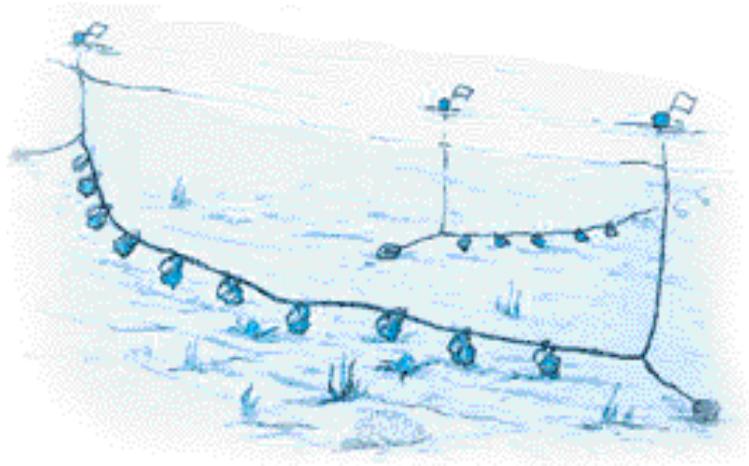
2

2~3

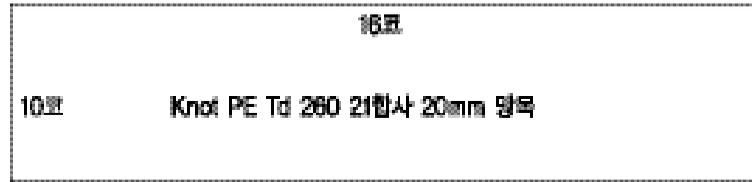
. 1

20,000

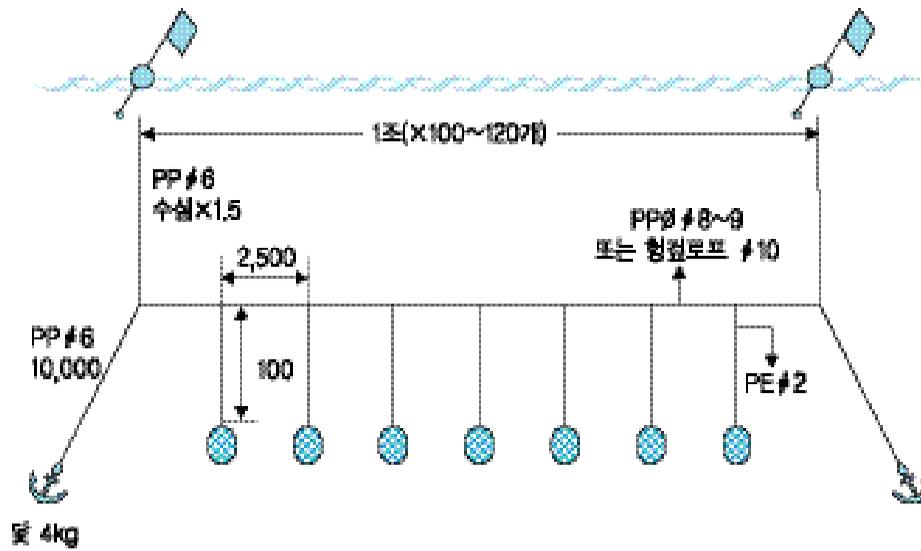
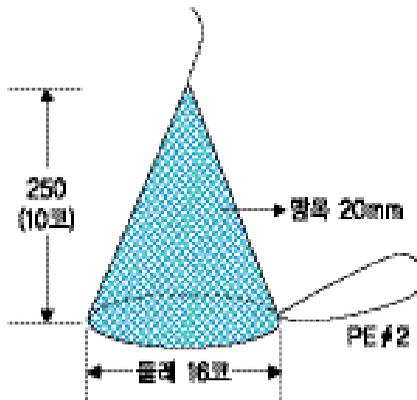
8



)



PE #2.0, 360



: 4~11

: 1~20m,

:

:

:

PP 8~9mm

10mm

2.5m

PE 2mm 10cm ,

20mm

10 , 16

.

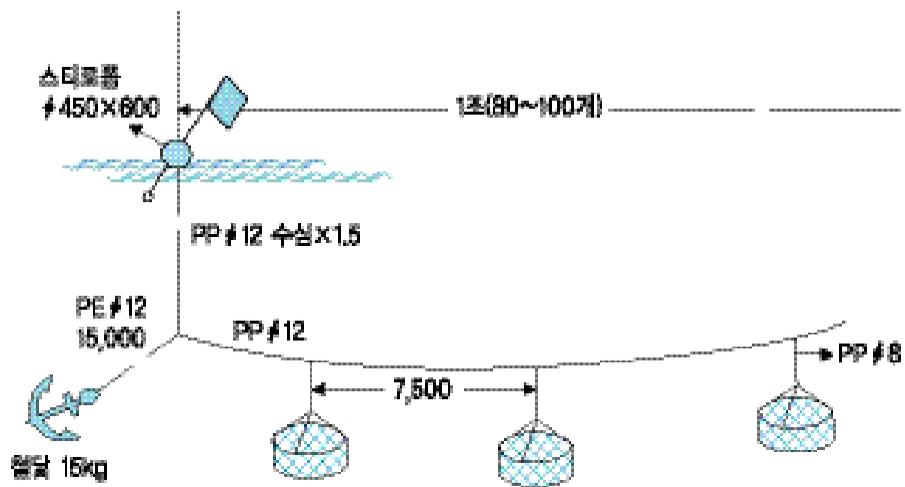
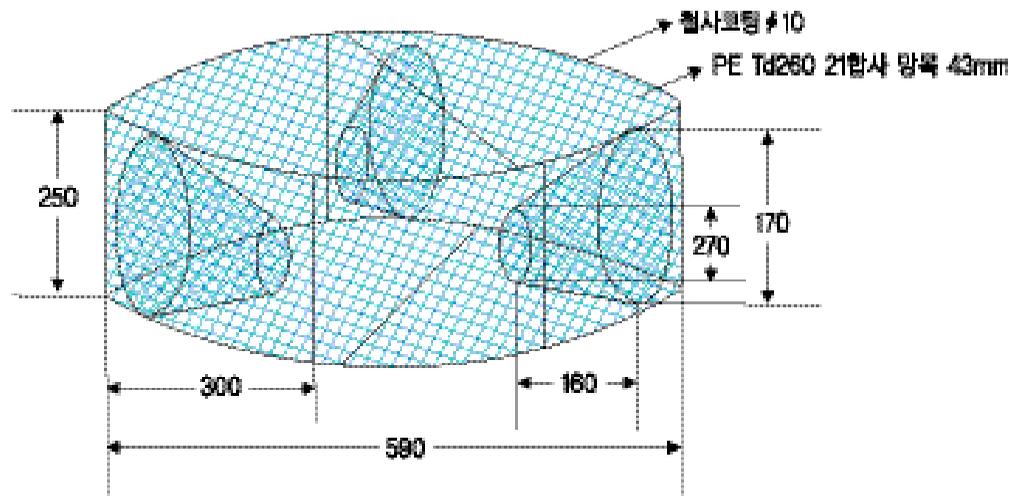
100~120 1 10~30 .

2~3 ,

가

15 .

)



: (9~11)

: - 40~70m, ,
가 - 25~60m,

: - , , ,
가 -

: -
-

:

PP 12mm 7.5m PP 8mm 3.5m
. 10mm 59cm, 25cm
, PE Td260 21 43mm , 3

05~06

3~5

1

80~100 2~3 . 1 ,

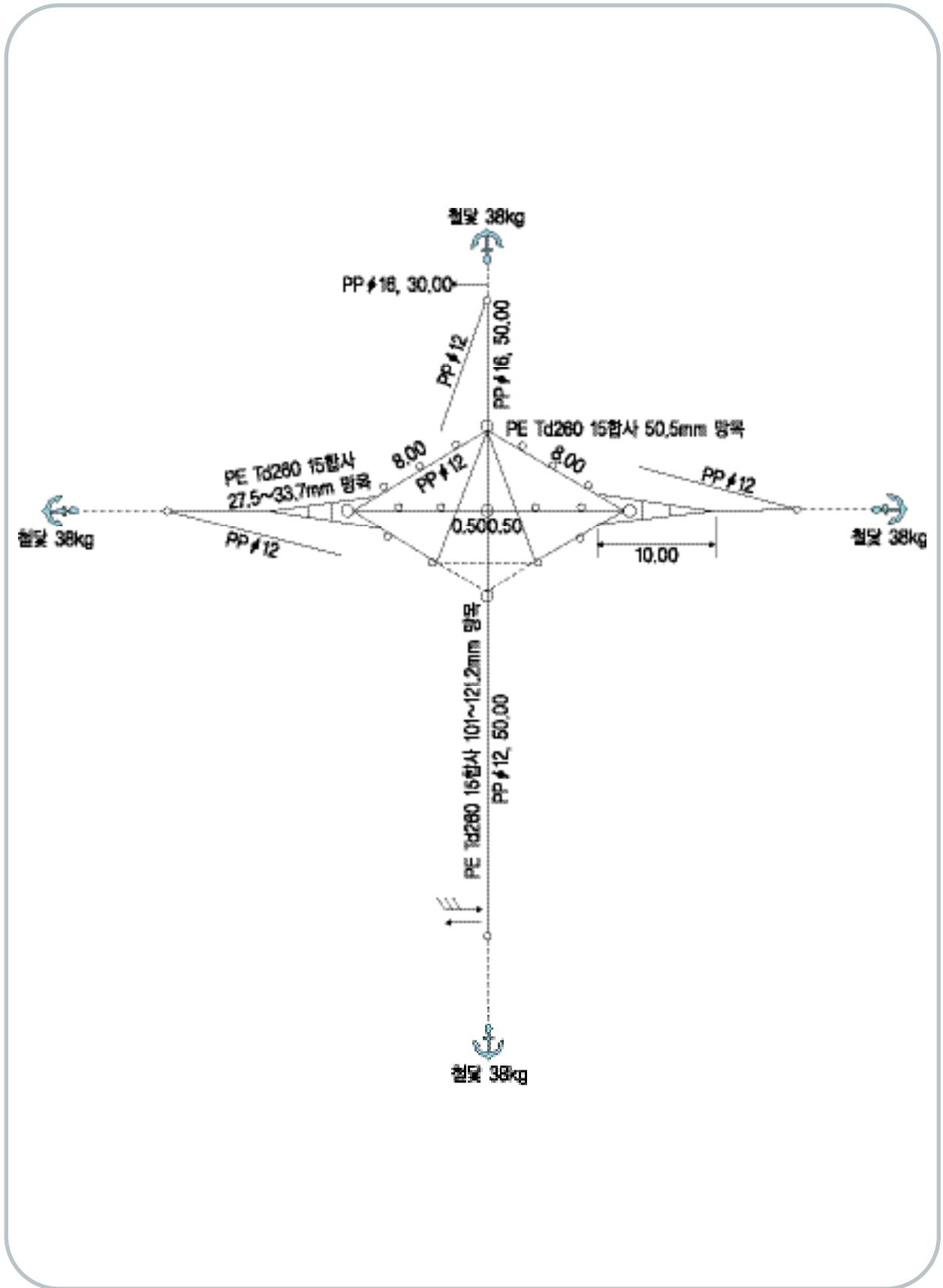
2~3 . 80~100 1

1,500~2,000 , 가 2,000~2,500 .

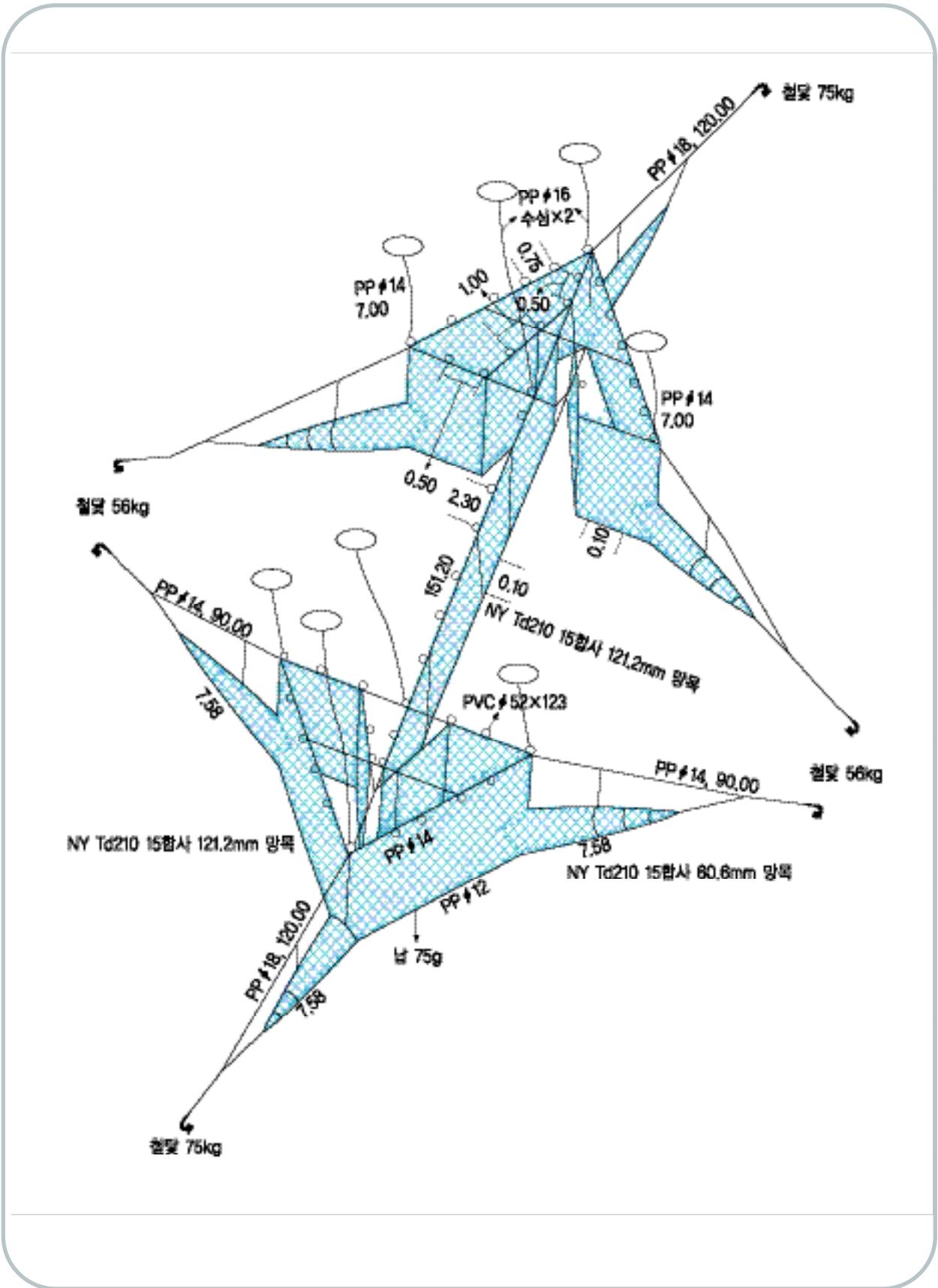
가 , 1 (80~100)

20~25

)



)



: 4~6

: 15~25m, , ,

: , , , , ,

:

2 1

가

, .

,

NY Td210 15 121.2mm

NY Td210 15 60.6mm

12~15m , 9~12m ,

4.5m 가 .

PP 13~14mm

PP 12mm

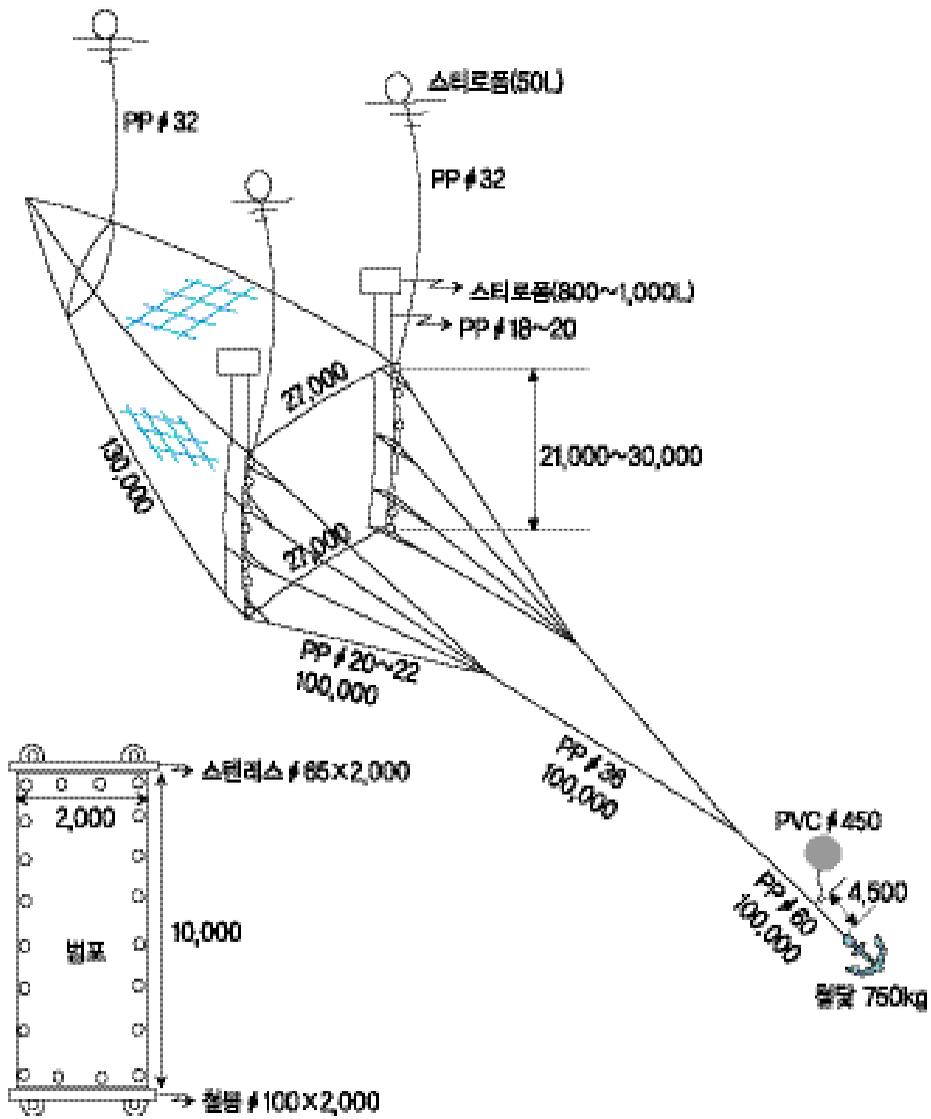
1 1

가

1 30~40 .

1 1 , 1 1 , 2~3

)



: 4~6 , 8~11

: 15~50m, ,

: - , , , , ,

-

가 - , ,

- ,

:

10m 3 가 1.8~2m, 130m .

303mm , 202mm , 101mm , 86.6mm

가 25.0mm .

750kg , PP 60mm 100m,

PP 36mm 100m, PP 20~22mm 100m .

가 27m, 21~30m , 가

.

