

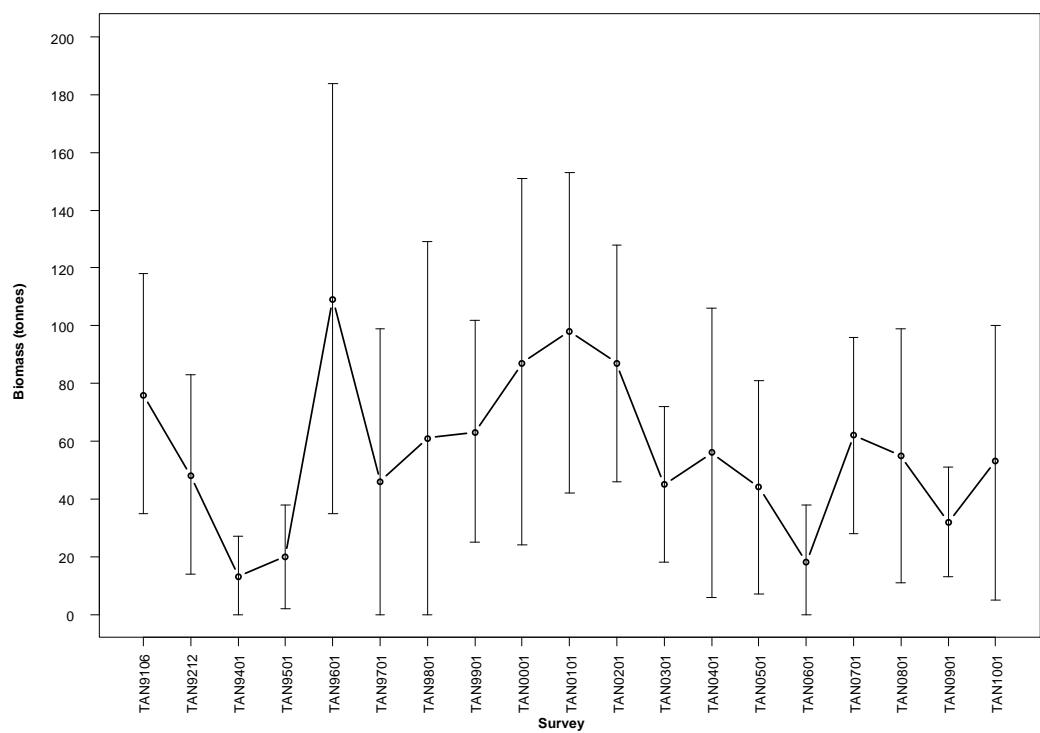


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	657.3
Number measured	21
Length range (mean) (cm, TL)	44–71 (59.1)
Number weighed	19
Length-weight parameters a, b (r^2)	—

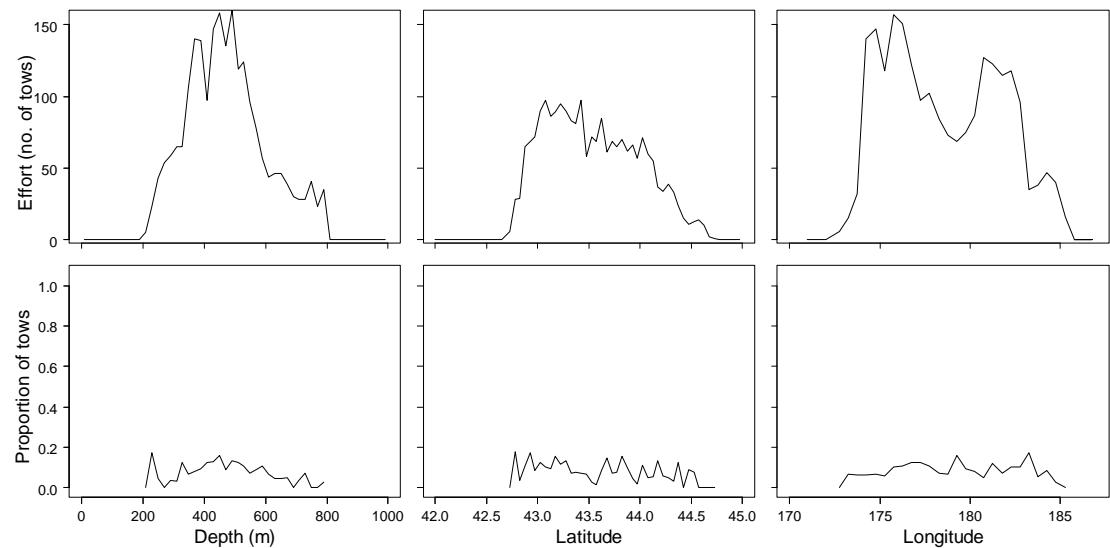
The core survey area and depth range is appropriate for this species. Biomass of this species is **moderately well** estimated in the core survey area. Biomass has **increased and then decreased** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	76	27
1993	48	36
1994	13	55
1995	20	45
1996	109	34
1997	46	57
1998	61	55
1999	63	30
2000	87	36
2001	98	28
2002	87	24
2003	45	30
2004	56	44
2005	44	42
2006	18	53
2007	62	28
2008	55	40
2009	32	30
2010	53	45