,

1 10 . 1 1

, 가

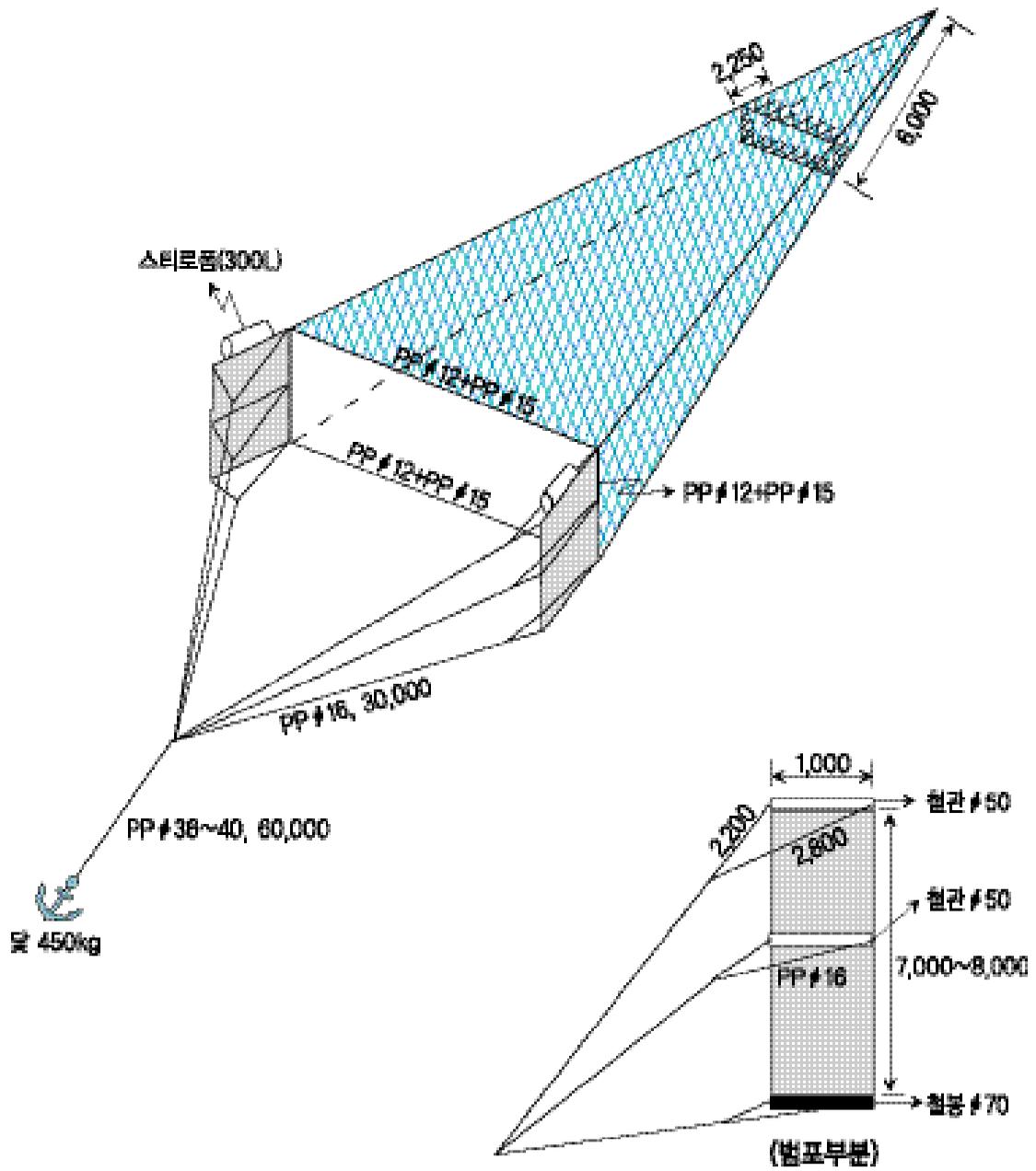
1 . 1

10 .

가 1

1~2 .

)



: 2~5

: 10~20m,

:

:

가 1m,

7~8m

2

PP

12mm PP 15mm

, 75.6mm

2.25m

4.3mm

450kg

PP 36~40mm

60m,

PP 16mm

30m

가

1 3

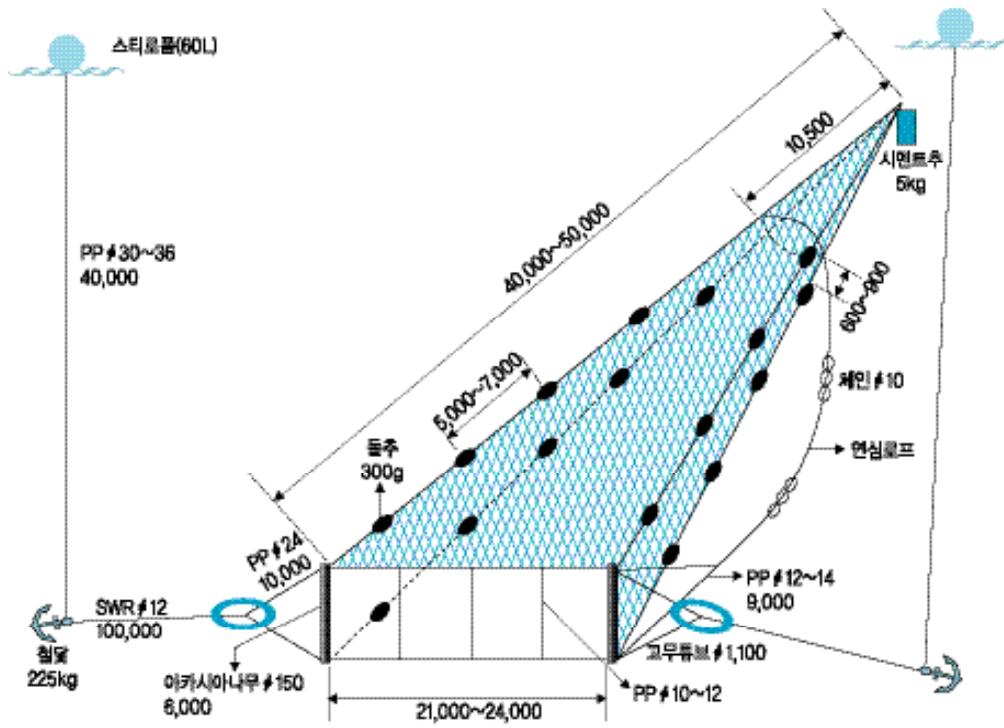
10

3~4

가

1 3

)



MAT Td	ply	mm	PP #18, 22,500x2		PP #12, 6,000	
			10코	820코	180코	
Knot	151.5	10코		820코	180코	
	101		40	.	.	
	75.6		40	.	.	
	60.6		50	.	.	
	50.5		50	.	.	
	43.3		50	.	.	
	33.7		100	.	.	
	27.5		100	.	.	
	23.3		200	.	.	
	20.2		300	.	.	
	17.8		300	.	.	
	15.9		300	.	.	
리셀 양지	14.4		200	.	.	
			300	200	.	
	12.6		200	.	.	
			300	200	.	
	11.2		450	.	.	

: 3~6 , 9~11

: 10~30m,

: , , , , , , ,

:

60~90cm

4 가

7m

5m

5kg

151.5mm

가

15.9mm

11.2~14.4mm

2

. 1

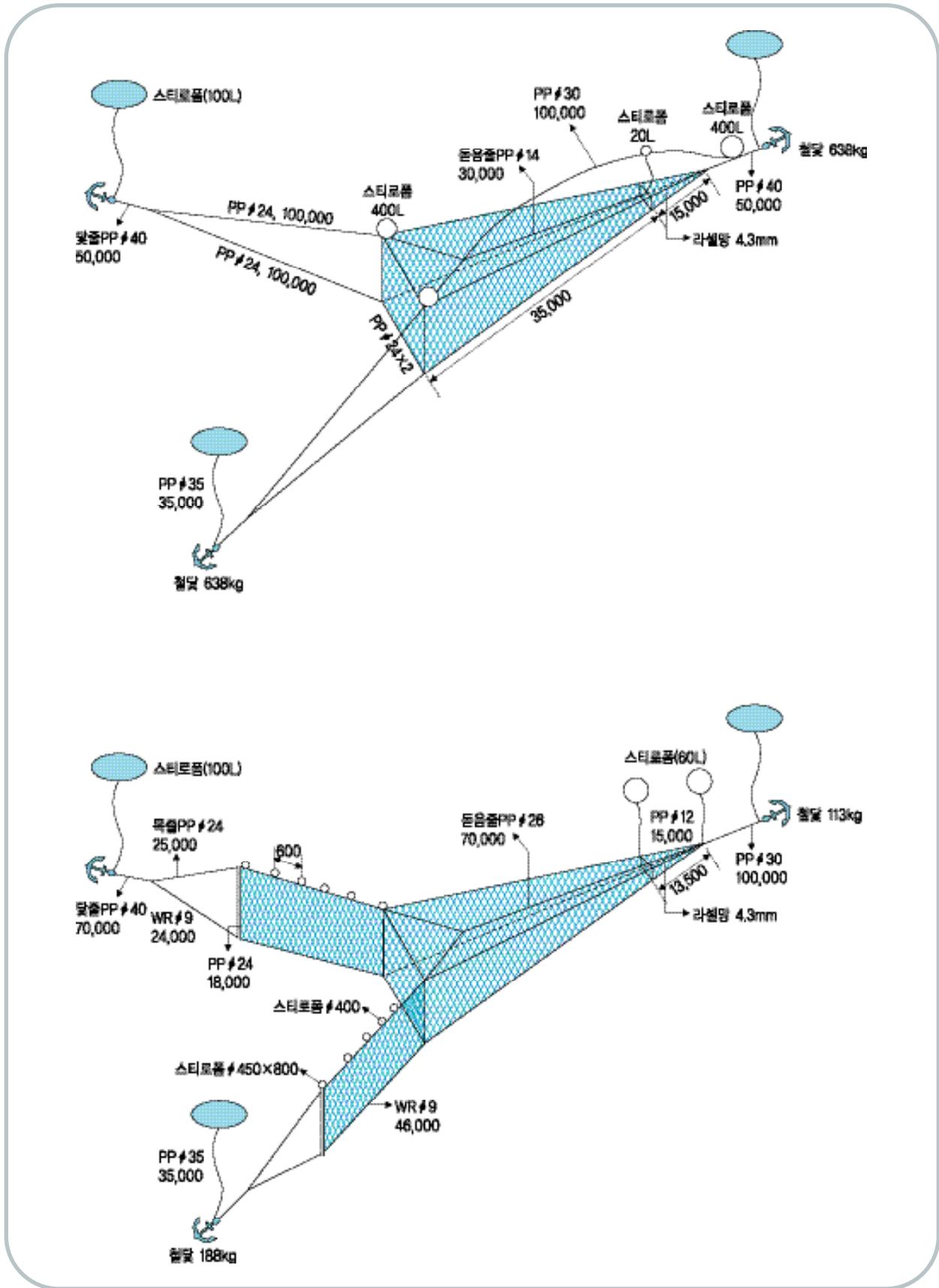
20

, 1 1

, 1 2~3

50cm

)



: 4~6 - ,
9~12 -

: 20~30m,

: , , , ,

:

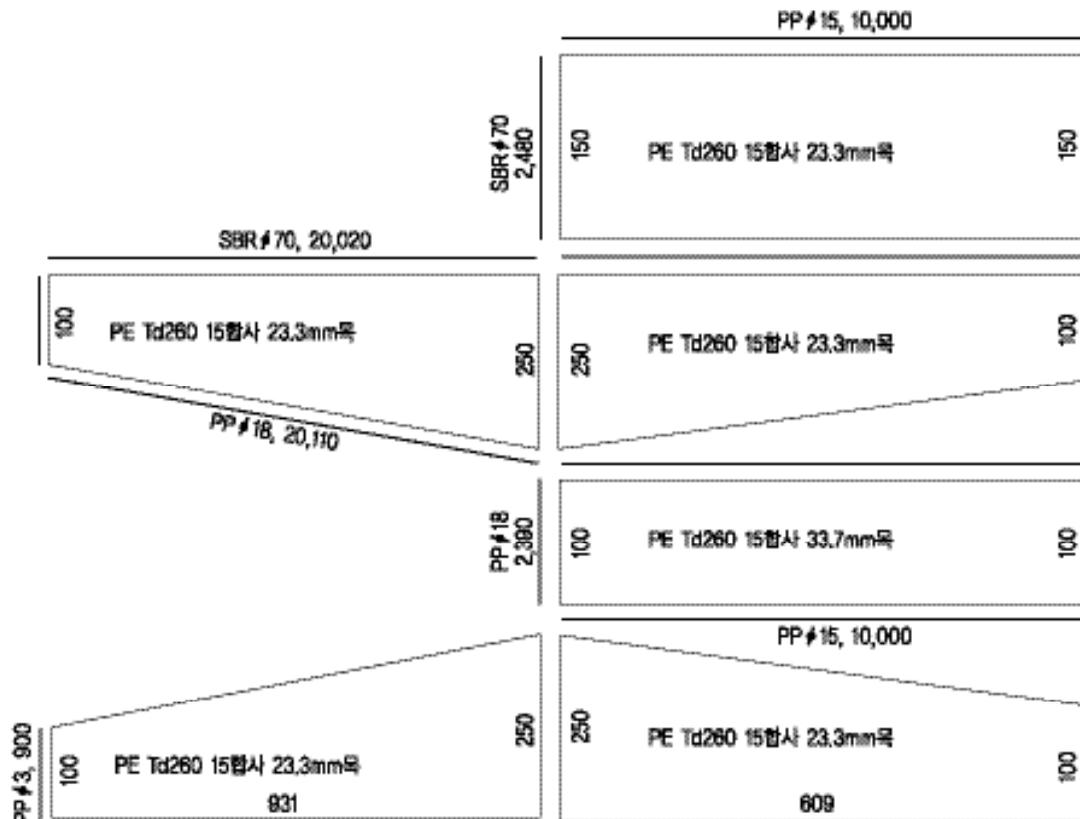
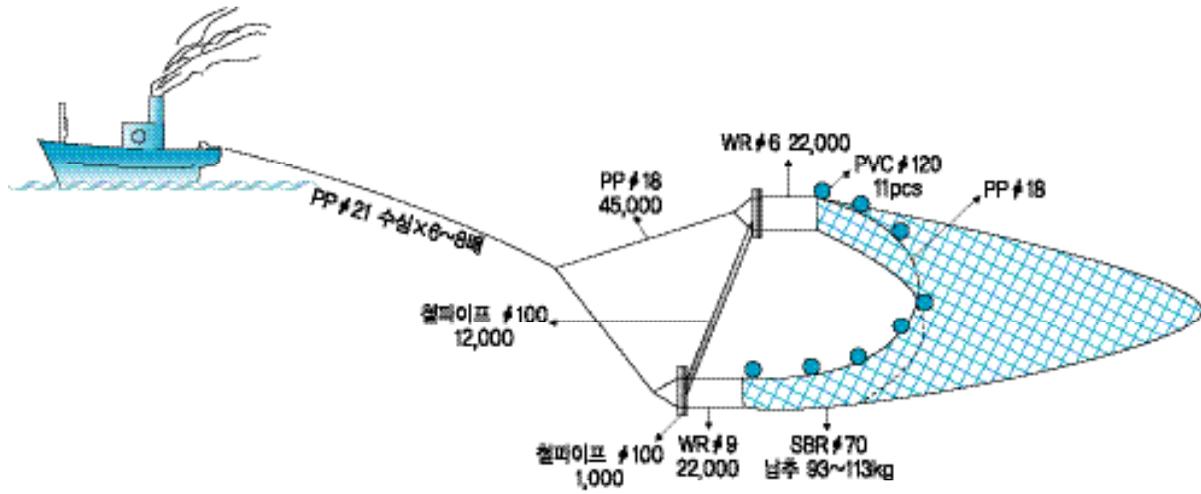
(100) PP 35mm

(60) PP 12mm

60.6mm 21m x 18m , 101mm ,
가 14.4mm .
4.3mm 200mm .

1 1 30 .
2
1 10~15 . 1 1~2

)



: 5~9

: 15~35m,

: , , ,

:

, , , ,

PE Td260 15 33.7mm

PE Td260 15 23.3mm

100mm, 10~12m ()

,
6~8

1~2

1~2

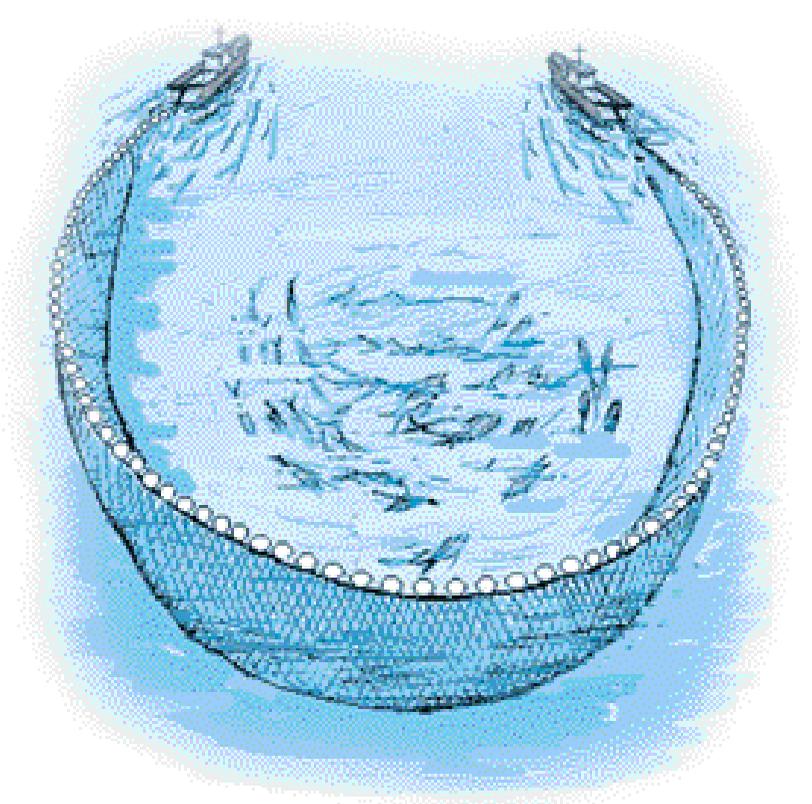
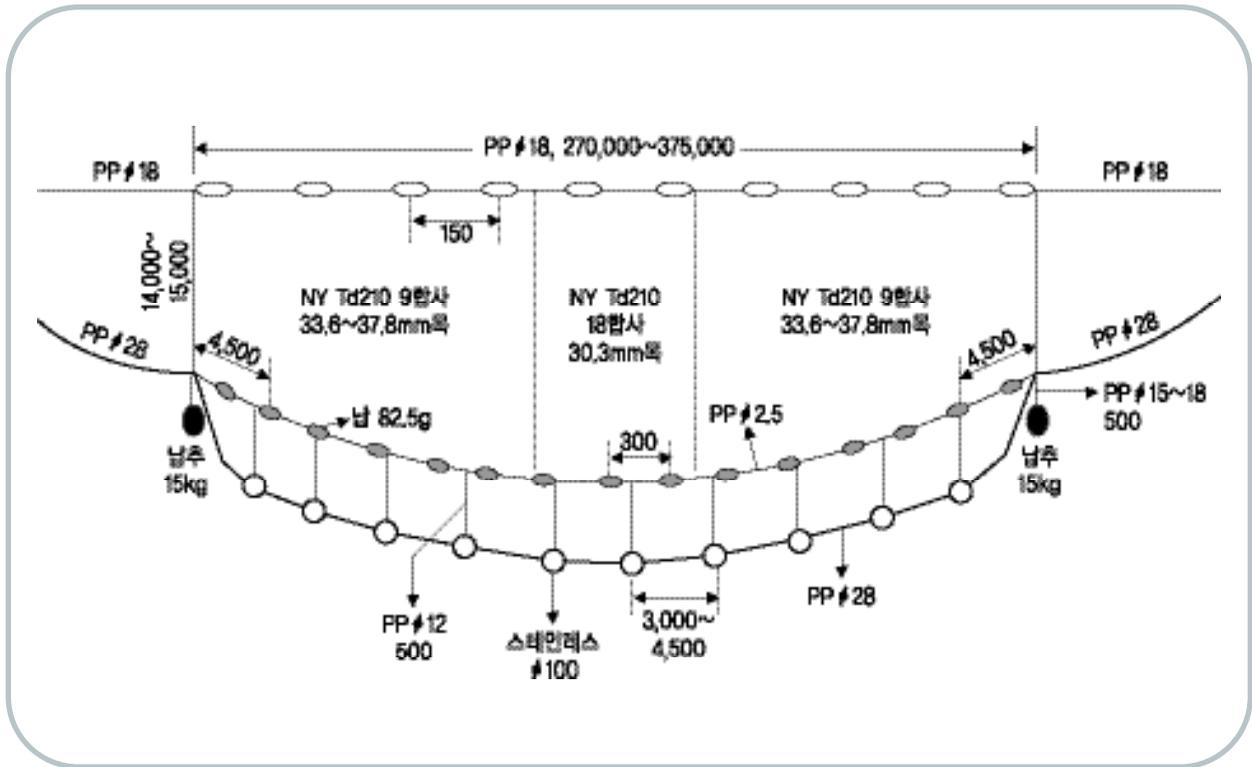
가

2~4

10

20~40

)



: 8~11

: 5~15m,

:

:

270~375m, 14~15m , NY
 Td210 9 33.6~37.8mm, 가 NY Td210 18 30.3mm
 . (PP 18) 15cm , (PP 25) 30cm
 가

(15kg)

45~60m

가

가

가

가

1 2~5

1

가

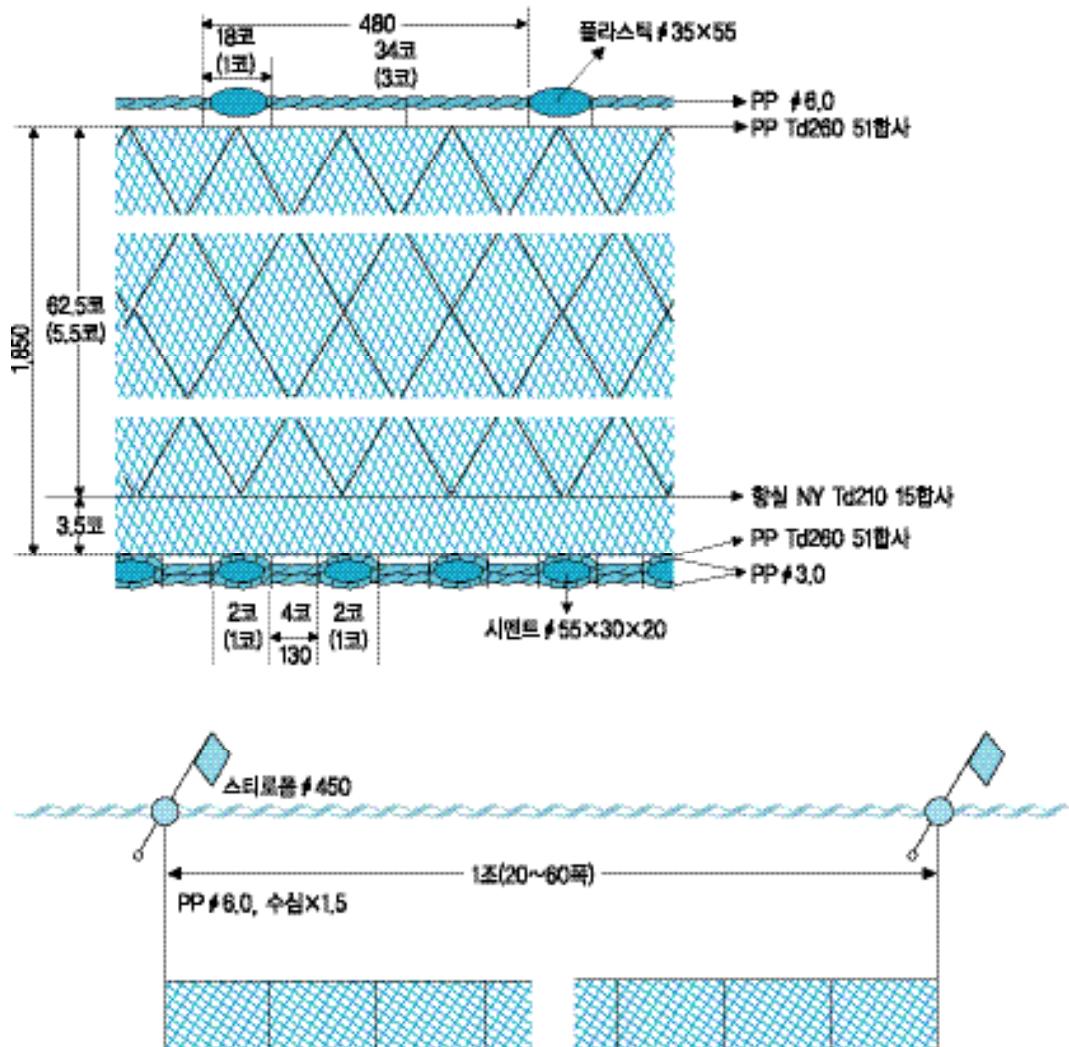
30

) ()

PP#6.0 18,000

5.5코	Knol NY Td210 6합사 망목 303mm	45,450
62.5코	Knol NY Td210 2합사 망목 43.3mm	85,410
3.5코	Knol NY Td210 9합사 망목 50.5mm	39,780
5.5코	Knol NY Td210 6합사 망목 303mm	45,450

PP#3.0 21,000



: 5~6, 9~10

: 3~20m, ,

:

:

	(Ny Td210 2 43.3mm)	(Ny Td210 9
50.5mm) 1	(Ny Td210 6 303mm) 2	, (PP
6.0, 18m)	(PP 3.0x2, 21m)	.

가 가

,

.

가

가

, 3

20~30 , 3

50~60

40 ~1

가

.

) ()

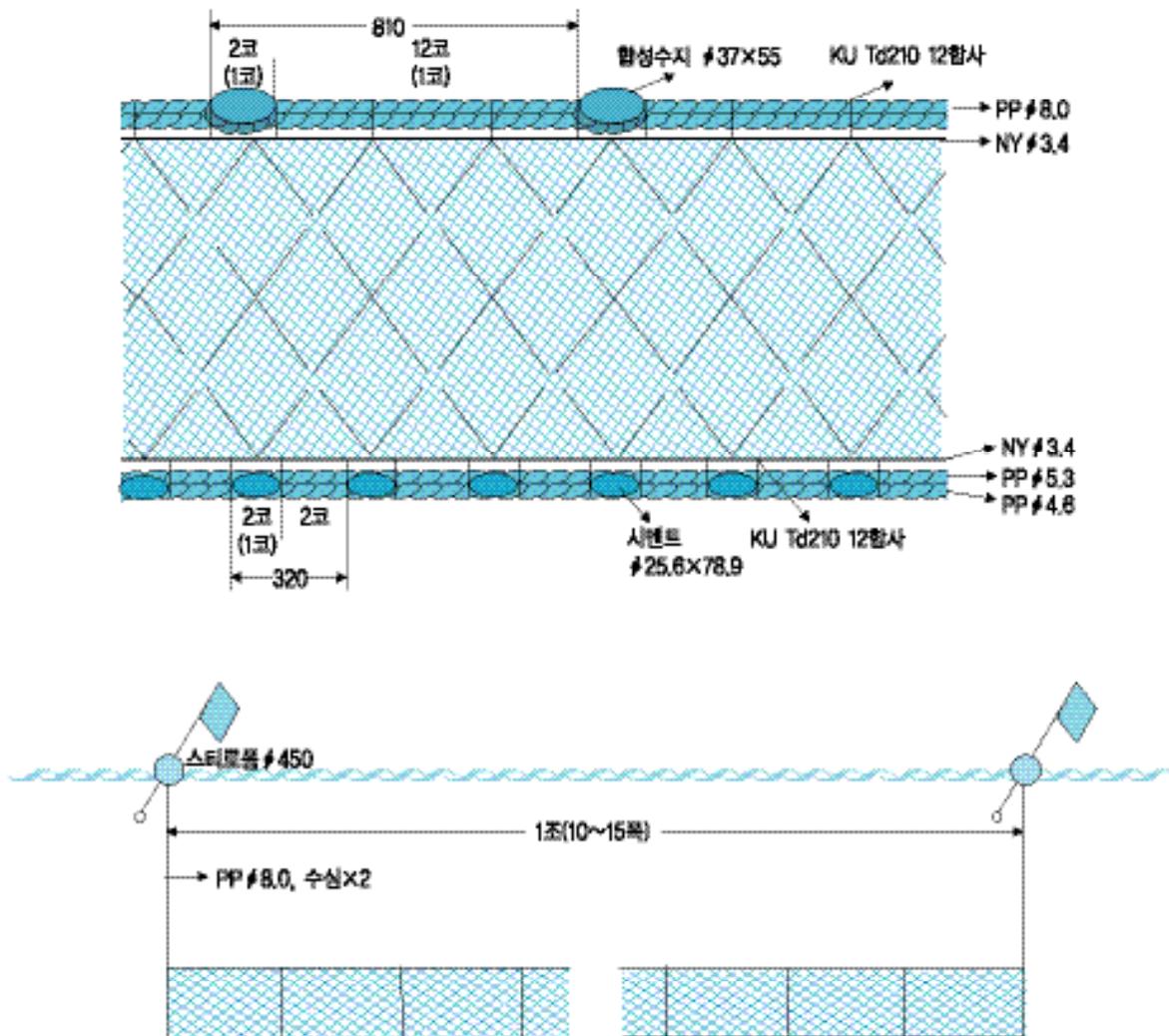
PP #8.0, 60,000

3.5코	Knot NY Td210 12합사 망목 678mm	77,500
------	-----------------------------	--------

19.5코	Knot NY Td210 9합사 망목 189.4mm	151,500
-------	------------------------------	---------

3.5코	Knot NY Td210 12합사 망목 678mm	77,500
------	-----------------------------	--------

PP #5.3, 70,500



: 10~11

: 25~40m, ,

:

:

	(Ny Td210 9	189.4mm	) 1	(Ny Td210 12
678mm	) 2	,	(PP 8.0, 60m)	(PP 5.3+PP 4.6,
70.5m)				

가

6

,

가

3~4

300

1

,

7

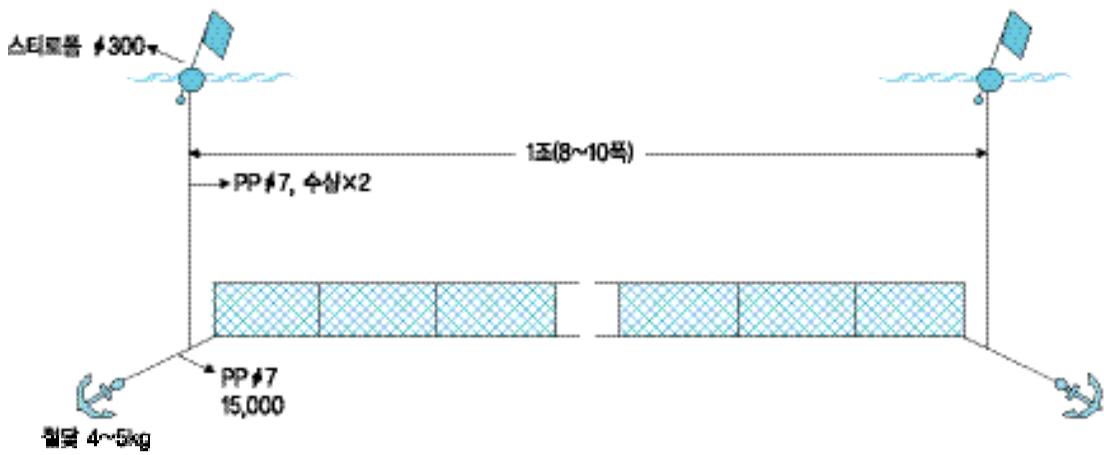
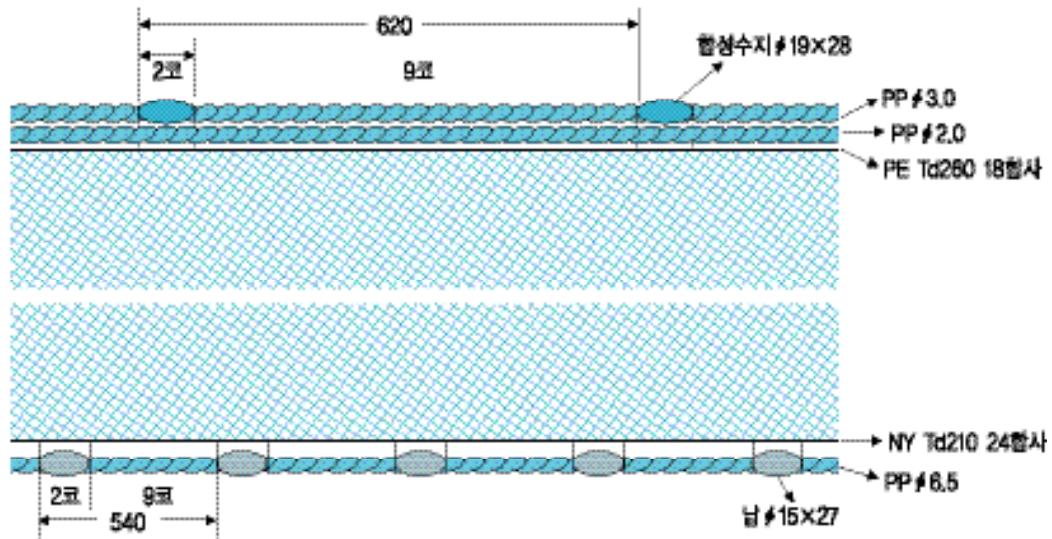
가

) ()

PP #3.0, 54,540

12코	Knot NY Td260 2합사 망목 151,5mm	151,500
-----	------------------------------	---------

PP #6.5, 48,400



: 3~6, 9~11

: 10~20m, ,

: , ,

:

Ny Td260 2 151.5mm 가 54.54m, 12

62cm

, 54cm 1 ,

36%,

32%

가

12%

, 2~3

. 8~10 1

50

1

50~80 , 3~4

200~300

8~10

3~7

, 30~40

: 12~2

: 7~20m,

:

:

PE

(PE Td260 96

53mm

)

(242x30cm)

,

가가

가

가

40 42

2

1

4

1

2

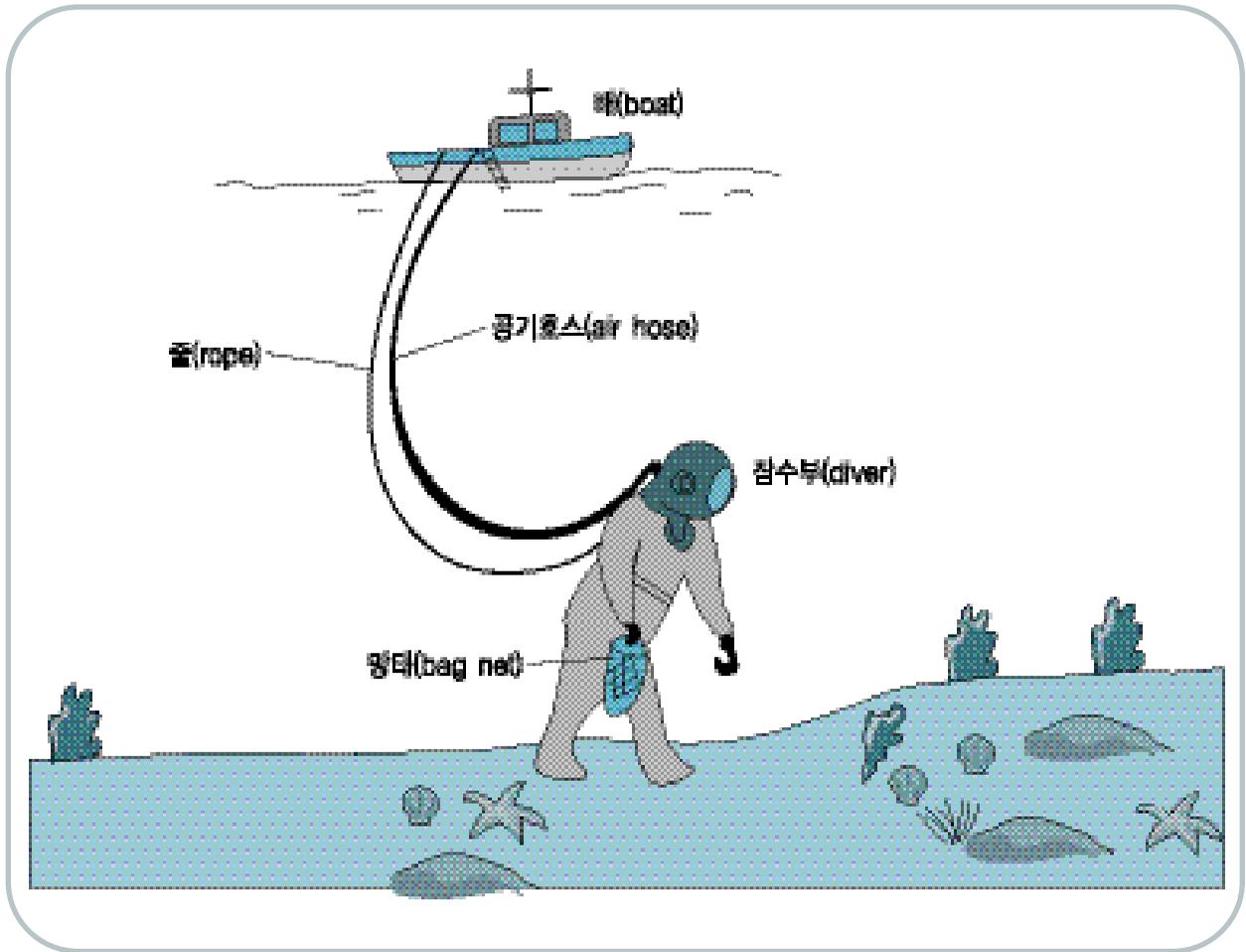
30 ~1

7~8

1

15~20

)



: 3~6, 9~11

: 35~50m,

: , ,

:

가 , (weight), ,

, , ,

가 .

10~15HP ,

150m .

PP 10mm

가

가

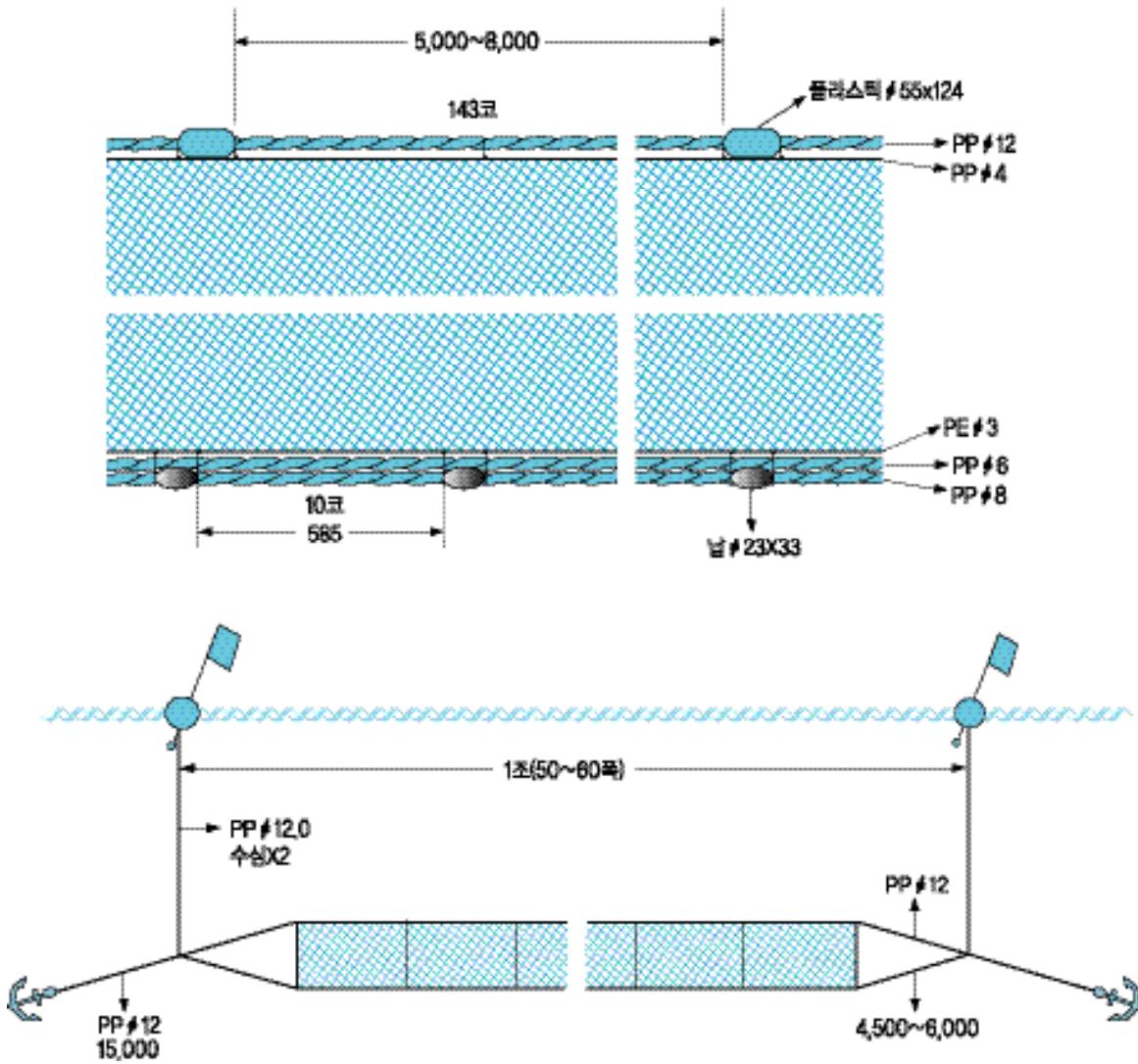
50m 20~30 , 1 5~6 30m 1 ~1 30 ,

, 50m

30m 1 , 10m 20~30 .