Distribution



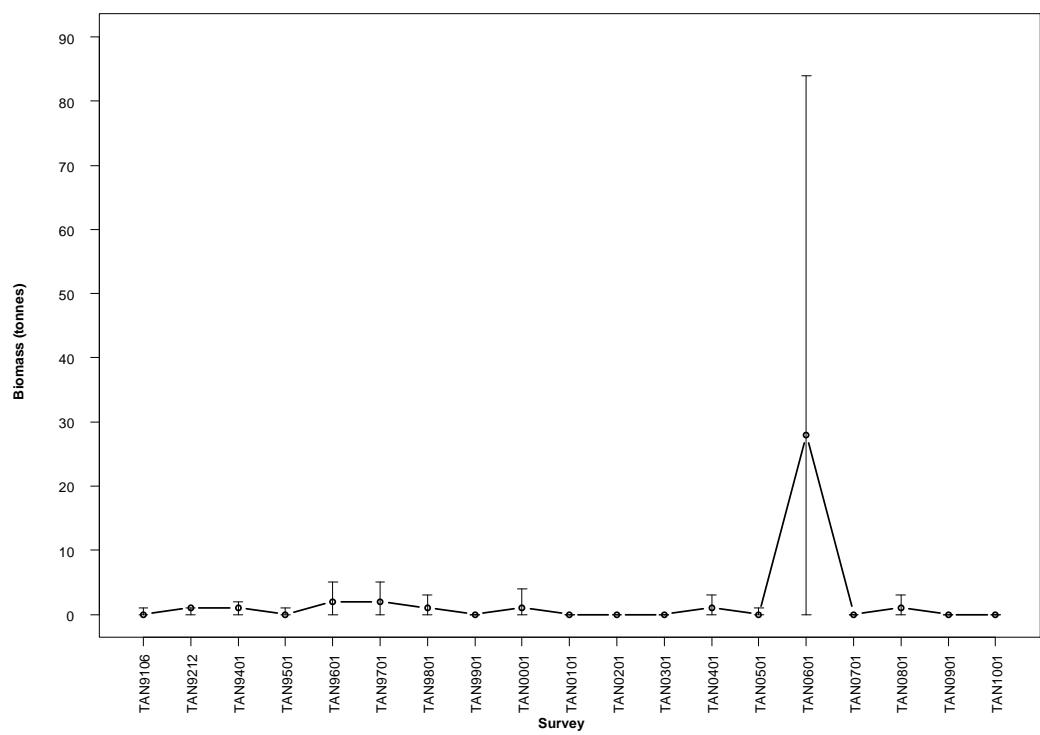


Number of surveys caught 1992–2010 (out of 19):	13
Total catch weight (kg):	32.4
Number measured	0
Length range (mean) (cm)	—
Number weighed	0
Length-weight parameters a, b (r^2)	—

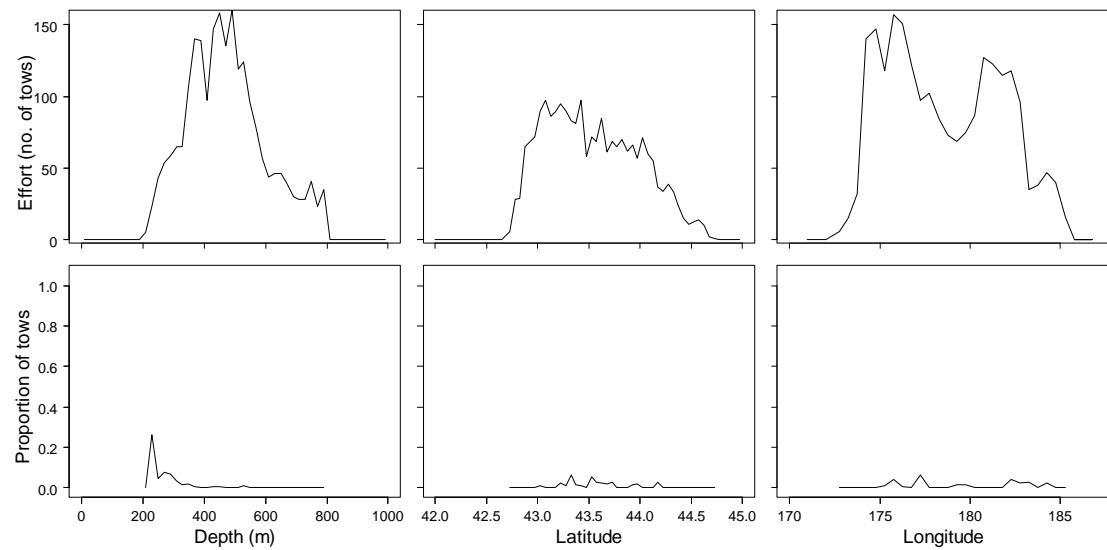
The core survey area and depth range is **not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	100
1993	1	60
1994	1	86
1995	0	100
1996	2	72
1997	2	76
1998	1	86
1999	0	-
2000	1	73
2001	0	-
2002	0	-
2003	0	-
2004	1	57
2005	0	100
2006	28	100
2007	0	-
2008	1	79
2009	0	-
2010	0	-



Distribution



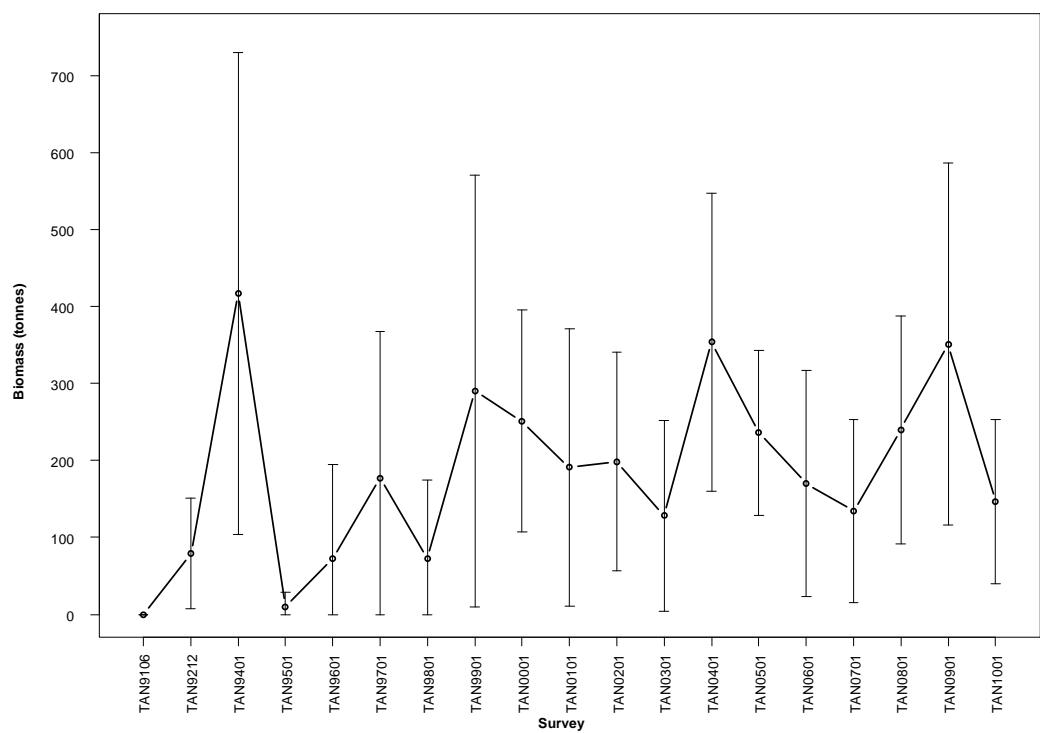


Number of surveys caught 1992–2010 (out of 19):	18
Total catch weight (kg):	1 602.6
Number measured	112
Length range (mean) (cm, TL)	44–143 (90.5)
Number weighed	98
Length-weight parameters a, b (r^2)	—