) ()

PE#6, 4,000	PE#12, 60,000	1코	Knot Ny Td210 8합사 망목 105~135mm	144,790
		40코	Knot Mono Ø0.38 망목 105~135mm	
		1.5코	Knot Ny Td210 8합사 망목 105~135mm	
PE#8.0, 66,000				



: (10~12)

: 65~85m, ,

: , (1~9 , 50%)

(10~12 , 100%)

:

Mono 0.38mm 105~135mm ,
 Ny Td210 6 105~135mm 1 1.5 .
 1~5 110~120mm , 6~7 135mm , 7~9
 105mm , 10~12 115mm . (PP 8, 66m) (PP 12,
 60m) 1 , 1 가 PP
 6mm 4m .
 55.3x124mm , 1 8~12
 .
 1 50~60 , 35~40 1
 .
 1~9
 6~8 .
 , 1 3~4
 . 10~12 1 1
 .
 10 , .

) ()

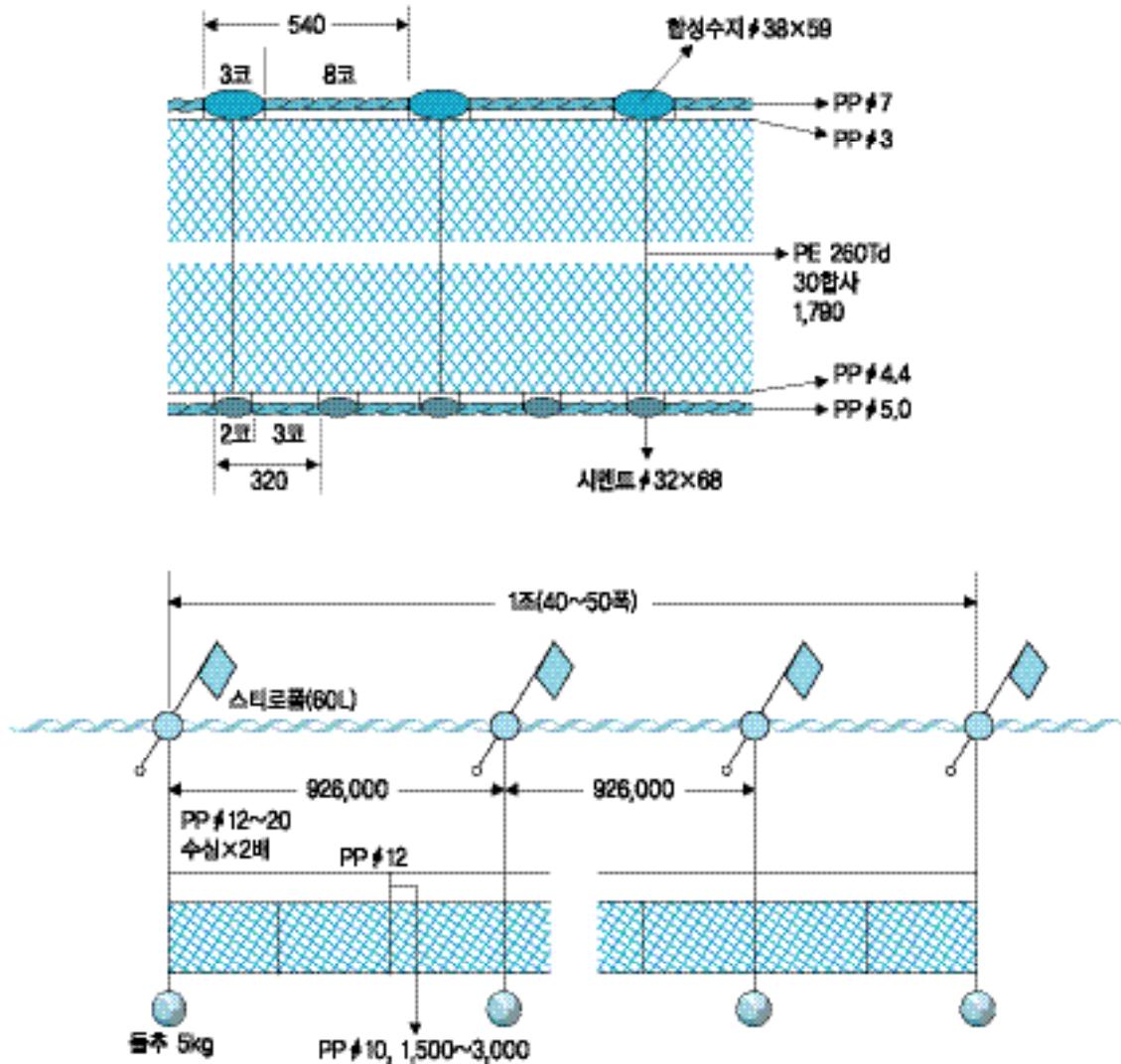
PP #7, 45,000

16.5코

Knot NY Td260 6합사 망목 189.4mm

173,600

PP #5, 51,000



: 9~1

: 20~30m, ,

:

:

45m) (PP 5mm, 51m) Ny Td260 6 189.4mm , (PP 7mm, PE Td260 30 가

, 2 PP 10mm 1.5~3m PP 12mm 가

, 2~3 가 6 가 2~3 가 . 1 1 .

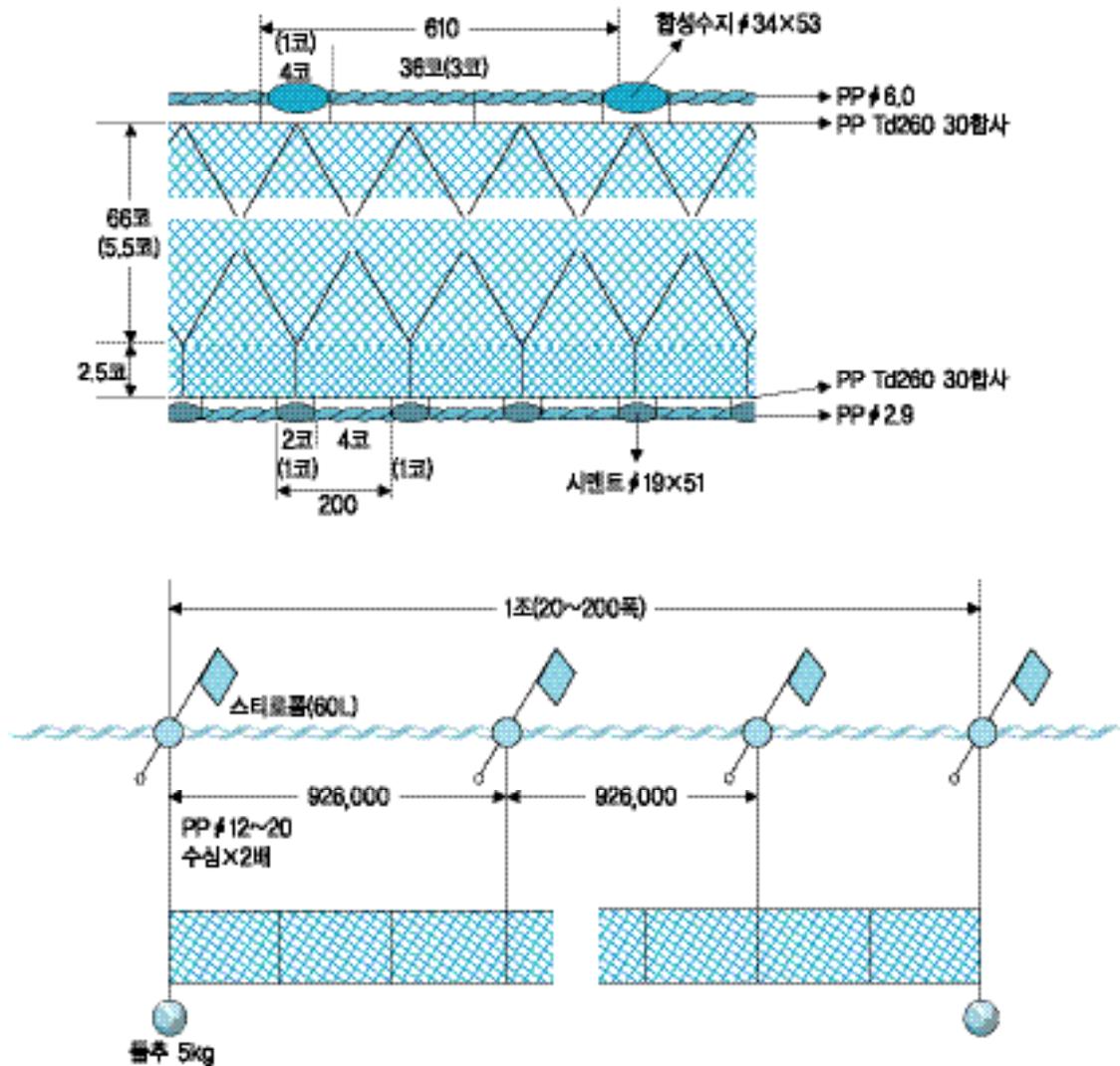
, 1 10 .

) ()

PP #6.0, 19,500

5.5코	Knot NY Td210 6합사 망목 312mm	39,900
66코	Knot NY Td210 2합사 망목 53.5mm	68,410
2.5코	Knot NY Td210 9합사 망목 50.7mm	
5.5코	Knot NY Td210 8합사 망목 312mm	39,900

PP #2.9, 25,500



: 2~5

: 80~90m,

:

:

	Ny Td210 2	53.5mm		Ny Td210 9
50.7mm		2.5	.	
Ny Td210 6	312mm		(PP 6mm, 19.5m)	(PP 2.9mm,
25.5m)				926m
1	,	가	5kg	.1 20~200

가

가

6

2~3

가

2~3

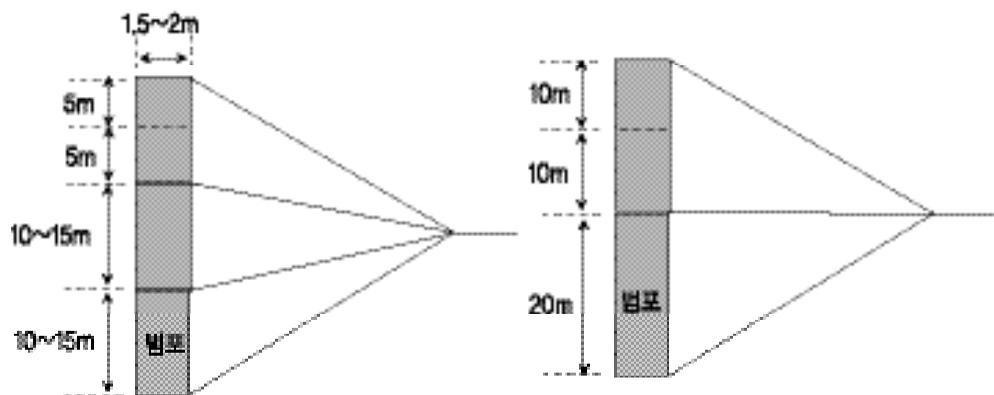
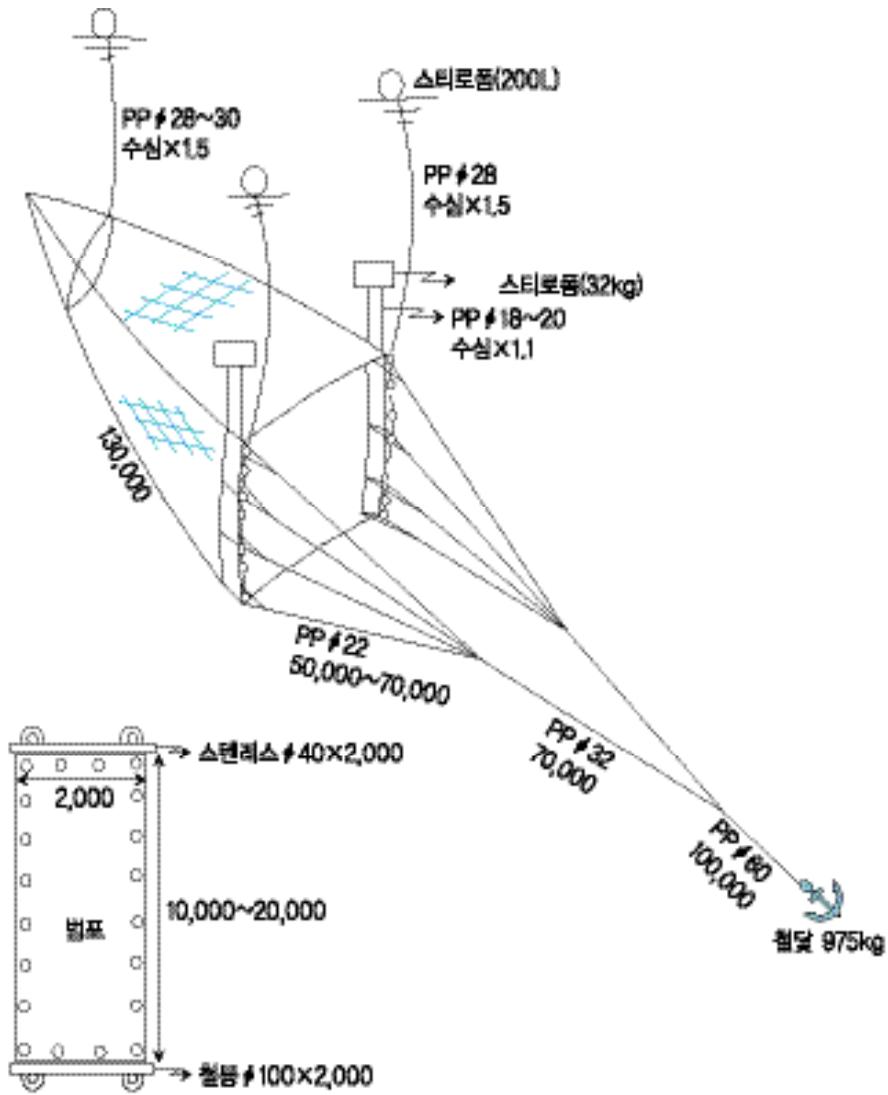
가

.1 1

,1

10

)



: 3~6 , 8~12

: 50m,

: 1 4 - ,

4 6 - , , ,

7 12 -

:

가 1.5 2m,

10 20m 가 30 40m ,

130m 975kg ,

PP 60mm 100m, () PP 32mm 70m, (

) PP 22mm 50 70m . 가 30m, 30

40m . 2 3

, 3가 4가 . 가

(30m)

180°

가

1 10 .

1 1

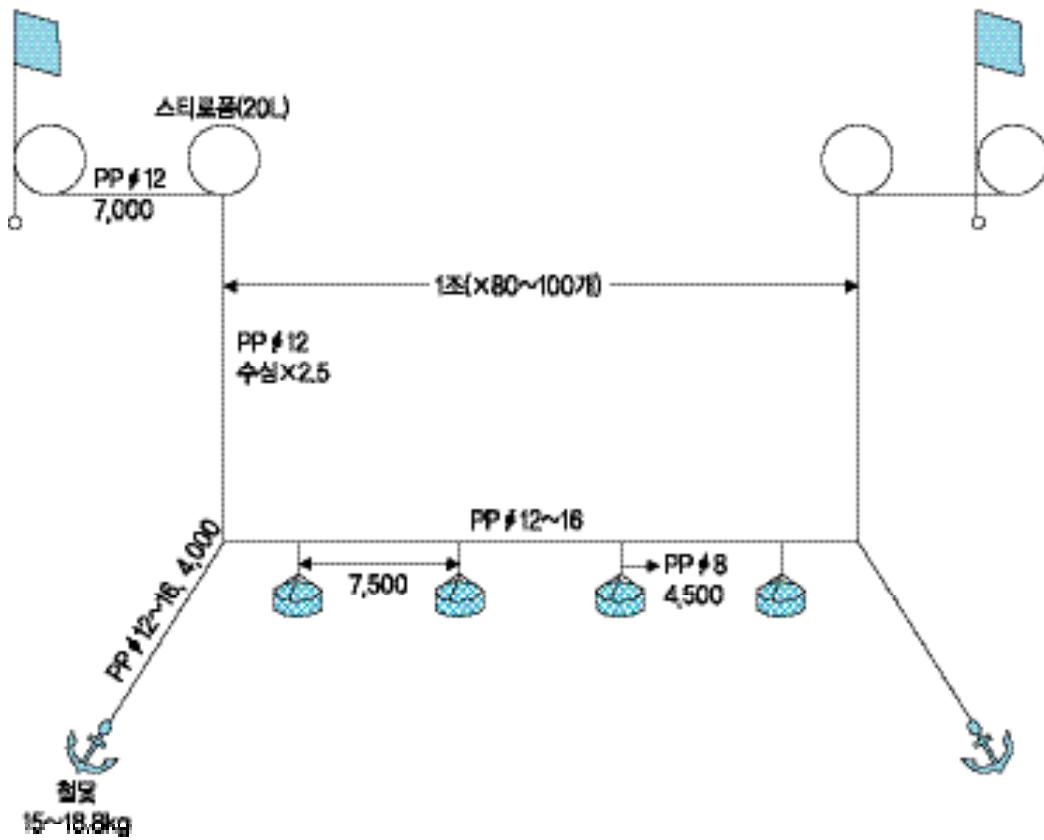
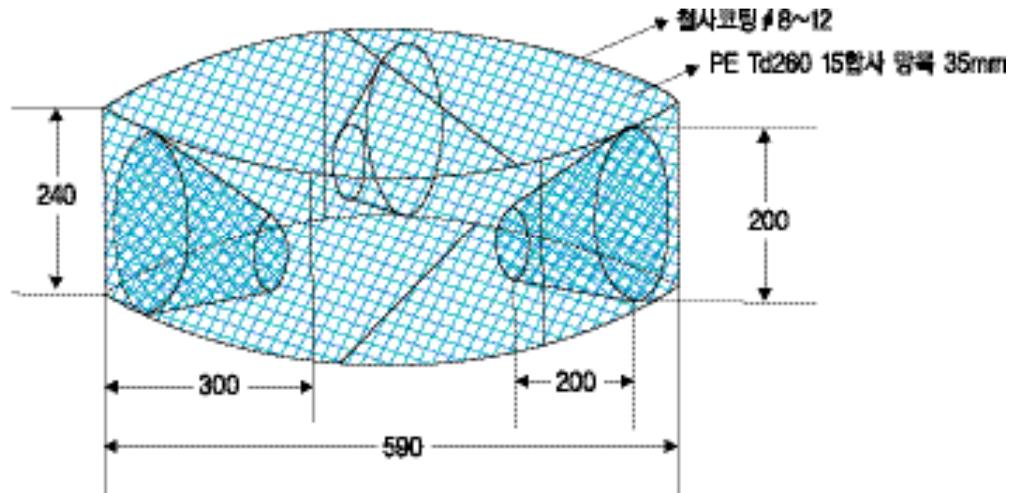
, 가

1 8 (1 1) , .

1 30 , 1 1 .

가

)



: (9 11)

: - 70 80m, , ,
가 - 15 40m,

: - , , , , ,
 ,

:가 -

: () -
(가) -

:

PP 12 16mm 7.5m PP 8mm 4.5m
 . 8 12mm 59cm,
24cm , PE Td260 15 35mm ,
3 .

7m 가 .

04 05

7 8

1 100 5 10 . 1

, 1 7 10 1 2

. 1,500 1,600 ,가 2,000 ,
100 1 .

가 , 1 (100)

25 .

1 2 ,가 1 .

[4.

가.

1)

가)

4-1

가 (6.46) , 가 (28.46) , 가 21.42 .
 가 4.99 , 가 69.00 , 가
 (19.76) , 가 (1.41) .
 6.21 , 가
 (7.50) , (6.86) (6.50) , 가
 (1.35) . 가 가
 (0.92) , 가 (5.72) .
 가 20 , 가 0.70 .
 가 .
 6.33 2.31 .
 가 9 , 가 5 .

4-1.

(: ,)

		69.00	15.00	69.00	29.00	7.93	14.00	
		4.99	13.00	11.00	9.77	4.99	11.00	
		21.42	14.00	28.46	17.95	6.46	12.50	
		16.66	1.41	19.76	10.12	2.08	2.12	
		20.00	2.00	20.00	15.00	9.00	8.00	9.00
		0.70	0.70	1.00	2.00	1.00	5.00	5.00
		6.21	1.35	6.86	7.50	5.00	6.50	6.33
		5.24	0.92	5.72	5.61	5.66	2.12	2.31

)

-

4-2

23,074.07

(32,071.43) (28,000.00) ,

가 (4,000.00) .

가가 (36,522.84) , 가가

(1,414.21) .

269,125.93

(367,628.57) ,

가 (23,100.00) . 가가

(199,663.14) , 가가

(565.69) . 93%

2,166.67 2,466.44

, 가 5,000.00 .

8,100.00 2,402.08 , 가

10,800.00 .

4-2.

(:)

		110,000.00	0.45	680,000.00	1.00
		0.00	0.00	14,800.00	0.55
		23,071.07	0.07	269,125.93	0.93
		29,978.10	0.10	190,730.31	0.10
		35,000.00	0.13	262,000.00	0.93
		21,000.00	0.07	236,000.00	0.87
		28,000.00	0.10	249,000.00	0.90
		9,899.49	0.04	18,384.78	0.04
		110,000.00	0.45	680,000.00	1.00
		0.00	0.00	14,800.00	0.55
		32,071.43	0.08	367,628.57	0.92
		36,522.8	0.12	199,663.14	0.12
		50,000.00	0.11	400,000.00	1.00
		0.00	0.00	104,200.00	0.89
		13,333.33	0.04	204,900.00	0.96
		21,602.47	0.05	111,400.02	0.05
		30,000.00	0.17	146,000.00	1.00
		0.00	0.00	28,000.00	0.83
		15,000.00	0.09	87,000.00	0.91
		21,213.20	0.12	83,438.60	0.12
		5,000.00	0.18	23,500.00	0.89
		3,000.00	0.11	22,700.00	0.82
		4,000.00	0.15	23,100.00	0.85
		1,414.21	0.05	565.69	0.05
		5,000.00	0.32	10,800.00	0.93
		500.00	0.07	6,200.00	0.68
		2,166.67	0.17	8,100.00	0.83
		2,466.44	0.13	2,402.08	0.13

4-3

25,444.44

(35,000.00)

(31,142.86)

가가

(50,497.52) ,

가가

(13,435.03) .

63,296.30 , 가
 (89,571.43) . 가가 (69,312.10)
 , 가 (1,414.21) .

1,000.00

1,732.05 , 가 3,000.00 .

4-3. (:)

		130,000.00	1.00	240,000.00	1.00
		0.00	0.00	0.00	0.00
		25,444.44	0.25	63,296.30	0.75
		38,817.8	0.32	67,238.28	0.32
		0.00	0.00	45,000.00	1.00
		0.00	0.00	0.00	1.00
		0.00	0.00	22,500.00	1.00
		0.00		31,819.81	
		130,000.00	0.72	240,000.00	1.00
		0.00	0.00	9,000.00	0.28
		31,142.86	0.23	89,571.43	0.77
		41,098.11	0.25	68,096.89	0.25
		100,000.00	1.00	180,000.00	1.00
		0.00	0.00	0.00	0.00
		35,000.00	0.32	40,833.33	0.68
		50,497.52	0.41	69,312.10	0.41
		30,000.00	1.00	30,000.00	0.50
		11,000.00	0.50	0.00	0.00
		20,500.00	0.75	15,000.00	0.25
		13,435.03	0.35	21,213.20	0.35
		0.00	0.00	5,000.00	1.00
		0.00	0.00	3,000.00	1.00
		0.00	0.00	4,000.00	1.00
		0.00	0.00	1,414.21	0.00
		0.00	0.00	3,000.00	1.00
		0.00	0.00	0.00	1.00
		0.00	0.00	1,000.00	1.00
		0.00		1,732.05	

	197,175.43	,		
) .	(432,944.50)		(207,021.58	
) ,가	가가		(255,543.44	
	(1,610.79)	.		
	182,586.76	,		
	(246,522.91)		(237,776.84)	,
	(-111,037.37)	.		
가가	(629,362.67)	,	가가	
	(253.14)	.		
			12,933.33	4,476.98
,	가	18,100.00	.	
	9,881.67	605.73	,	가
10,570.00	.			3,051.67
4,734.49	,	가	8,455.00	.
4-5		,	,	,
	가	,	,	.
	84,575.38	,		
(109,315.33)	,	(95,362.50)		(95,052.15)
	가가		(66,311.20)	,
가	(924.90)	.		가
	68,656.19	,		
	(110,950.00)	,	(101,000.00)	
(71,059.69)	.		가	가
(54,089.56)	,	가	(636.40)	.
				11,220.46
1,002.12	3,440.42	.		
	가	26,121.24	,	가
	(201,128.50)	.	가	가가
(257,128.50)	,	가	(3,211.75)	.
			4,310.00	876.41
	5,320.00	3,750.00	.	
4,000.00	866.03	,	4,500.00	3,000.00

(38%) (31%) .
 (- 37%) . 가가
 (87%) ,가 (1%) .

4-6.

				()	
		0.89	11.00	21.59	2.14
		(0.98)	0.00	0.00	0.00
		0.22	1.43	2.45	0.40
		0.46	3.00	4.37	0.46
		0.25	0.00	1.42	0.16
		(0.98)	0.00	1.18	0.00
		(0.37)		1.30	0.08
		0.87		0.17	0.11
		0.89	11.00	21.59	1.09
		(0.70)	0.00	0.00	0.12
		0.18	1.94	2.19	0.38
		0.50	3.71	5.64	0.29
		0.79	0.30	5.17	0.94
		0.00	0.00	0.7	0.00
		0.31	0.10	2.16	0.36
		0.31	0.17	1.70	0.37
		0.42	2.73	10.00	2.14
		0.33	0.00	1.87	0.06
		0.38	1.36	5.93	1.10
		0.06	1.93	5.75	1.47
		0.56	0.00	3.91	0.19
		0.54	0.00	3.70	0.11
		0.55		3.80	0.15
		0.01		0.15	0.06
		0.47	0.00	2.48	0.45
		(0.04)	0.00	0.97	0.00
		0.18		1.70	0.15
		0.26		0.76	0.26

143% ,
 (194%) . 가가
 (371%) ,가 (17%) .
 40% ,

4-7.

(: ,)

		9.77	7.93	9.16	7.93	7.93	9.77	7.31	18.00	4.48
		0.70	5.21	0.73	2.71	1.02	1.55	0.70	0.98	1.55
		4.73	7.58	4.13	6.63	3.44	6.82	3.51	8.46	3.32
		2.60	0.90	2.60	2.61	1.93	2.31	2.01	6.48	1.14
		20.00	20.00	15.00	6.00	15.00	17.00	16.00	10.00	10.00
		1.00	6.00	1.00	1.00	1.00	2.00	1.00	2.00	3.00
		7.79	12.22	7.33	3.50	5.81	7.17	8.78	6.89	7.00
		4.78	4.97	4.39	3.54	4.80	4.29	4.05	2.62	3.03

가 4.48 , 가 1.55 . 가 3.32 7.00 .
 10 , 가 3 .

)

4-8 .

7,380.52 .

(10,777.78) , (9,111.11) .

가 가

(50,000.00) , 가 가 (30,000.00) .

63,619.33 .

(105,830.77) ,

(103,800.00) , 가 (32,000.00)

가 가 (461,900.00)

, 가 (95,000.00) .

87% , (94%),

(91%) .

15,000.00 50,155.00

가 가 9,000.00 , 가 0

가 가 153,000.00 , 가

4,000.00 .

4-8.

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		50,000.00	1.00	468,900.00	1.00
		0.00	0.00	3,800.00	0.23
		7,380.52	0.14	63,619.33	0.87
		12,578.69	0.21	68,289.94	0.19
		36,000.00	0.22	201,000.00	1.00
		0.00	0.00	72,000.00	0.78
		9,111.11	0.06	103,800.00	0.94
		13,485.59	0.08	40,066.94	0.08
		30,000.00	1.00	106,000.00	1.00
		0.00	0.00	3,800.00	0.59
		5,100.00	0.16	48,232.14	0.90
		9,564.07	0.27	31,523.08	0.13
		0.00	0.00	102,000.00	1.00
		0.00	0.00	7,000.00	1.00
		0.00	0.00	32,000.00	1.00
		0.00	0.00	46,697.61	0.00
		41,000.00	0.77	130,000.00	1.00
		0.00	0.00	7,300.00	0.23
		10,777.78	0.20	50,499.41	0.80
		13,780.19	0.23	35,202.91	0.23
		50,000.00	0.53	468,900.00	1.00
		0.00	0.00	7,000.00	0.47
		4,369.23	0.09	105,830.7	0.91
		13,748.72	0.16	132,73.98	0.16
		50,000.00	0.65	137,000.00	1.00
		0.00	0.00	7,300.00	0.35
		8,833.33	0.18	44,428.33	0.82
		13,517.96	0.22	39,748.33	0.22
		9,000.00	0.22	153,000.00	1.00
		0.00	0.00	4,000.00	0.78
		1,500.00	0.04	50,155.00	0.96
		3,000.00	0.08	57,954.49	0.08
		5,000.00	0.33	57,000.00	1.00
		0.00	0.00	8,000.00	0.67
		1,583.33	0.13	20,666.67	0.87
		1,908.32	0.13	20,049.01	0.13

. 1,583.33 20,666.67
 . 가가 5,000.00 ,가 0
 . 가가 57,000.00 ,가
 8,000.00 .

4 - 9 , ,
 . 10,342.10 .
 (14,666.66) . (15,261.53) ,
 (120,000.00) (20,000.00) , 가가
 (7,250.00) , (3,333.33) , (10,285.71) .
 27,085.52 ,
 가 (23,138.88) , (43,666.66)
 . 가가 (304,000.00)
 ,가 (15,000.00) .

. 24,666.67 6,916.67
 . 가가 113,000.00 ,가 0
 . 가가 37,000.00 ,가
 0 .

. 25,000.00 7,250.00
 . 가가 15,000.00 ,가 0
 . 가가 16,000.00 ,가
 0 .

4-9.

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		120,000.00	1.00	304,000.00	1.00
		0.00	0.00	0.00	0.00
		10,342.11	0.40	27,085.53	0.60
		19,321.36	0.44	43,304.92	0.44
		65,000.00	1.00	80,000.00	1.00
		0.00	0.00	0.00	0.00
		14,666.67	0.30	43,666.67	0.70
		20,808.65	0.35	23,632.60	0.35
		30,000.00	1.00	60,000.00	1.00
		0.00	0.00	0.00	0.00
		10,285.71	0.54	16,785.71	0.46
		10,830.36	0.47	20,309.83	0.47
		20,000.00	1.00	15,000.00	1.00
		0.00	0.00	0.00	0.00
		7,250.00	0.75	3,750.00	0.25
		8,770.21	0.50	7,500.00	0.50
		120,000.00	1.00	100,000.00	1.00
		0.00	0.00	0.00	0.00
		12,366.67	0.31	23,138.89	0.69
		29,395.82	0.41	27,792.19	0.41
		65,000.00	1.00	304,000.00	1.00
		0.00	0.00	0.00	0.00
		15,261.54	0.38	61,076.92	0.62
		21,767.47	0.46	85,669.39	0.46
		30,000.00	1.00	50,000.00	1.00
		0.00	0.00	0.00	0.00
		3,333.33	0.34	11,388.89	0.66
		7,372.4	0.46	14,500.06	0.46
		113,000.00	1.00	37,000.00	1.00
		0.00	0.00	0.00	0.00
		24,666.67	0.73	6,916.67	0.27
		40,292.30	0.45	12,324.83	0.45
		15,000.00	0.75	16,000.00	1.00
		0.00	0.00	0.00	0.25
		2,500.00	0.15	7,250.00	0.85
		6,123.72	0.34	6,338.38	0.34

4 - 10

16,309.21

77%

가 (27,230.76),
 (20,888.89), (17,027.78) ,
 가 가 (100,000.00), 가 가
 (15,000.00) .

8,671.05 ,

(33,846.15) .

가 가

(270,000.00) , 가 (20,000.00) ,

5,250.00 1,666.67

가 37,000.00 , 가 0 .

가 20,000.00 , 가 0 .

4,250.00 3,000.00

가 8,000.00 , 가 0 .

가 108,000.00 , 가 0 .

		100,000.00	1.00	270,000.00	0.94	60,000.00	1.00
		0.00	0.00	0.00	0.00	0.00	0.00
		16,309.21	0.77	8,671.05	0.17	2,105.26	0.06
		21,194.96	0.34	34,015.05	0.29	9,704.40	0.22
		50,000.00	1.00	40,000.00	0.65	60,000.00	1.00
		0.00	0.00	0.00	0.00	0.00	0.00
		20,888.89	0.48	8,333.33	0.19	14,444.44	0.33
		21,026.4	0.39	14,142.14	0.27	24,037.01	0.47
		60,000.00	1.00	20,000.00	0.40	0.00	0.00
		0.00	0.60	0.00	0.00	0.00	0.00
		14,714.29	0.90	2,071.43	0.10	0.00	0.00
		18,099.85	0.15	5,413.15	0.15	0.00	0.00
		15,000.00	1.00	0.00	0.00	0.00	0.00
		0.00	1.00	0.00	0.00	0.00	0.00
		3,750.00	1.00	0.00	0.00	0.00	0.00
		7,500.00		0.00		0.00	
		56,000.00	1.00	20,000.00	0.67	30,000.00	0.30
		0.00	0.33	0.00	0.00	0.00	0.00
		17,027.78	0.85	4,444.44	0.13	1,666.67	0.02
		18,357.94	0.24	7,838.23	0.22	7,071.07	0.08
		100,000.00	1.00	270,000.00	0.89	0.00	0.00
		0.00	0.11	0.00	0.00	0.00	0.00
		27,230.7	0.72	33,816.15	0.28	0.00	0.00
		33,371.53	0.42	77,946.40	0.42	0.00	0.00
		50,000.00	1.00	20,000.00	0.94	0.00	0.00
		0.00	0.06	0.00	0.00	0.00	0.00
		9,444.44	0.81	1,944.44	0.19	0.00	0.00
		14,076.36	0.37	5,723.76	0.37	0.00	0.00
		37,000.00	1.00	20,000.00	0.77	0.00	0.00
		0.00	0.23	0.00	0.00	0.00	0.00
		5,250.00	0.81	1,666.67	0.19	0.00	0.00
		10,762.94	0.38	5,773.50	0.38	0.00	0.00
		8,000.00	1.00	10,000.00	0.71	0.00	0.00
		0.00	0.29	0.00	0.00	0.00	0.00
		4,250.00	0.76	3,000.00	0.24	0.00	0.00
		2,678.62	0.34	4,690.42	0.34	0.00	0.00

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4 - 11 , ,
 , . 46,945.65 ,
(76,079.07) ,
(51,888.70) , (50,015.45) .
가 가 (243,388.00) , 가
(47,000.00) .
40,260.56 ,
(76,537.54) , (55,861.61
) . 가 가
(216,721.70) , 가 (41,638.00) .
6,685.08 ,
(19,484.78) , (12,897.99) .
가 (168,916.80) , 가
(5,362.00) .
47,585.66 38,401.36 ,
9,184.30 . 75,317.43
50,777.30 , 27,696.11 .
가 83,525.00 , 가 -21,640.00 .
30,116.67 31,769.17 ,
-1,652.50 . 25,788.56
33,282.16 , 18,163.80 .
가 21,860.00 , 가 -33,700.00 .

4-11.

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		250,000.00	225,600.00	139,947.30
		2,371.50	3,861.00	(49,840.00)
		46,945.65	40,260.57	6,685.08
		47,447.04	41,600.72	29,579.98
		200,000.00	147,450.00	52,550.00
		35,776.10	24,454.40	(41,400.00)
		76,079.07	76,537.54	(458.4)
		50,051.91	37,340.93	30,896.29
		100,000.00	136,450.00	25,306.00
		4,800.00	4,202.00	(36,450.00)
		28,405.11	28,652.61	(247.50)
		27,743.50	35,015.75	17,093.31
		50,000.00	49,330.00	670.00
		3,000.00	7,692.00	(4,692.00)
		17,273.25	19,436.25	(2,163.00)
		21,947.29	19,977.98	2,257.94
		250,000.00	225,600.00	52,679.40
		6,612.00	8,878.30	(12,412.27)
		50,015.45	37,117.47	12,897.99
		55,362.63	48,949.62	16,713.89
		163,583.00	160,411.00	31,929.22
		7,000.00	12,747.88	(49,840.00)
		51,888.70	55,861.61	(3,972.91)
		39,267.55	48,562.67	28,527.08
		197,573.00	96,500.00	139,947.30
		2,371.50	3,861.00	(28,969.50)
		47,783.8	28,298.70	19,484.78
		54,989.29	25,962.66	44,475.53
		250,000.00	166,475.00	83,525.00
		3,500.00	1,269.00	(21,640.00)
		47,585.66	38,401.36	9,184.30
		75,317.43	50,777.30	27,696.11
		80,000.00	83,940.00	21,860.00
		10,900.00	8,140.00	(33,700.00)
		30,116.67	31,769.17	(1,652.50)
		25,788.56	33,282.16	18,163.80

4-12 , , , , ,

가 , , .

21,421.75 ,

(42,073.38) , (24,541.64) .

가가 (125,230.70) , 가

(28,450.00) .

13,066.53 ,

(25,700.00) , (21,612.90) .

가가 (90,000.00) ,

가 (6,500.00) .

1,054.93 , 33.55

446.93 .

가 4,007.06 , 가

(6,347.69) (5,191.22) . 가

가가 (20,810.00) , 가

(4,140.00) .

27,096.61 8,362.50 ,

가 2,796.25 . 37,525.48

13,389.60 , 가 3,138.22 .

가가 130,000.00 , 가 463.00 .

20,641.67 7,833.33 ,

가 2,418.33 . 25,797.80

13,463.53 , 가 2,418.33 .

가가 61,500.00 , 가 3,300.00 .

												가	
		128,000.00	1.00	90,000.00	0.62	10,000.00	0.16	700.00	0.02	3,500.00	0.10	21,930.00	0.65
		113.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		21,421.75	0.52	13,066.53	0.28	1,054.94	0.03	33.56	0.00	446.93	0.01	4,007.06	0.15
		23,617.86	0.22	16,557.20	0.20	1,893.69	0.03	87.7	0.00	890.34	0.02	4,021.78	0.13
		71,000.00	0.73	57,600.00	0.57	10,000.00	0.07	700.00	0.00	3,500.00	0.03	10,750.00	0.44
		3,404.40	0.14	10,000.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	3,150.00	0.03
		42,073.38	0.50	25,700.00	0.36	2,256.28	0.02	138.89	0.00	1,144.4	0.01	5,191.22	0.11
		26,517.80	0.21	13,609.00	0.13	3,036.57	0.02	226.08	0.00	1,545.24	0.01	2,381.10	0.13
		87,000.00	0.96	40,000.00	0.52	1,600.00	0.08	50.00	0.00	3,000.00	0.02	19,690.00	0.65
		864.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.00	0.03
		16,938.14	0.59	7,418.60	0.21	255.20	0.01	15.00	0.00	244.93	0.00	3,67.07	0.19
		22,804.02	0.26	11,57.47	0.22	569.30	0.03	17.63	0.00	773.69	0.01	4,798.64	0.18
		29,700.00	0.60	9,000.00	0.62	2,500.00	0.05	30.00	0.00	3,000.00	0.06	5,100.00	0.47
		1,250.00	0.13	2,500.00	0.18	117.00	0.02	8.00	0.00	200.00	0.03	960.00	0.10
		8,545.00	0.27	5,625.00	0.40	856.25	0.04	15.75	0.00	975.00	0.04	3,419.25	0.26
		14,105.28	0.22	2,688.71	0.19	1,104.4	0.02	9.95	0.00	1,352.47	0.02	1,755.87	0.19
		128,000.00	1.00	90,000.00	0.54	2,750.00	0.16	100.00	0.00	1,000.00	0.02	6,500.00	0.27
		2,769.30	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		21,243.92	0.56	11,861.45	0.28	781.82	0.03	19.67	0.00	88.89	0.00	2,782.83	0.11
		28,496.69	0.20	20,881.37	0.20	995.97	0.04	32.7	0.00	267.65	0.01	1,651.40	0.08
		65,333.00	0.70	65,260.00	0.55	9,206.00	0.12	100.00	0.00	3,000.00	0.06	21,930.00	0.23
		7,993.26	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,120.00	0.05
		24,541.64	0.44	21,612.90	0.38	2,514.38	0.05	23.23	0.00	619.45	0.02	6,347.69	0.11
		21,985.7	0.13	18,862.59	0.16	2,817.87	0.04	29.4	0.00	826.38	0.02	6,726.7	0.06
		47,000.00	0.91	40,000.00	0.54	4,500.00	0.06	150.00	0.02	2,500.00	0.10	11,100.00	0.45
		113.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	500.00	0.02
		15,618.37	0.56	8,142.78	0.20	383.94	0.02	21.67	0.00	378.82	0.01	3,356.89	0.19
		14,848.70	0.24	11,441.00	0.20	1,044.65	0.02	41.4	0.01	715.50	0.03	2,88.75	0.14
		130,000.00	0.88	43,200.00	0.47	1,050.00	0.03	500.00	0.00	0.00	0.00	8,196.00	0.60
		463.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	134.00	0.01
		27,096.61	0.58	8,362.50	0.25	87.50	0.00	58.50	0.00	0.00	0.00	2,796.25	0.17
		37,525.4	0.30	13,389.60	0.13	303.11	0.01	141.8	0.00	0.00	0.00	3,138.22	0.22
		61,500.00	0.97	35,000.00	0.42	1,600.00	0.18	100.00	0.01	1,000.00	0.01	6,870.00	0.46
		3,300.00	0.22	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	500.00	0.01
		20,641.67	0.54	7,833.33	0.24	659.17	0.05	50.00	0.00	166.67	0.00	2,418.33	0.16
		25,797.80	0.25	13,463.53	0.19	701.37	0.07	36.88	0.00	408.25	0.00	2,310.7	0.16

4-13.