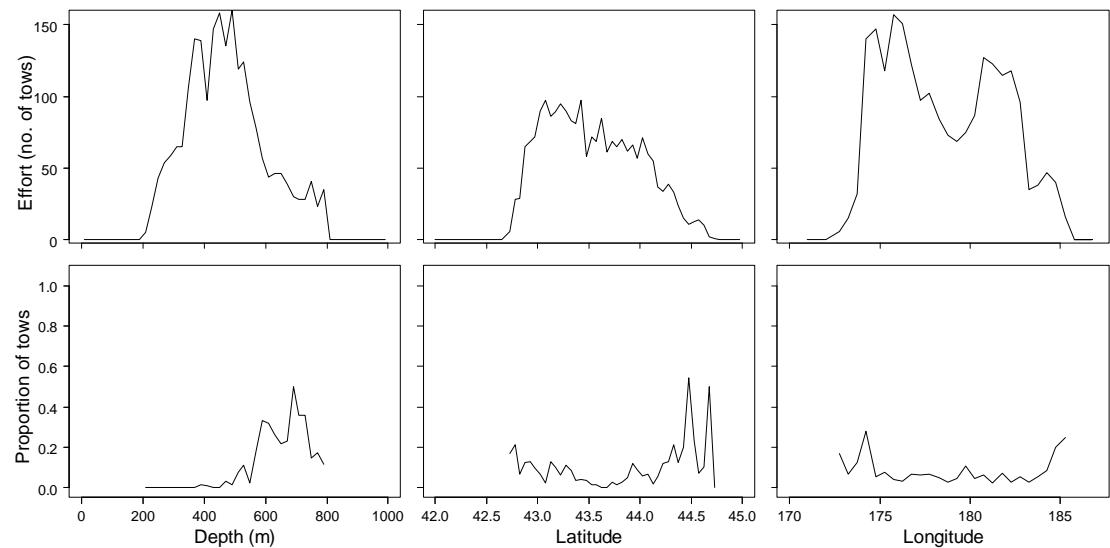
The core survey area and depth range is **not** appropriate for this species. It is found **deeper than 800 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	-
1993	79	46
1994	417	38
1995	10	92
1996	72	85
1997	177	54
1998	72	70
1999	290	48
2000	251	29
2001	191	47
2002	198	36
2003	128	48
2004	354	27
2005	236	23
2006	170	43
2007	134	44
2008	240	31
2009	351	34
2010	146	36



Distribution



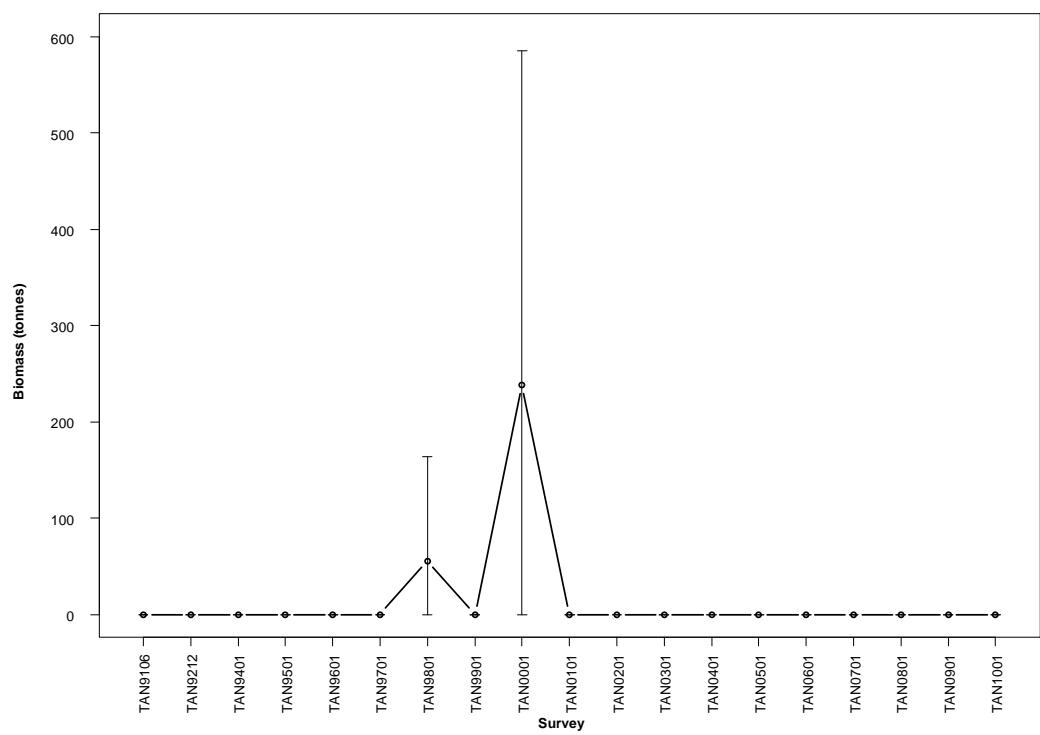


Number of surveys caught 1992–2010 (out of 19):	4
Total catch weight (kg):	275.2
Number measured	1
Length range (mean) (cm)	—
Number weighed	0
Length-weight parameters a, b (r^2)	—

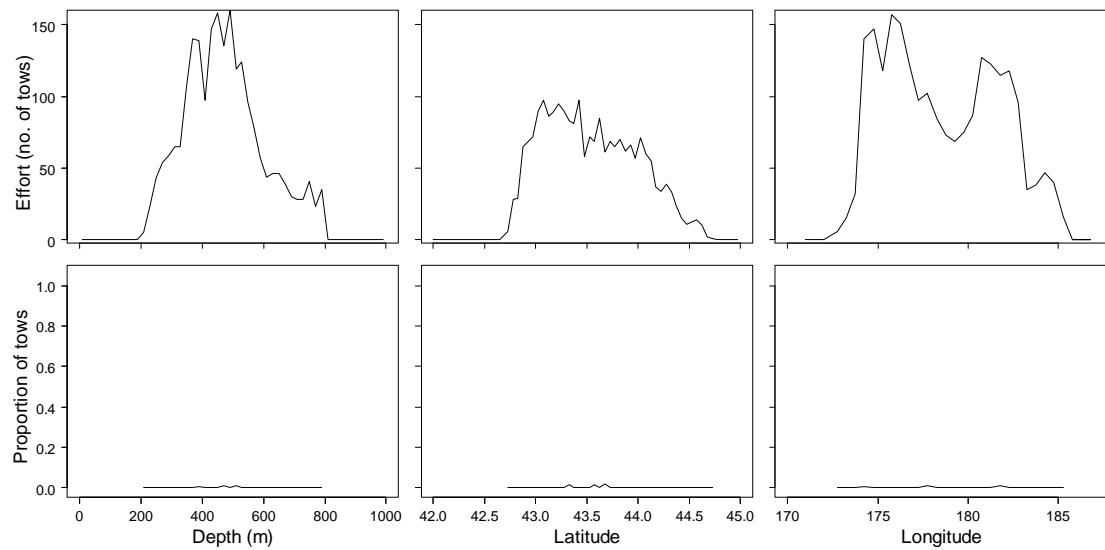
The core survey area and depth range **is not** appropriate for this species. It occurs in midwater. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	-
1993	0	-
1994	0	-
1995	0	-
1996	0	-
1997	0	-
1998	55	100
1999	0	-
2000	238	73
2001	0	-
2002	0	-
2003	0	-
2004	0	-
2005	0	-
2006	0	-
2007	0	-
2008	0	-
2009	0	-
2010	0	-