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				()	
		0.77	9.38	6.95	3.40
		(4.29)	0.00	0.06	0.00
		(0.03)	0.84	1.10	0.57
		0.73	1.81	1.23	0.53
		0.33	1.24	1.94	1.31
		(0.69)	0.00	0.37	0.06
		(0.10)	0.25	0.76	0.59
		0.44	0.48	0.47	0.40
		0.60	1.53	1.26	1.07
		(1.35)	0.00	0.11	0.00
		0.03	0.50	0.66	0.48
		0.58	0.64	0.31	0.31
		0.01	0.00	1.14	1.82
		(1.56)	0.00	0.38	0.15
		(0.53)	0.00	0.69	0.79
		0.71	0.00	0.34	0.72
		0.68	9.38	4.55	1.52
		(1.02)	0.00	0.32	0.00
		0.19	2.18	1.20	0.62
		0.40	3.15	1.02	0.45
		0.71	0.83	6.95	1.91
		(4.29)	0.00	0.12	0.22
		(0.35)	0.22	1.80	0.70
		1.31	0.34	2.43	0.48
		0.77	5.00	2.79	3.40
		(1.43)	0.00	0.06	0.00
		0.10	1.21	1.12	0.43
		0.58	2.02	0.80	0.78
		0.64	0.00	1.81	4.72
		(2.25)	0.00	0.16	0.00
		(0.13)	0.00	1.08	1.34
		0.99	0.00	0.60	1.49
		0.73	0.33	3.00	1.33
		(1.12)	0.33	0.94	0.00
		(0.01)	0.33	1.70	0.48
		0.63		0.73	0.45

4-14.

가

(:)

		250,000.00	76,920.00
		1,550.00	0.00
		50,025.11	11,473.35
		48,664.50	19,565.17
		200,000.00	63,940.00
		1,550.00	0.00
		70,792.86	9,832.14
		62,084.62	23,928.68
		100,000.00	76,920.00
		4,800.00	0.00
		36,966.91	15,068.09
		32,469.75	27,234.36
		50,000.00	2,000.00
		4,000.00	0.00
		18,000.00	500.00
		21,478.67	1,000.00
		250,000.00	53,680.00
		2,985.60	0.00
		53,864.24	14,004.54
		60,240.24	19,326.85
		117,861.10	29,070.00
		7,000.00	0.00
		45,369.10	4,244.54
		28,367.44	9,784.42
		199,739.00	52,655.00
		7,000.00	0.00
		58,870.43	15,753.34
		56,350.66	19,085.51
		250,000.00	0.00
		5,600.00	0.00
		88,380.00	0.00
		108,300.42	0.00
		80,000.00	0.00
		10,900.00	0.00
		30,116.67	0.00
		25,788.56	0.00

4-15 가 , 가
 , , . 가
 30,641.87 , 가
 가 (57,442.86) ,
 (35,276.36) , (34,861.71) 가
 가가 (215,450.00) , 가
 (43,000.00) .
 가 24.59 ,
 가 가
 (375.00) . 가 가가
 (1,500.00) , 가 .
 가 7,359.02 , 가 가
 가 (16,214.29) ,
 (9,536.36) . 가 가가
 (40,000.00) , 가 가
 (12,800.00) .
 60,315.40 0 ,
 70,619.01 0 .
 가 158,900.00 .
 21,829.17 0 ,
 29,291.01 0 .
 가 81,000.00 .

4-15.

가

(:)

		219,100.00	1,500.00	40,000.00
		2,000.00	0.00	0.00
		30,641.87	24.59	7,359.02
		38,111.13	192.06	9,136.93
		143,300.00	0.00	40,000.00
		4,100.00	0.00	0.00
		57,442.86	0.00	16,214.29
		48,138.03	0.00	15,038.44
		131,650.00	0.00	15,000.00
		2,350.00	0.00	0.00
		25,988.18	0.00	6,200.00
		36,279.60	0.00	6,227.84
		45,000.00	1,500.00	15,000.00
		2,000.00	0.00	2,200.00
		14,750.00	375.00	5,550.00
		20,271.08	750.00	6,302.12
		219,100.00	0.00	24,000.00
		3,650.00	0.00	0.00
		34,861.71	0.00	6,278.57
		54,066.58	0.00	8,690.06
		81,840.00	0.00	21,600.00
		14,000.00	0.00	0.00
		35,276.36	0.00	9,536.36
		22,671.88	0.00	8,862.76
		92,250.00	0.00	20,000.00
		2,800.00	0.00	0.00
		17,577.14	0.00	3,728.57
		22,456.23	0.00	6,493.01
		158,900.00	0.00	50,000.00
		1,235.00	0.00	1,200.00
		60,315.40	0.00	16,580.00
		70,619.01	0.00	19,986.55
		81,000.00	0.00	15,000.00
		6,550.00	0.00	1,400.00
		21,829.17	0.00	5,950.00
		29,291.01	0.00	5,586.32

3)

가)

4-16

4-16
 6.66 , 가
 1.62 .
 4.45 , (5.33)
 (4.50) , 가 (3.53) .
 가가 (1.53) , 가가
 (4.95) . 가 8.00 , 가
 0.60 .

4-16.

(: ,)

		6.66	6.66	0.00	-
		3.42	3.42	0.00	-
		5.01	5.01	-	-
		1.62	1.62	-	-
		8.00	6.00	7.00	8.00
		0.60	0.60	4.00	1.00
		4.45	3.53	5.33	4.50
		2.64	2.73	1.53	4.95

)

4-17

31.50ha ,
 (41.25ha) (35.40ha) . 가가
 (20.56ha) , 가가 (72.59ha) .
 45,000,000.00
 (60,000,000.00) 가가
 (0.00) .

744.50 ,
 (1,711.33) . 가가 (16.52) ,
 가가 (2,613.28) .
 , ,
 69.13 (88.5%), 9.00 (11.5%), 0.00 (0.00%) .
 (100.0%)
 (96.8%) 34.2% .

4-17. (: ha, ,)

		150.00	60,000,000.00	6,544.00	287.00	267.00	93.0%	20.00	7.0%	0.00	0.0%
		2.00	30,000,000.00	2.00	10.00	7.00	70.0%	3.00	30.0%	0.00	0.0%
		31.50	45,000,000.00	744.50	78.13	69.13	88.5%	9.00	11.5%	-	0.0%
		42.44	21,213,203.44	1,838.96	72.19	65.77	91.1%	6.42	8.9%	-	0.0%
		150.00	-	35.00	124.00	121.00	97.6%	3.00	2.4%	0.00	0.0%
		2.00	-	2.00	63.00	60.00	95.2%	3.00	4.8%	0.00	0.0%
		41.25	-	18.00	94.75	91.75	96.8%	3.00	3.2%	-	0.0%
		72.59	-	16.52	30.7	30.7	100.0%	0.00	0.0%	-	0.0%
		105.00	30,000,000.00	53.00	70.00	50.00	71.4%	20.00	28.6%	0.00	0.0%
		12.00	30,000,000.00	7.00	10.00	7.00	70.0%	3.00	30.0%	0.00	0.0%
		35.40	30,000,000.00	20.20	29.80	19.60	65.8%	10.20	34.2%	-	0.0%
		39.60	0.00	18.99	24.08	17.70	73.5%	6.38	26.5%	-	0.0%
		60.00	60,000,000.00	6,544.00	267.00	267.00	100.0%	0.00	0.0%	0.00	0.0%
		7.00	60,000,000.00	15.00	32.00	32.00	100.0%	0.00	0.0%	0.00	0.0%
		21.75	60,000,000.00	1,711.33	95.33	95.33	100.0%	-	0.0%	-	0.0%
		20.56	0.00	2,613.28	87.22	87.22	100.0%	-	0.0%	-	0.0%

4-18 , ,
 ,
 6 (31.6%), 2 (10.5%), 11 (57.9%), 0
 (0.00%), 0 (0.00%) .
 (100.0%)
 (33.3%) (22.2%) .
 (77.8%) (66.7%) .

4-18.

(:)

	19	6	31.6%	2	10.5%	11	57.9%	0	0.0%	0	0.0%
	4	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	9	0	0.0%	2	22.2%	7	77.8%	0	0.0%	0	0.0%
	6	2	33.3%	0	0.0%	4	66.7%	0	0.0%	0	0.0%

)

-

, , 4-19 .

22,892.60 .

(32,120.33) (27,500.00) ,

가 (8,133.40) .

가가 (35,462.31)

, 가가 (12,230.62) .

54,392.00 .

(151,250.00) ,

가 (4,480.00) .

가가 (132,939.52) , 가가

(3,116.41) .

52% .

4-20

, ,

6,666.67 .

(10,000.00) , (10,000.00)

가가 (20,000.00) (20,000.00)

, 가가 (0.00) .

4-19.

(:)

		100,000.00	1.00	350,000.00	1.00
		0.00	0.00	0.00	0.00
		22,892.60	0.48	54,392.00	0.52
		32,399.54	0.36	91,969.78	0.36
		95,000.00	0.54	350,000.00	1.00
		0.00	0.00	75,000.00	0.46
		27,500.00	0.17	151,250.00	0.83
		45,181.81	0.25	132,939.52	0.25
		30,000.00	1.00	8,000.00	0.80
		2,000.00	0.20	0.00	0.00
		8,133.40	0.47	4,480.00	0.53
		12,230.62	0.31	3,116.41	0.31
		100,000.00	1.00	115,000.00	0.78
		0.00	0.22	0.00	0.00
		32,120.33	0.72	31,413.33	0.28
		35,462.31	0.35	49,417.67	0.35

4-20.

(:)

		50,000.00	1.00	0.00	0.00
		0.00	1.00	0.00	0.00
		6,666.67	1.00	0.00	0.00
		15,886.50	0.00	0.00	0.00
		40,000.00	1.00	0.00	0.00
		0.00	1.00	0.00	0.00
		10,000.00	1.00	0.00	0.00
		20,000.00	-	0.00	-
		0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00
		0.00	-	0.00	-
		0.00	-	0.00	-
		50,000.00	1.00	0.00	0.00
		0.00	1.00	0.00	0.00
		10,000.00	1.00	0.00	0.00
		20,000.00	0.00	0.00	0.00

4-22

가 , , , , ,
 , , , , ,
 25,793.04 ,
 (38,685.14) . 가가
 (75,822.26) , 가가 (20,332.03) .
 7,768.62 ,
 (19,146.84) . 가가
 (21,888.31) , 가가 (0.00) .
 , 753.13 ,
 16.53 72.00 .
 가 197,33 , 가
 (625.00) . 가 가
 (1,250.00) , 가 (0.00) .

4-22.

(:)

												가	
		152,406.55	0.99	45,668.35	1.00	10,297.00	0.30	200.00	0.01	600.00	0.01	2,500.00	0.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		25,793.04	0.54	7,768.62	0.32	753.13	0.04	16.53	0.00	72.00	0.00	197.33	0.01
		48,718.53	0.37	13,485.14	0.44	2,648.45	0.10	51.49	0.00	191.36	0.00	647.94	0.02
		152,406.55	0.75	45,668.35	1.00	0.00	0.00	0.00	0.00	600.00	0.00	2,500.00	0.01
		0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		38,685.14	0.27	19,146.84	0.72	0.00	0.00	0.00	0.00	150.00	0.00	625.00	0.00
		75,822.26	0.41	21,888.31	0.43	0.00	0.00	0.00	0.00	300.00	0.00	1,250.00	0.01
		127,000.00	0.96	0.00	0.00	800.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
		300.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		25,73.40	0.75	0.00	0.00	200.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
		56,587.49	0.15	0.00	0.00	346.41	0.13	0.00	0.00	0.00	0.00	0.00	0.00
		52,000.00	0.99	18,242.00	1.00	10,297.00	0.25	200.00	0.01	480.00	0.01	460.00	0.08
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		17,214.67	0.51	6,657.00	0.40	1,716.17	0.04	41.33	0.00	80.00	0.00	76.67	0.01
		20,332.03	0.42	7,504.22	0.47	4,203.73	0.10	78.71	0.00	195.96	0.00	187.79	0.03

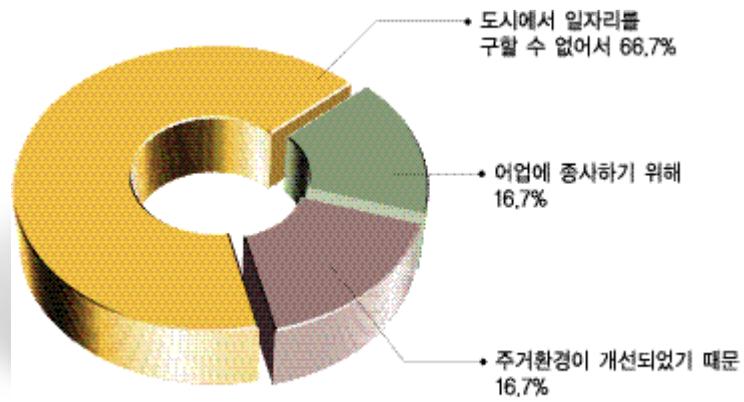
4-23

53%, 39% , 60% , 80%,
 (108%) , 가 (9%) . 가가
 355% , 가가
 (520%) . 가가
 (679%) , 가 (0.00%) .
 7% , 가가
 (12%), (9.00%) . 가가
 (24%) , 가 (0.00%) .
 20.20 ,
 (57.94) .
 가가 (94.93) , 가 (0.68) .

4-23.

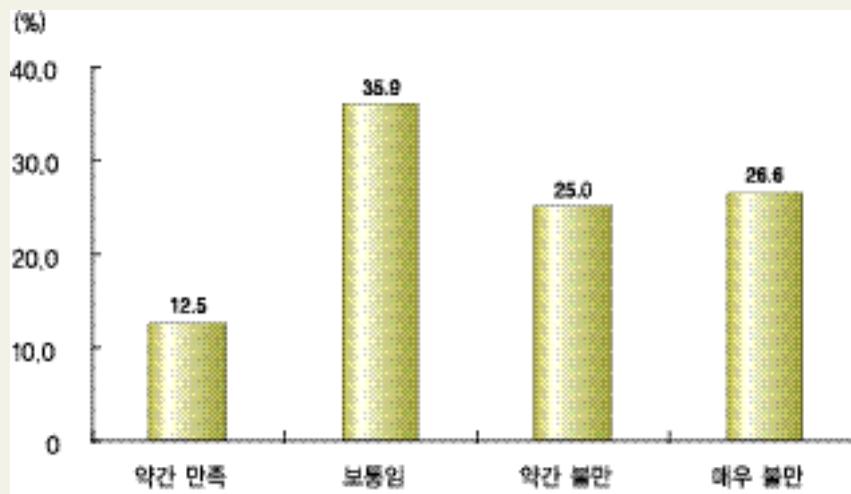
(:)

		()			
		0.98	10.00	199.61	0.56
		(1.55)	0.25	0.00	0.00
		0.60	3.55	20.20	0.07
		0.64	5.59	56.89	0.17
		0.63	0.25	4.96	0.36
		0.45	0.25	0.00	0.00
		0.53	0.25	1.50	0.09
		0.09	0.00	2.36	0.18
		0.91	0.00	2.02	0.00
		(1.55)	0.00	0.39	0.00
		0.39	-	1.16	0.00
		1.08	-	0.68	0.00
		0.98	10.00	199.61	0.56
		0.60	0.40	1.57	0.00
		0.80	5.20	57.94	0.12
		0.15	6.79	94.93	0.24



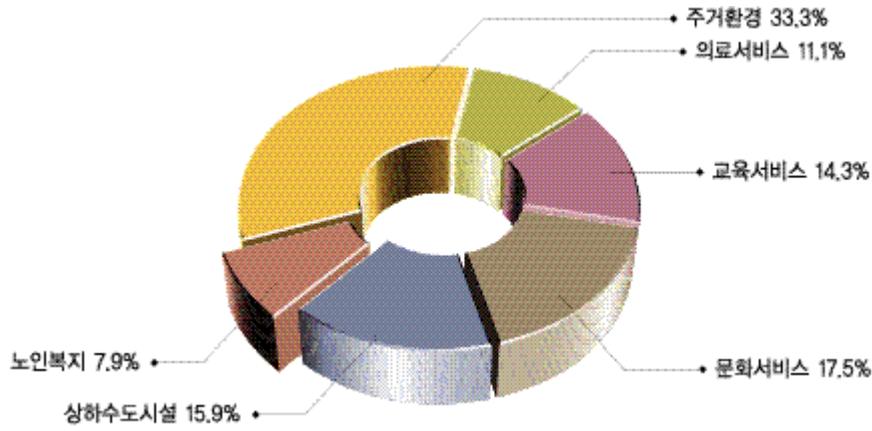
4-3. 가

가 가 ,
가
“ ” 가 , “ ” “ ”
가 51.6% .



4-4.

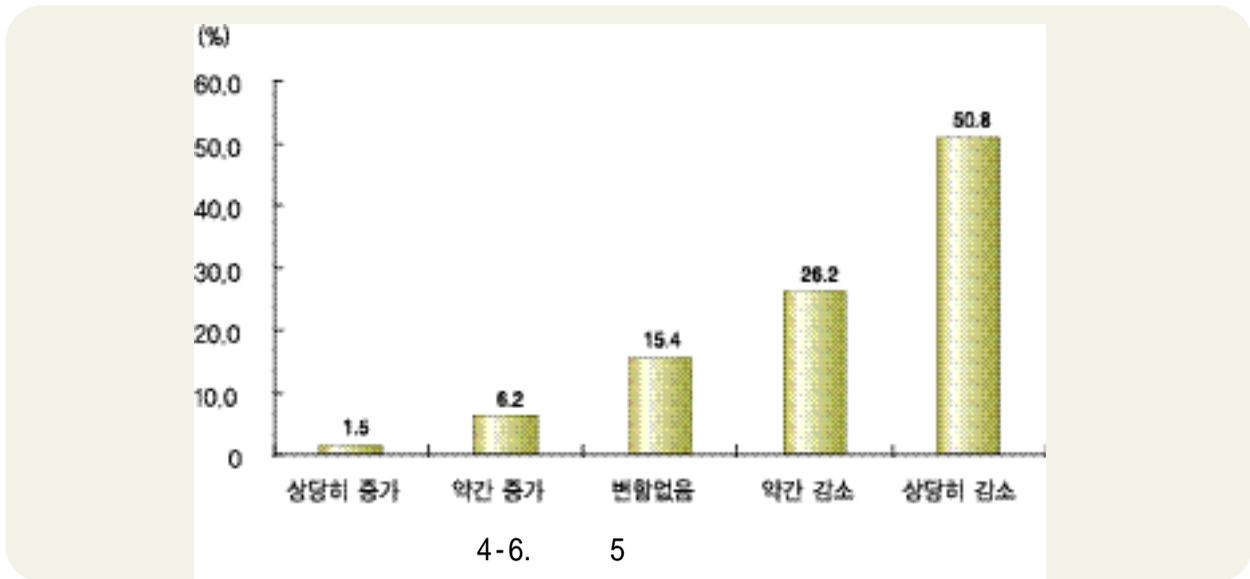
. 가 “
” 33.3% 가 , “
” “ 가 17.5%, “ ” 15.9%, “ ” 14.3%



4-5.

)

5 가 , “
 가 50.8% 가 “ 가 26.2% , 77.0%가
 . “ ” 15.4% , “ 가 ”
 7.7% .

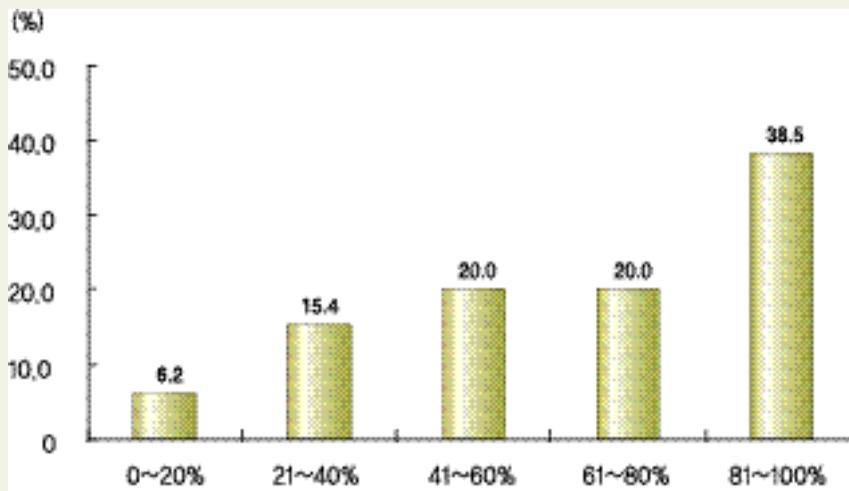


4-6. 5

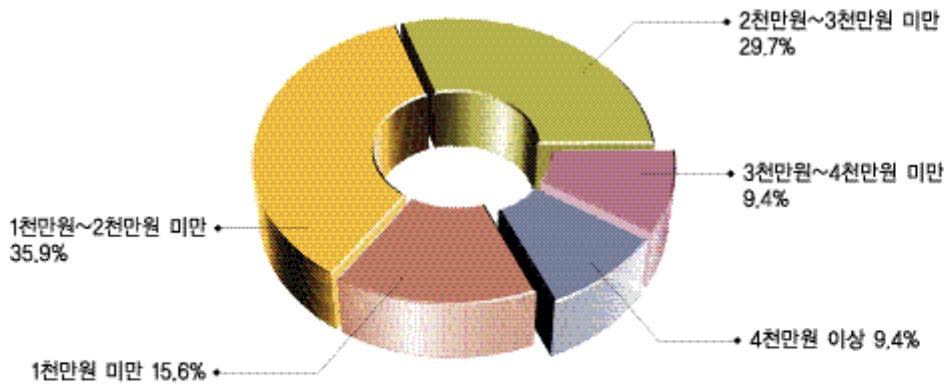
38.5%가 “ 81~100% ”

“ 61~80% ” “ 41~60% ”가 20.0% ,

가 “ 1 ” 35.9% , “ 2 ~3 ” 29.7%
 . “ 1 ” 15.6% , “ 3 ~4 ” “ 4 ”
 9.4% .
 3 가 81.2% .

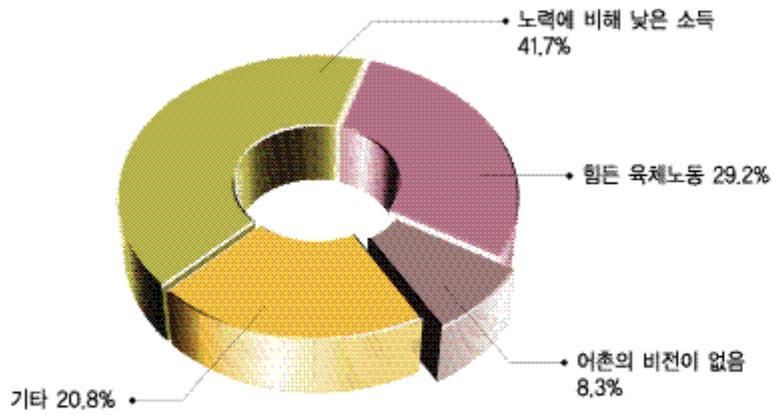


4-7.



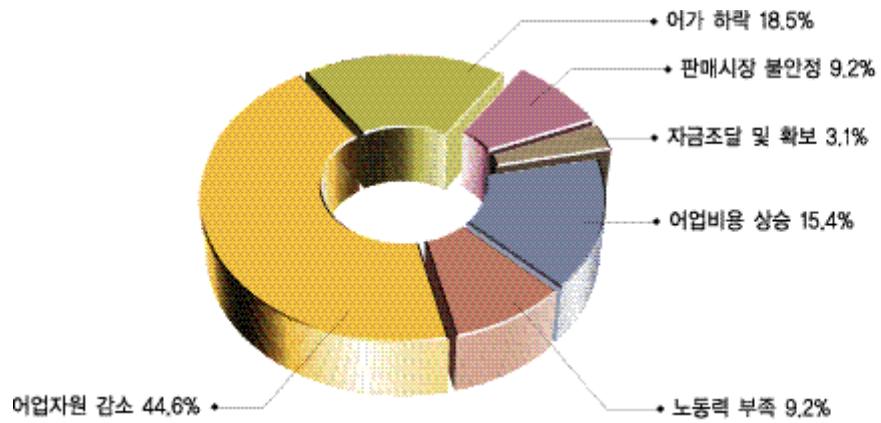
4-8.

5
 가 40.0% 가 “ 가 24.6% .
 “ ” 21.5% , 13.8%
 .
 61.5% .



4-11.

3, “가” 18.5%, “ ” 15.4% .
 , 가 ,
 가



4-12.

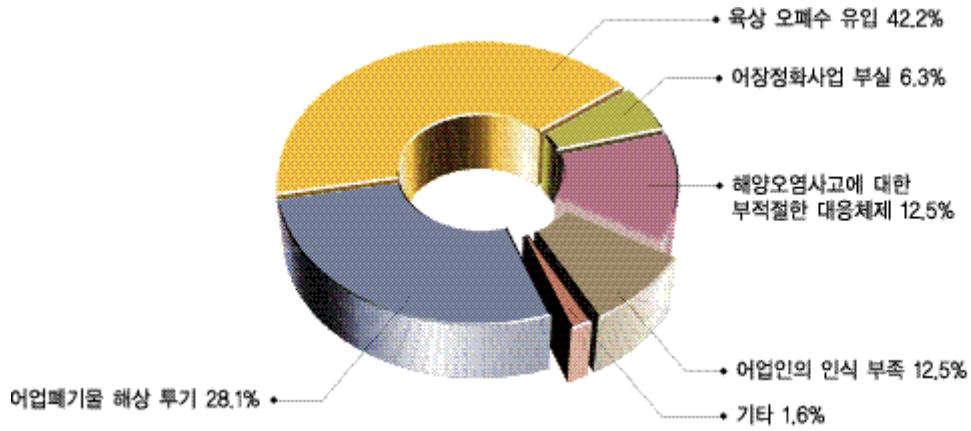
(3)

)

가 42.2%가 “ ” , “ 가

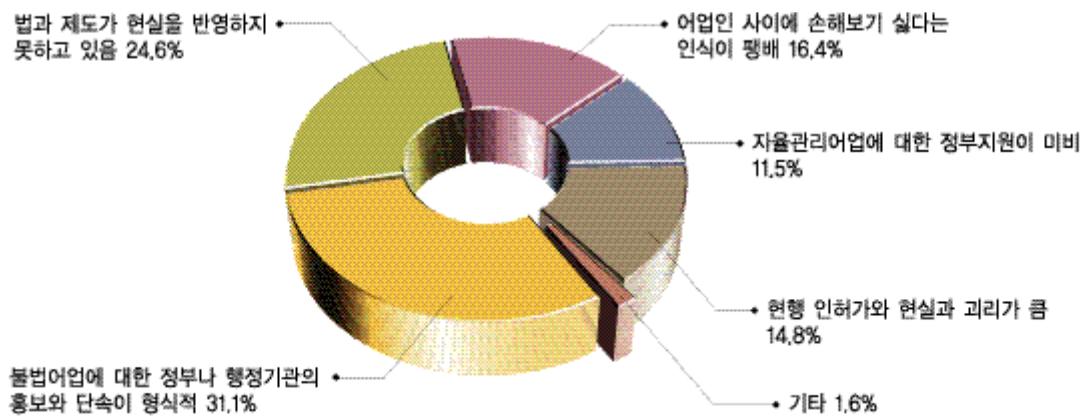
” 28.1%
가 12.5%,“
6.3%

“ ” 9.4% ,“ ”

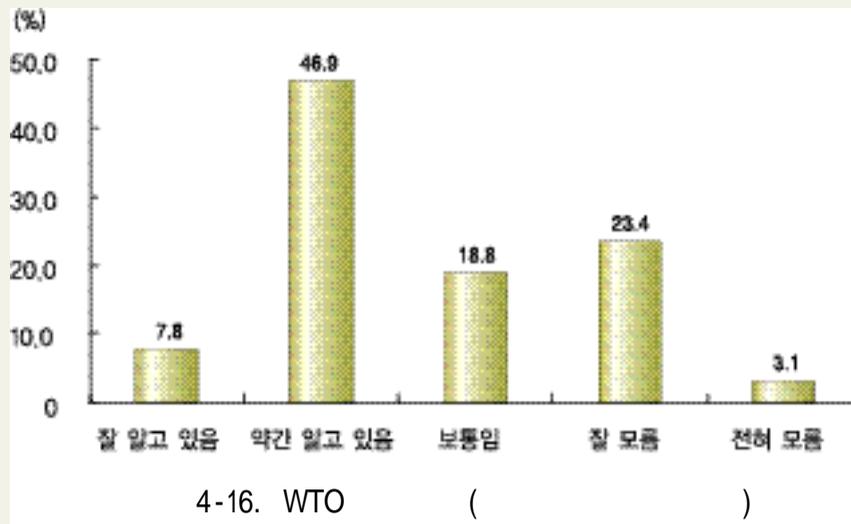


4-13.

가 , 가
31.1%가“ ” 24.6% 가
” 14.8%,“ ” 16.4%,“ 가 가
가 11.5% 가 .

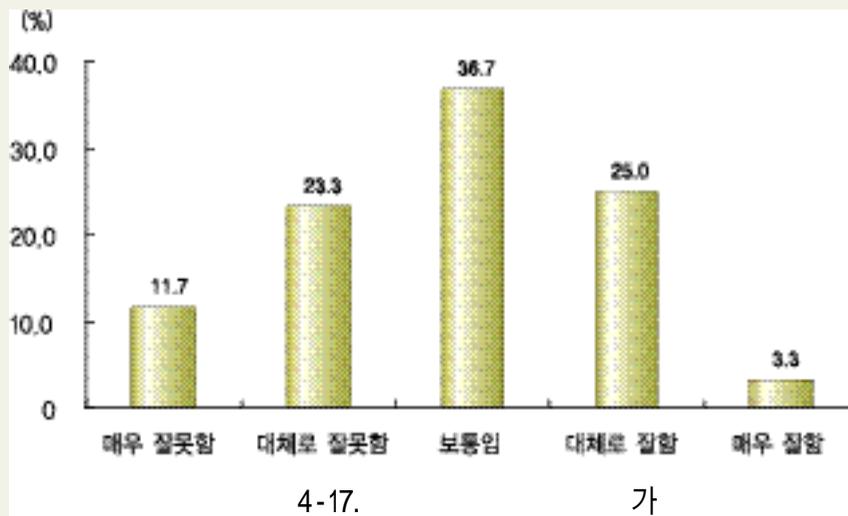


4-14.

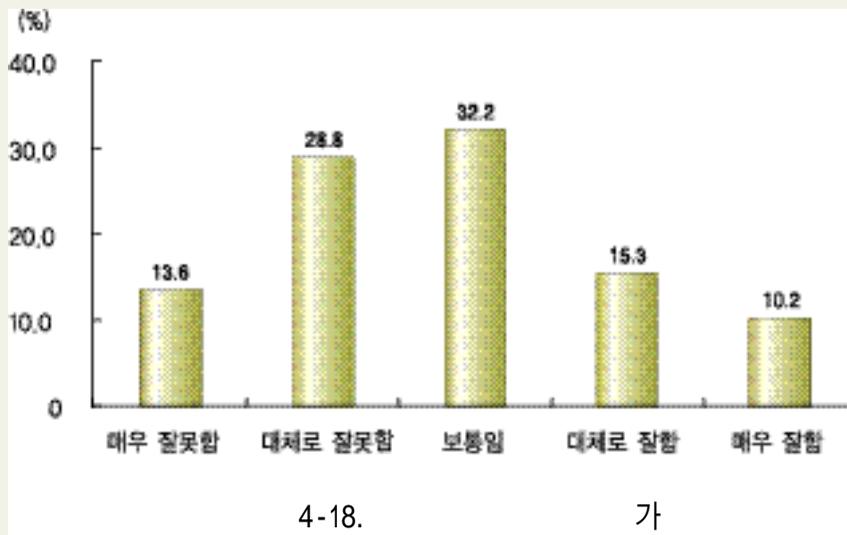


) 가 가

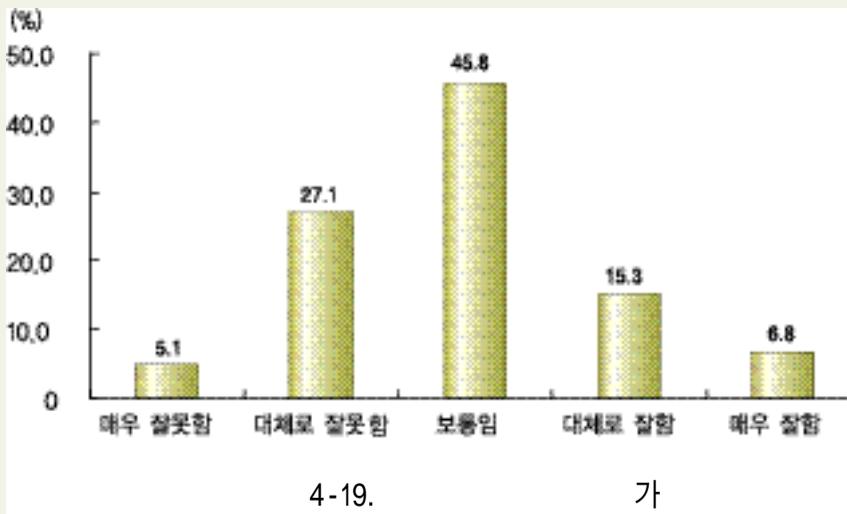
가 , 가 “ ” 가
 36.7% “ ” “ ”
 23.3%, 11.7% 35.0% , “ ” “ ” 28.3% .
 가 가 가 가 가



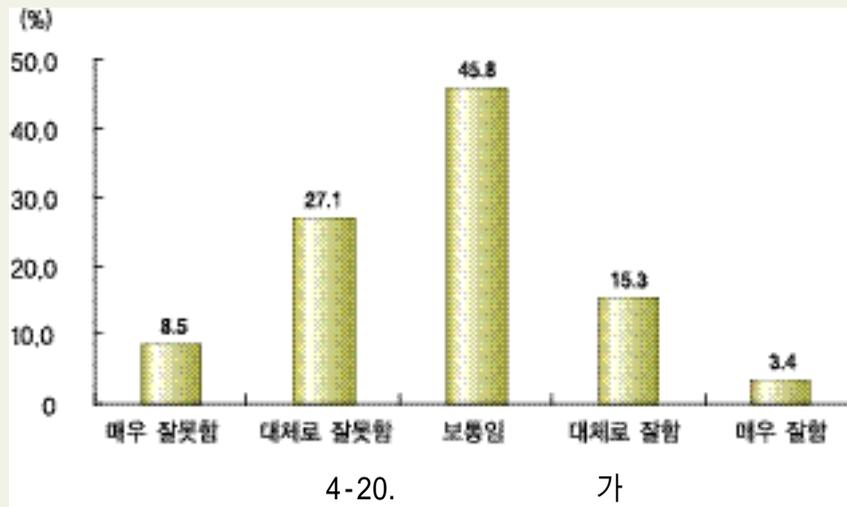
가 , 가가 32.2% 가
 “ ” 가가 42.4% 25.5%
 가 가 .



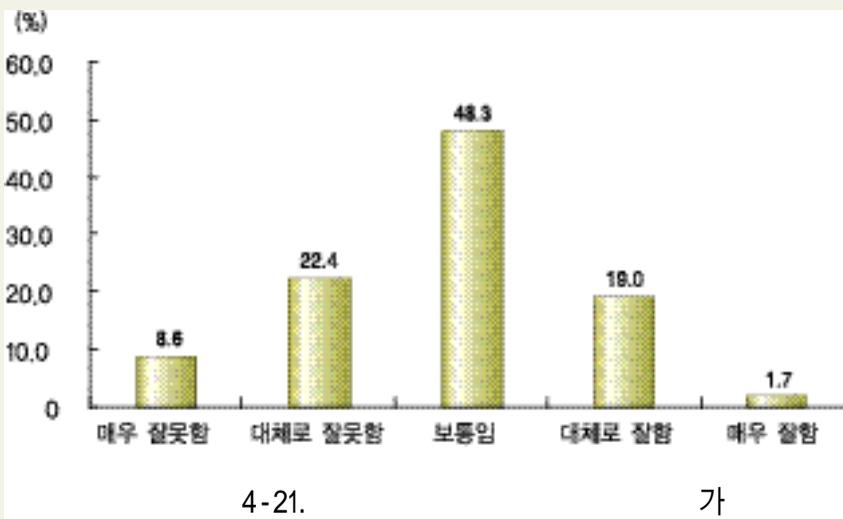
“ 가 45.8% 가 , , 가 22.1% , 가 32.2% . , 가 가 , 가 가 , 가 가



가 , 가 , 1980 “ 가 45.8% 가 “ 가 8.5%, “ ” 27.1% , “ ” “ ” 15.3%, 3.4% , 35.6% 18.7%



“ ” 가 48.3% 가 . “ ” 가 31.0% , “ ” “ ” 가 20.7% . 가 , 가



가 45.6%가 “ ” 가 . “ ” “ ” 29.8%, 5.3% 가 35.1% . 가 19.3% , 가



4-22.

가

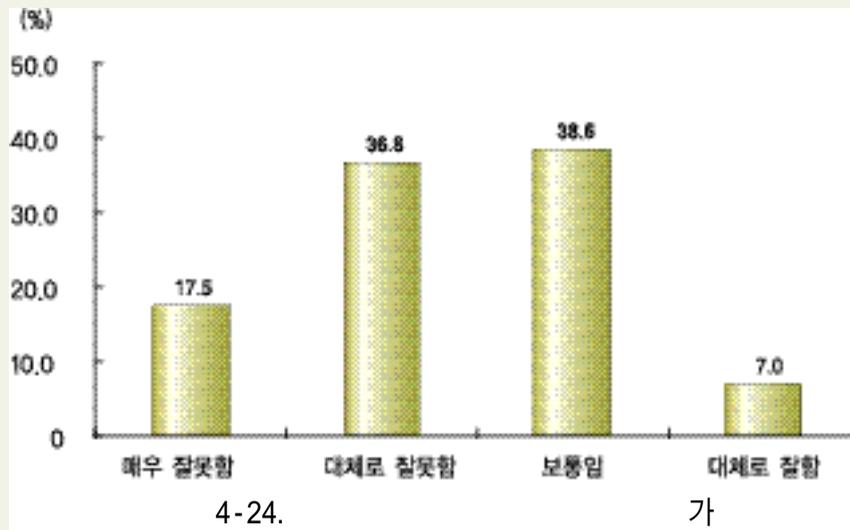
가 , “ 42.1% “ ”
 가 , “ 33.3%,” “ 12.3%
 ?
 가 45.6% 가
 가 12.3%



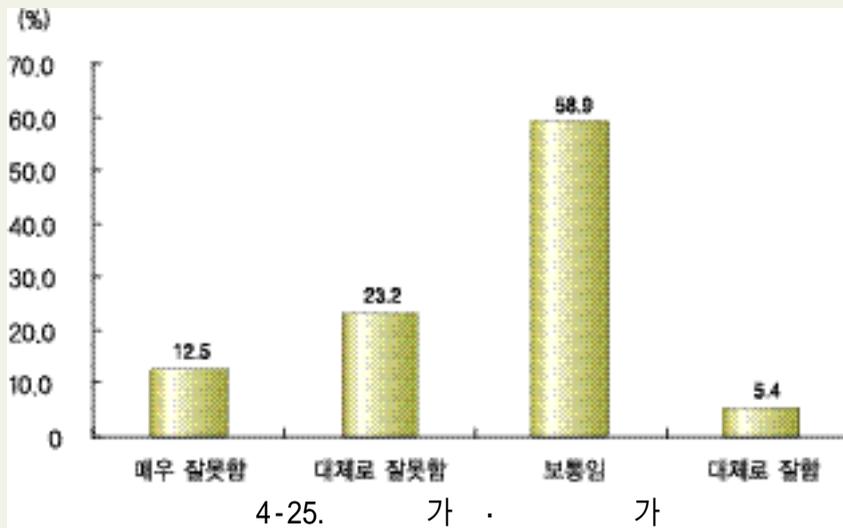
4-23.