Distribution



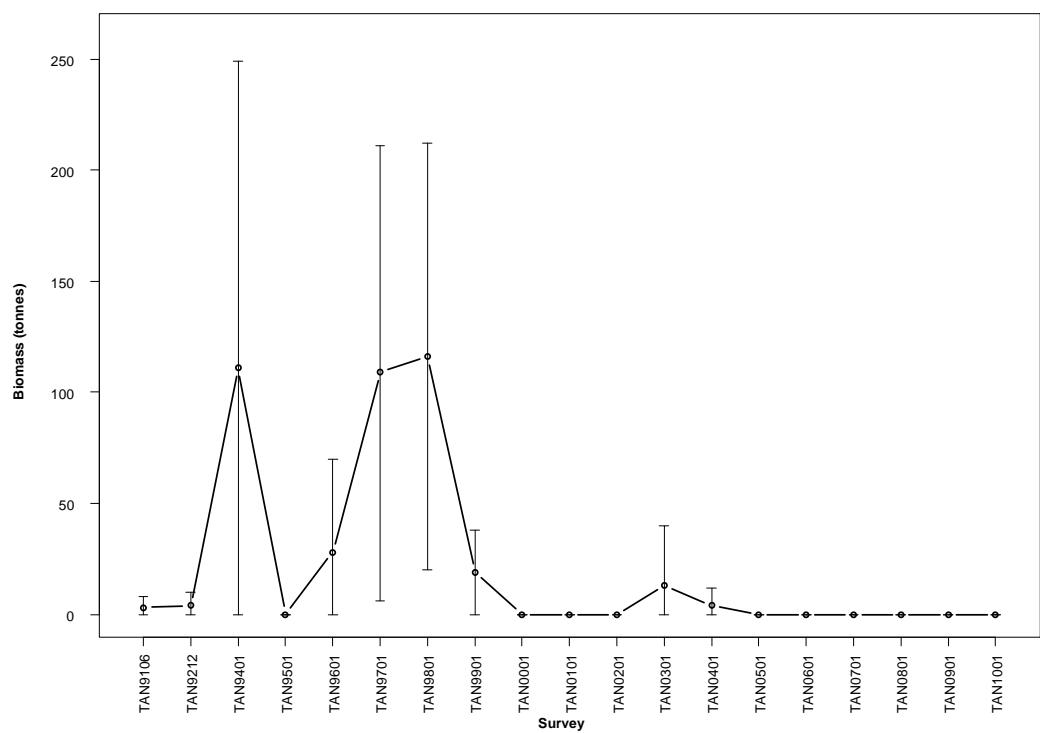


Number of surveys caught 1992–2010 (out of 19):	9
Total catch weight (kg):	160.3
Number measured	0
Length range (mean) (cm)	—
Number weighed	0
Length-weight parameters a, b (r^2)	—

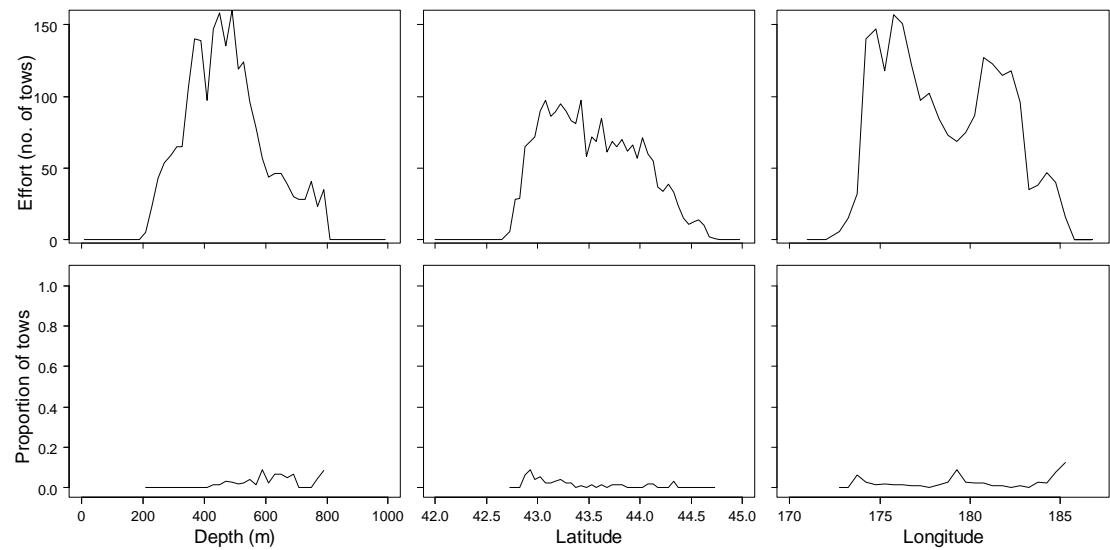
The core survey area and depth range is appropriate for this species. Biomass of this species is **poorly** estimated in the core survey area. Biomass has **decreased** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	3	100
1993	4	72
1994	111	62
1995	0	—
1996	28	74
1997	109	47
1998	116	41
1999	19	50
2000	0	—
2001	0	—
2002	0	—
2003	13	100
2004	4	87
2005	0	—
2006	0	—
2007	0	—
2008	0	—
2009	0	—
2010	0	—