가

WTO , FTA
 가
 가 “ ”
 38.6% “ 가 36.8%,” 가 17.5% ,
 가

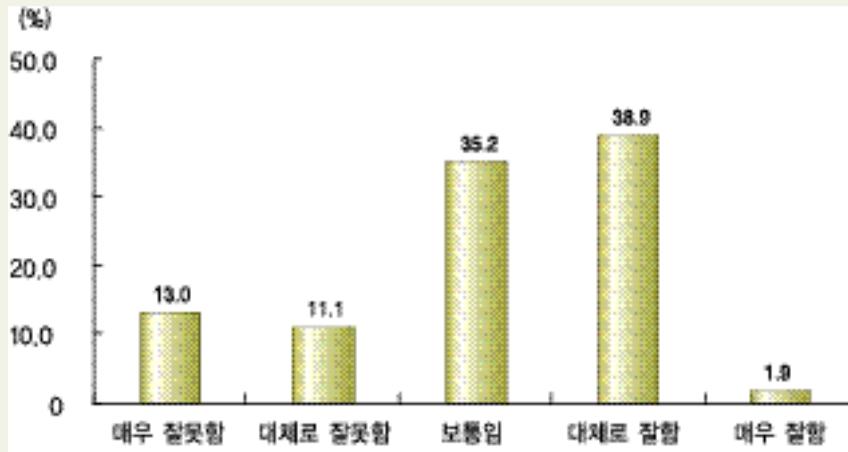


가 . 가 58.9%가 “ ”
 “ ” 23.2%, “ ” 12.5% ,
 가 35.7% 가 (5.4%)

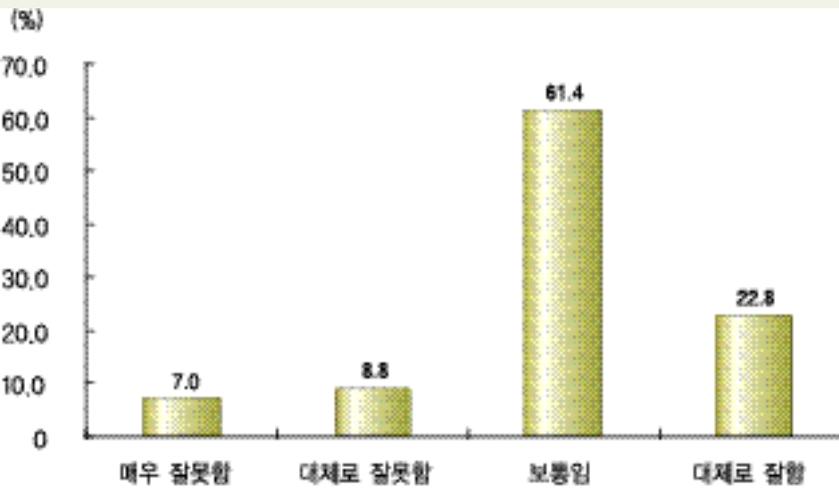


가 , 35.2%가 “ ” “ ” “ ” “ ”
 가 24.1% , 가 , 가
 가 가 , 가
 가 가 , 61.4%가 “ ”
 ” 가 , “ ” 가 22.8% “ ”
 ” “ ” 15.8% , 가

가 , 가가 가



4-26. 가



4-27. 가 가

2)

가 , , 가

가)

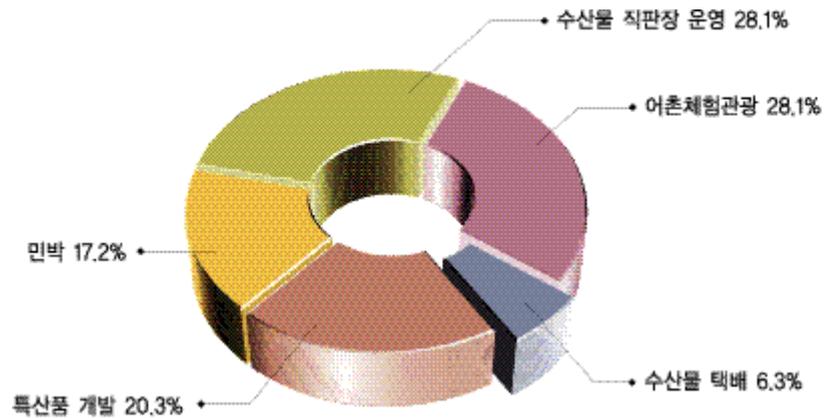
40.6% “ ”, 25.0% “ ”, 65.6%



4-28.

가

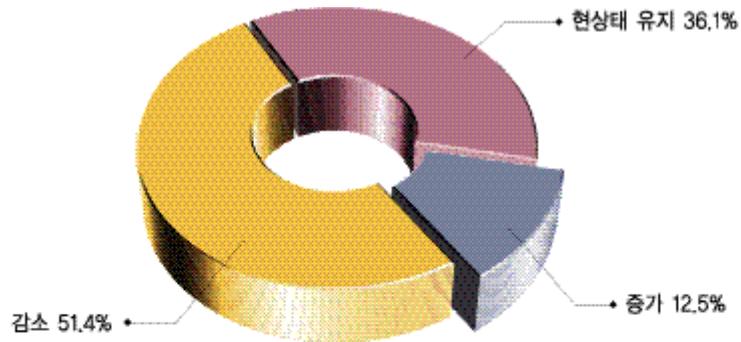
“ ” “ ” 28.1% 가
 “ ” “ ” 20.3%, 17.2% , “
 ” 6.3% .



4-29. 가

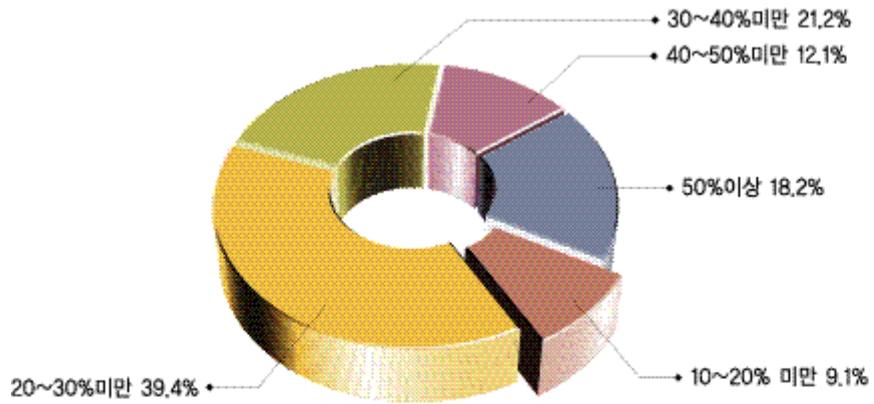
) 가

가
 , 51.4% “ ” , 36.1% “
 ” “ 가 ” 12.5%



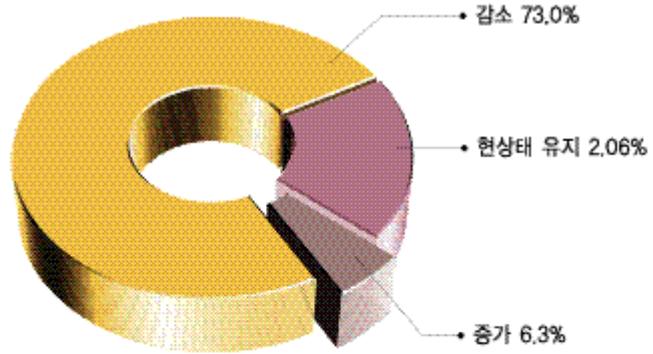
4-30.

가
 . 39.4% “ 20~30% ” . “ 30~40% ”
 21.2% , “ 50% ” “ 40~50% ” 18.2%, 12.1%



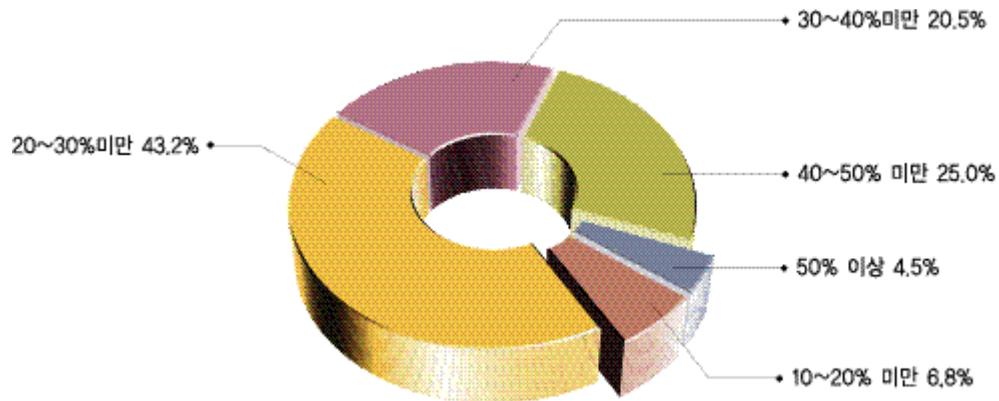
4-31.

가
 가 73.0% “ ” ,
 “ ” “ 가 ”
 20.6% 6.3%



4-32. 가

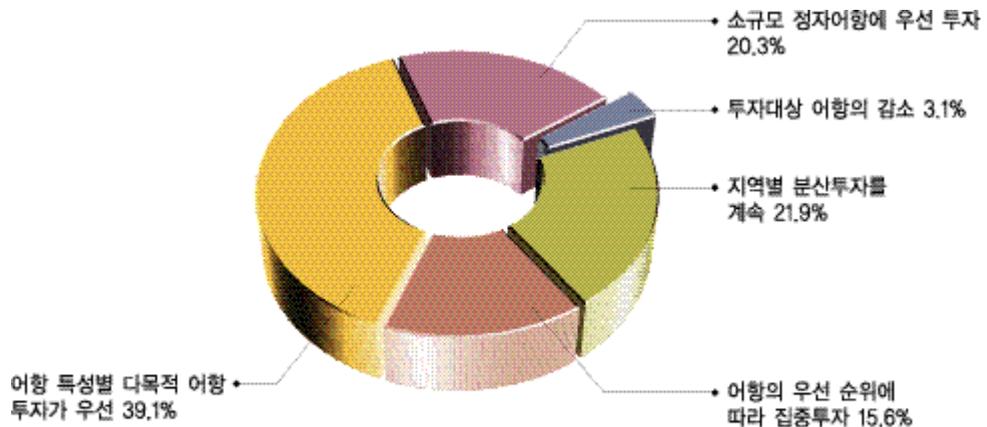
가
 , 43.2% “ 20~30% ” , 25.0% “ 40~50% ”
 “ 30~40% ” 20.5%
 , “ 10~20% ” “ 50% ” 6.8% 4.5%



4-33. 가

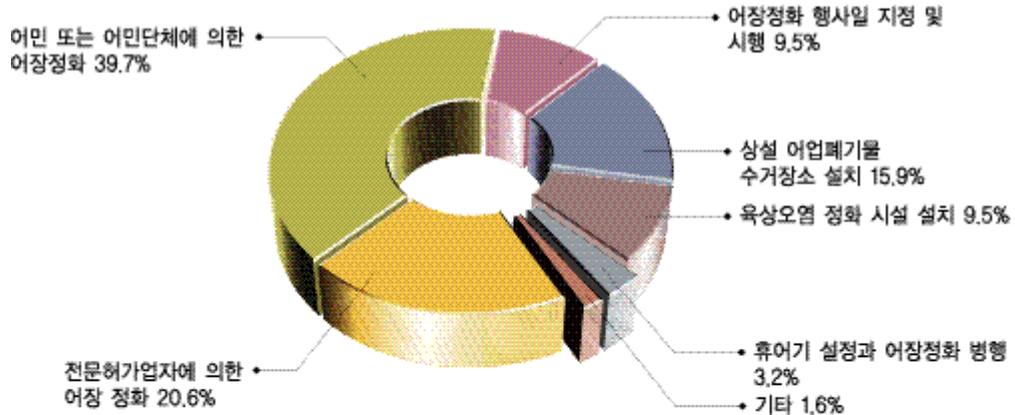
)

가 39.1%
 가 21.9%
 가 20.3%
 가 15.6%
 가 3.1%



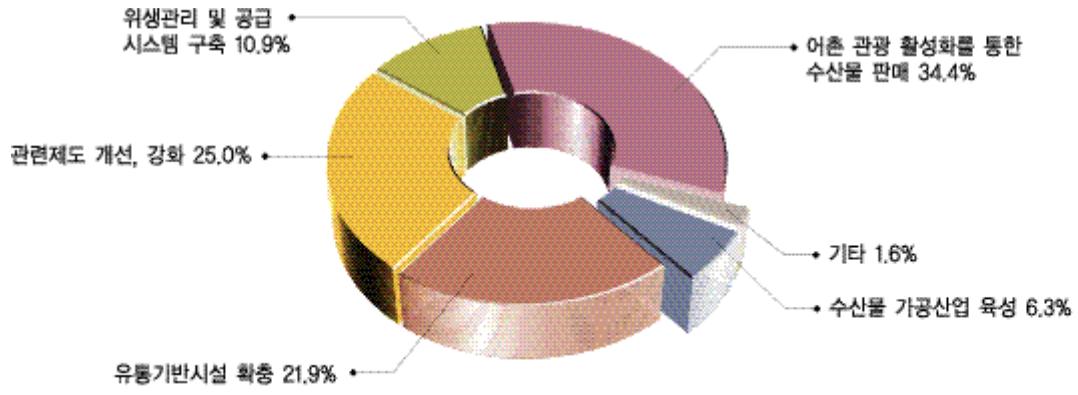
4-34.

가 39.7%
 가 20.6%
 가 15.9%
 가 9.5%



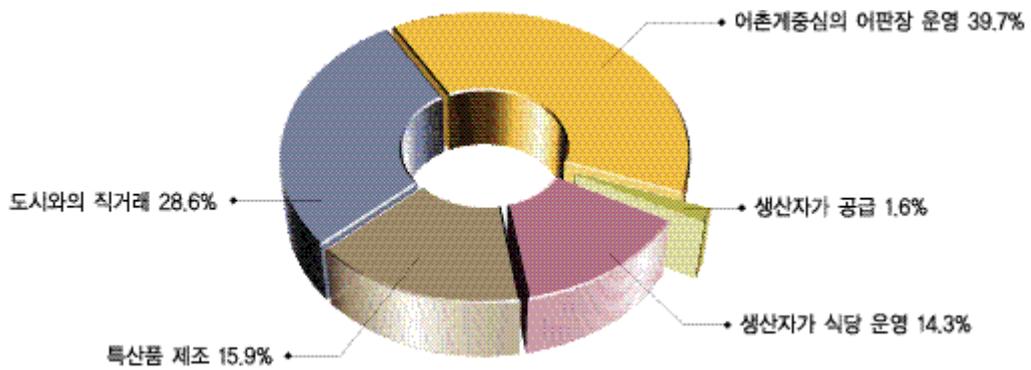
4-35.

가가 34.4%가 “ ” 21.9% ” “ 가 ” 10.9%, 6.3% 가 ” 25.0% “



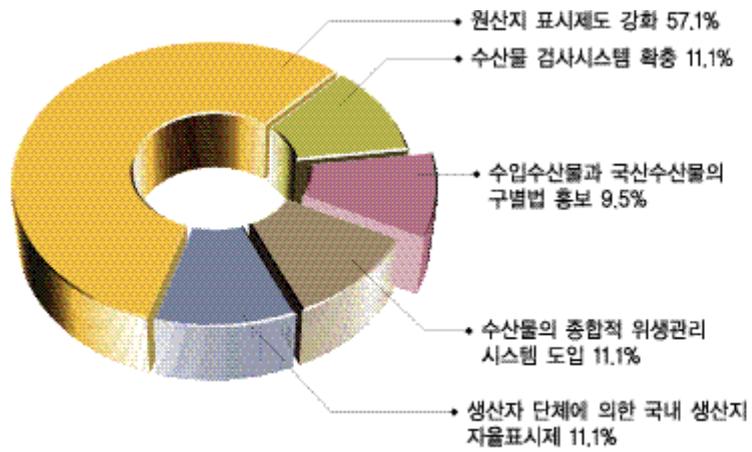
4-36. 가가 ()

가가 가 39.7%가 “ ” (28.6%)



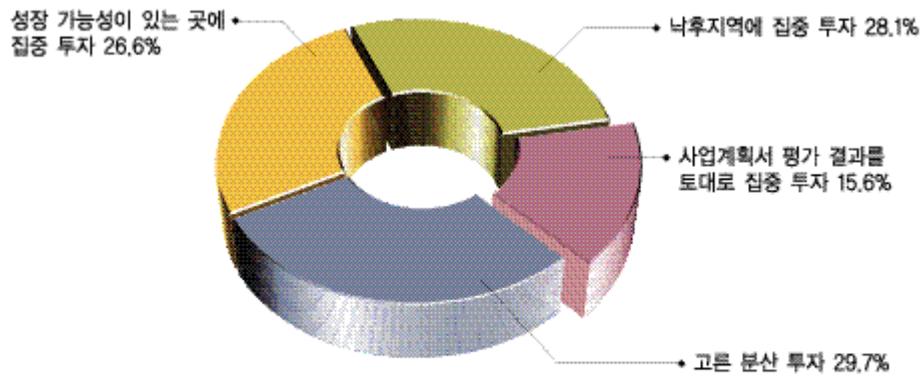
4-37. 가가 ()

가 , 가
 . “ 57.1%가 “ ” 가
 , “ ” “ (11.1%) . “
 ” “ 9.5% . “
 가



4-40.

) 가 , 가 , 가 .
 가 29.7% “ ” 가 28.1%,
 “ ” 가 가 26.6% “ 가
 ” 15.6% .



4-41.

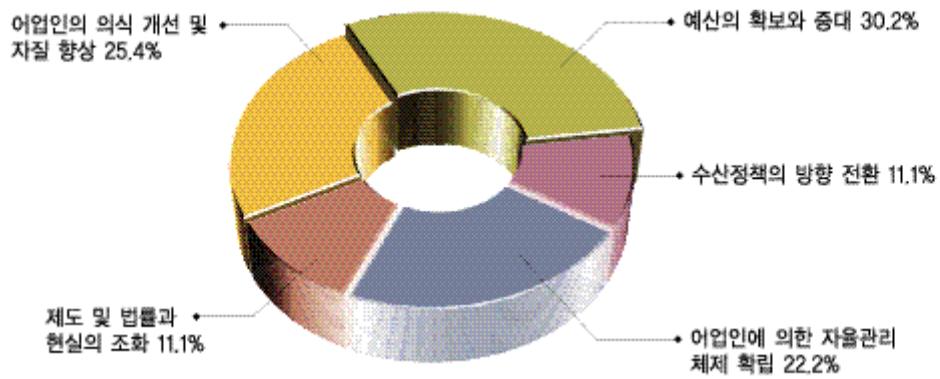
가 ,
 .
 11 “ ” (21.4%)
 , “ (19.7%) “
 ” “ 16.2%, 15.4%
 36.6%, 23.2% .
 “ 가 ” “ 가 . ”
 가 .

4-24.

	25	21.4
	23	19.7
	19	16.2
	10	8.5
	18	15.4
	10	8.5
	1	0.9
가	6	5.1
	2	1.7
가	3	2.6
	-	-
	117	100.0

가

“ (30.2%) ,“
 ” 25.4% ,“ ” 22.2%
 “ ” “ ” (11.1%)



4-42.

Korean Coastal and Offshore Fishery Census

2004 12 5

2004 12 20

⋮
⋮
⋮ , ,
⋮
⋮