Distribution



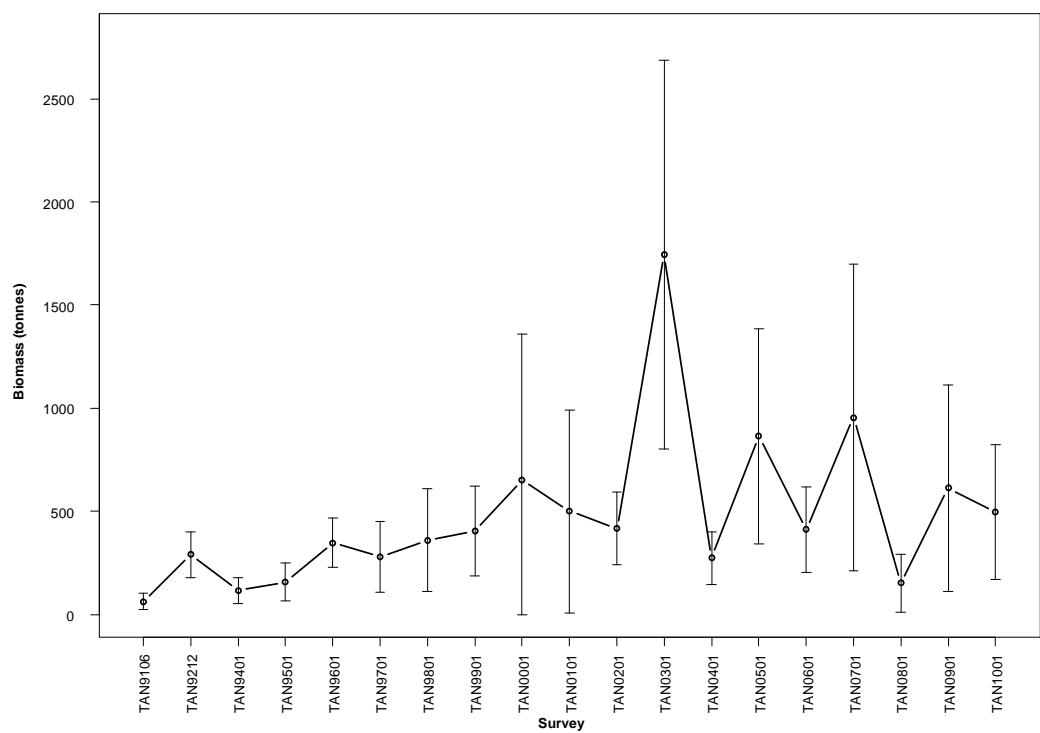


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	7 176
Number measured	3 752
Length range (mean) (cm, FL)	26–57
Number weighed	1 463
Length-weight parameters a, b (r^2)	0.031707, 2.845211 (89.15)

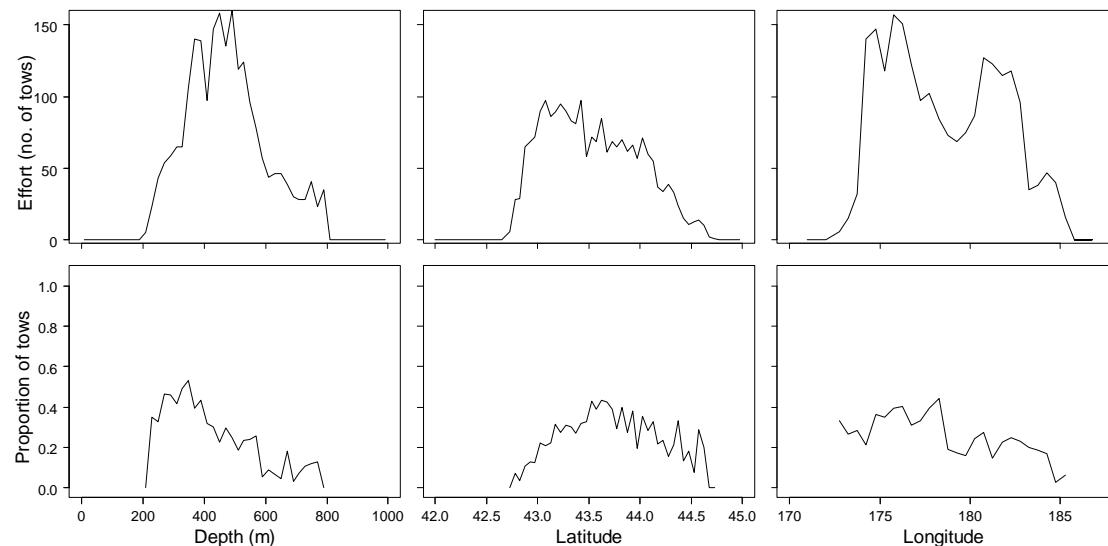
The core survey area and depth range is **not** appropriate for this species. It occurs in midwater. Biomass of this species is **moderately well** estimated in the core survey area. Biomass has **increased** since the start of the time series. Catch rates are highest in the **west**. Length frequencies **have multiple modes which may contain information about year-class strength**. Mean length **shows no clear trend** since the start of the time series.

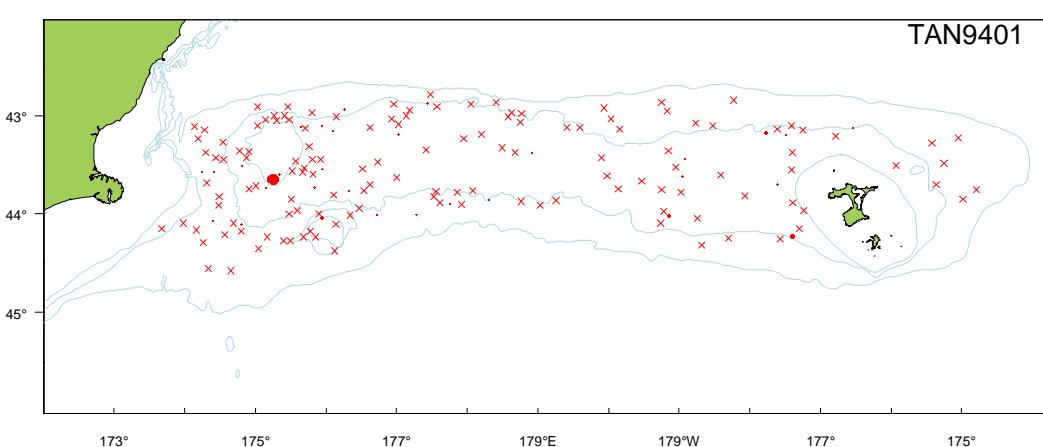
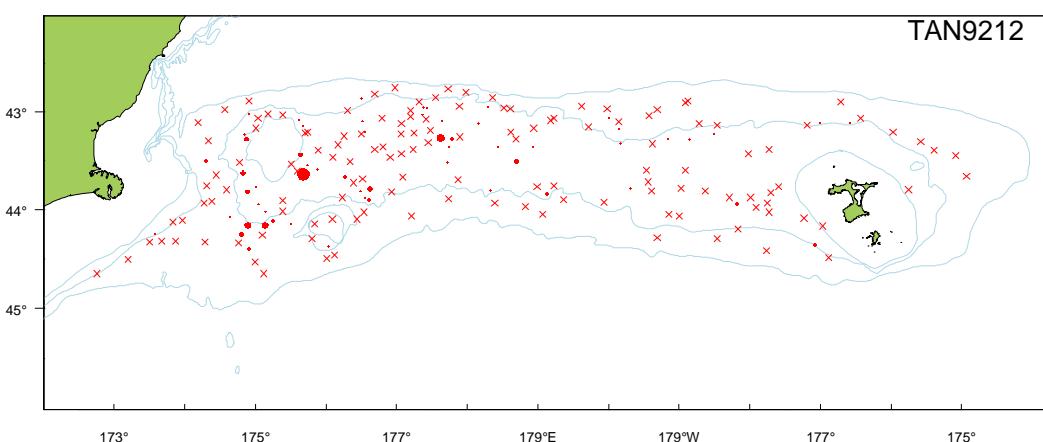
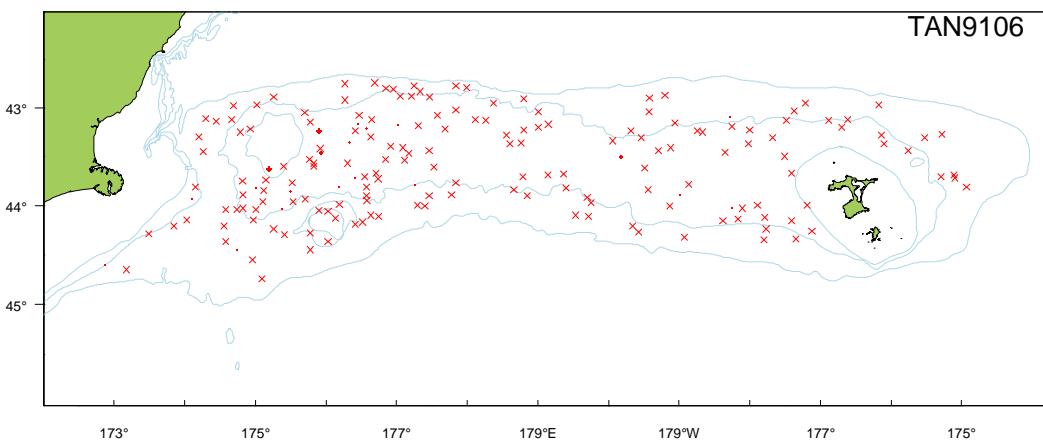
Relative biomass estimates and length summary

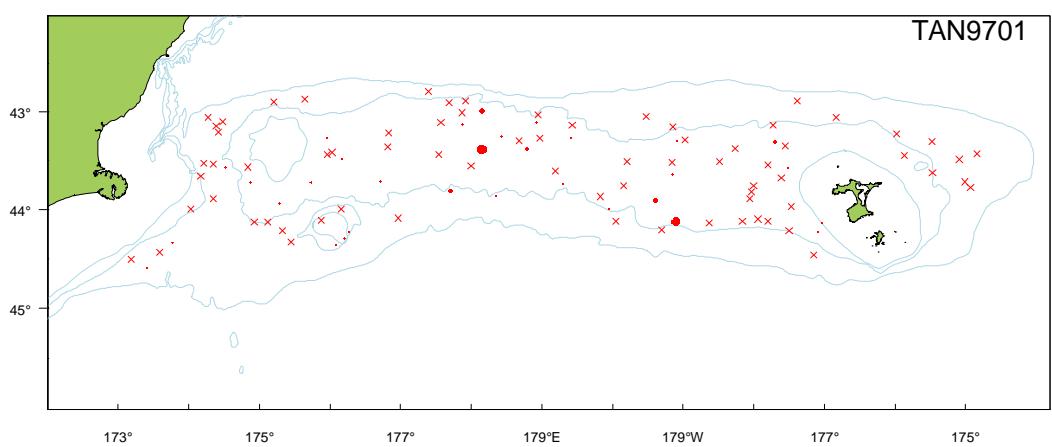
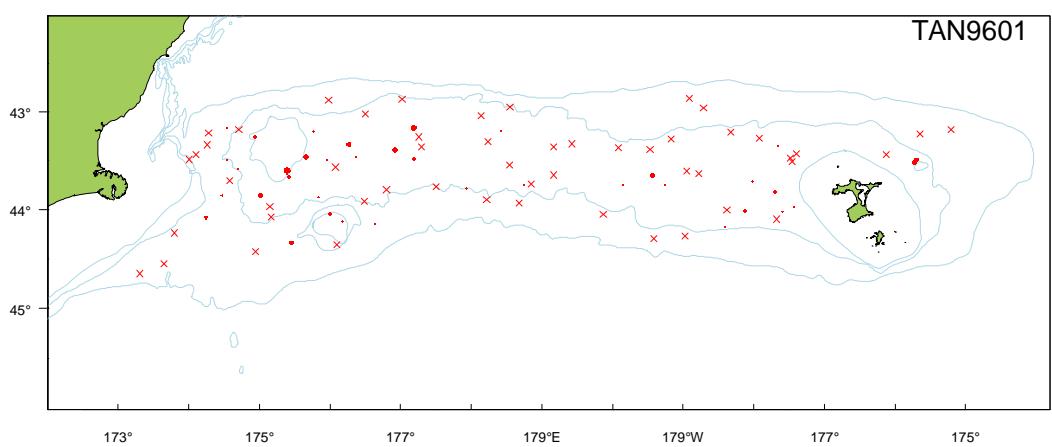
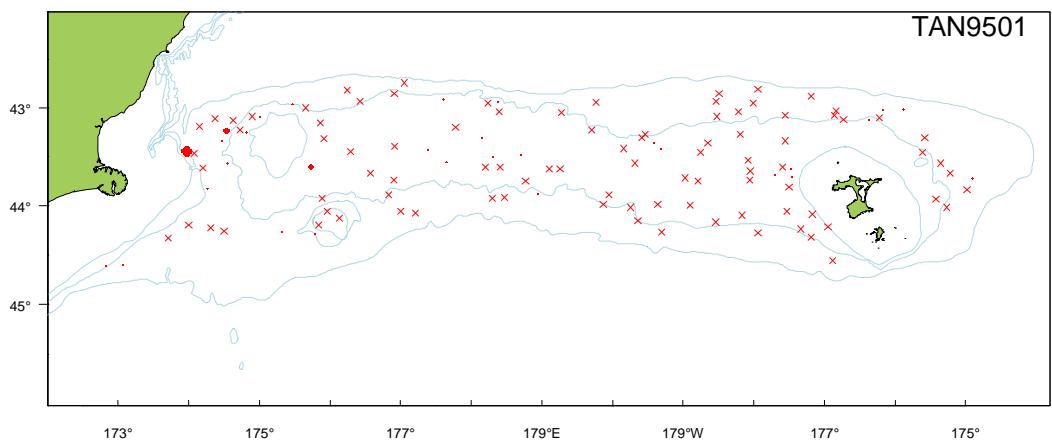
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	63	31	-	-	-	0
1993	290	20	-	-	-	0
1994	116	28	-	-	-	0
1995	158	30	31	49	41.4	89
1996	347	18	34	53	38.4	166
1997	280	31	36	48	41.8	120
1998	360	35	40	51	44.1	137
1999	405	27	35	53	42.5	141
2000	652	56	-	-	-	0
2001	500	50	34	50	42.8	125
2002	417	21	33	56	40.7	164
2003	1 745	28	29	57	41.9	857
2004	273	24	29	49	41.7	75
2005	864	31	35	51	42.8	267
2006	411	26	26	49	41.6	114
2007	955	40	36	49	43.6	279
2008	152	47	36	47	40.8	58
2009	613	42	38	50	44.3	167
2010	495	34	29	49	41.1	134

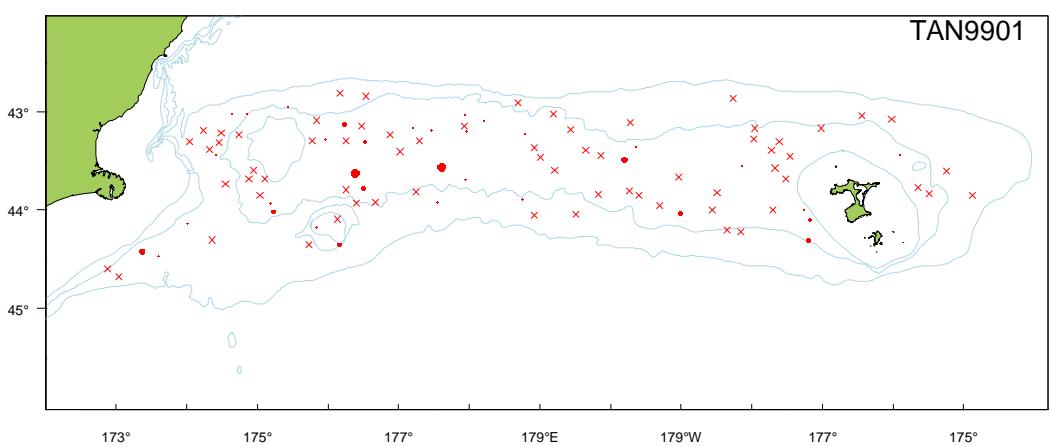
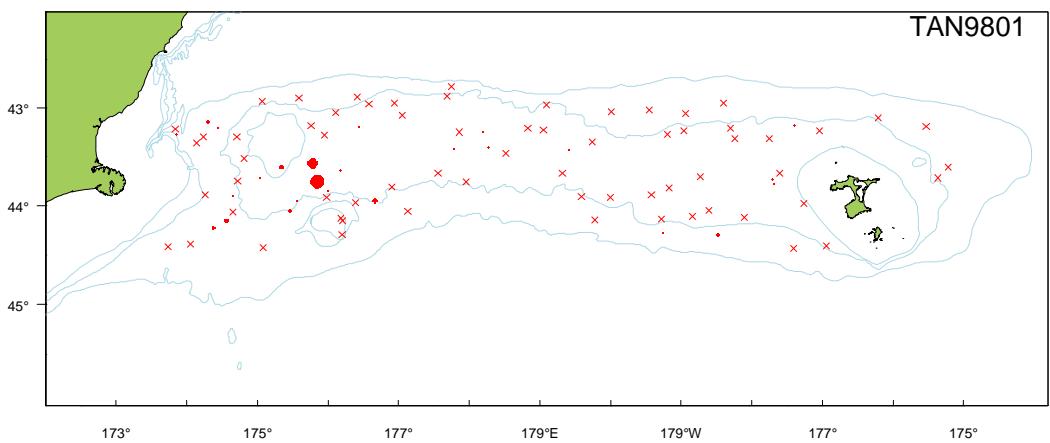


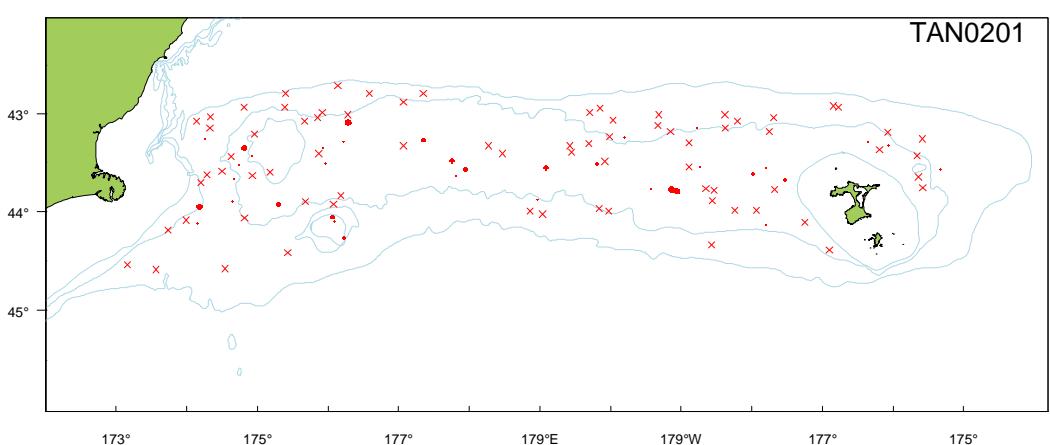
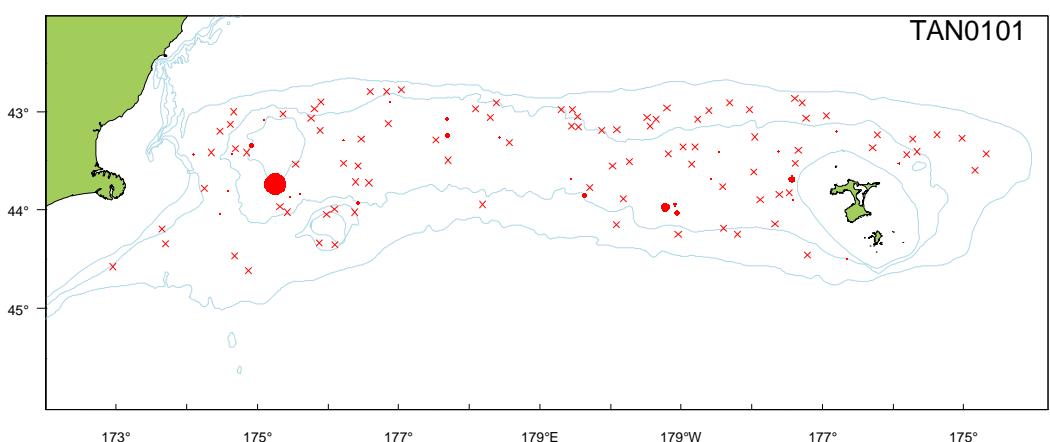
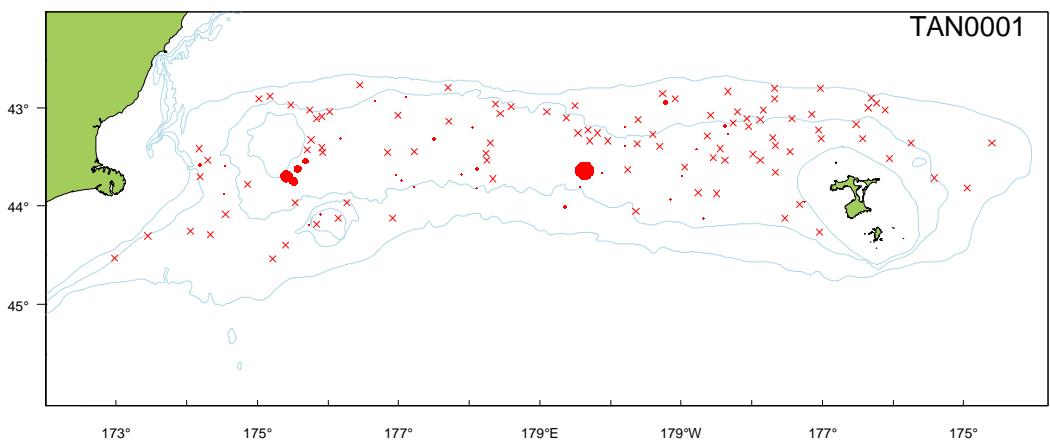
Distribution

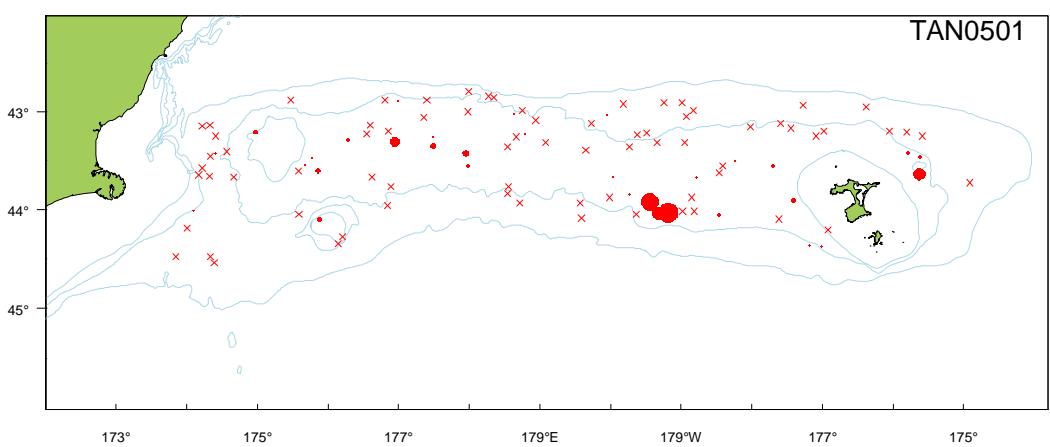
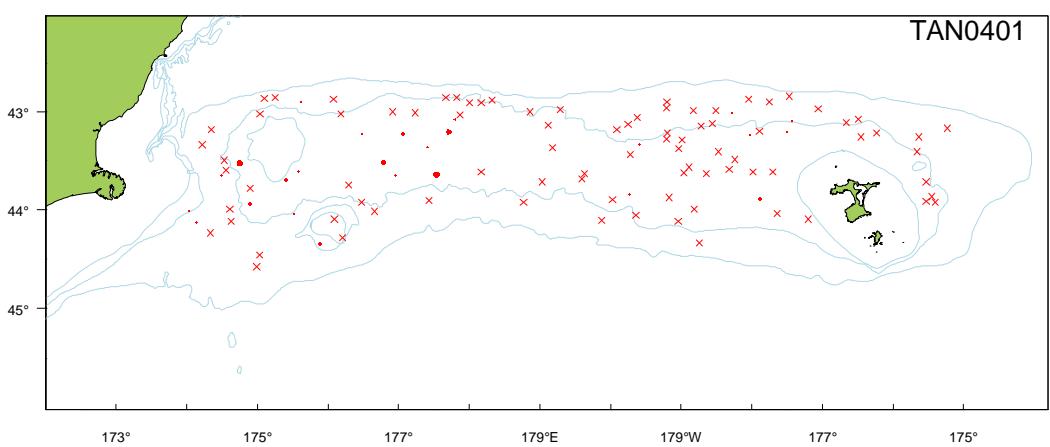
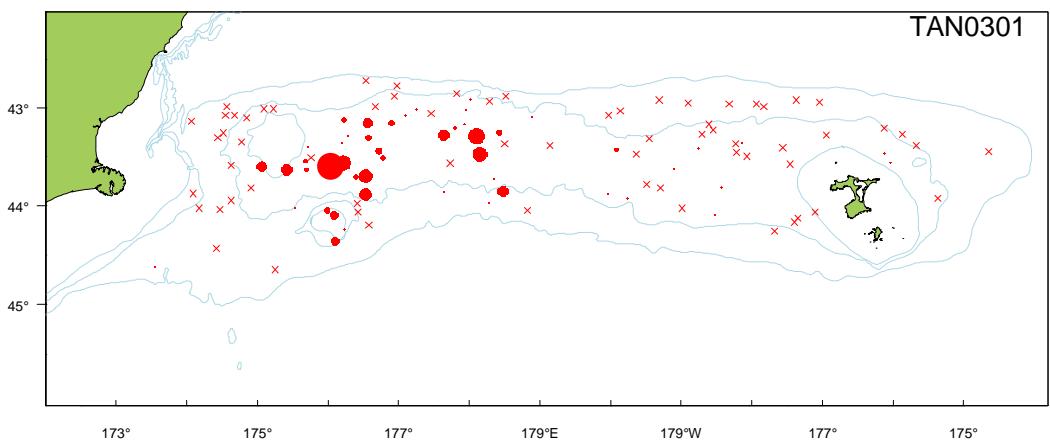


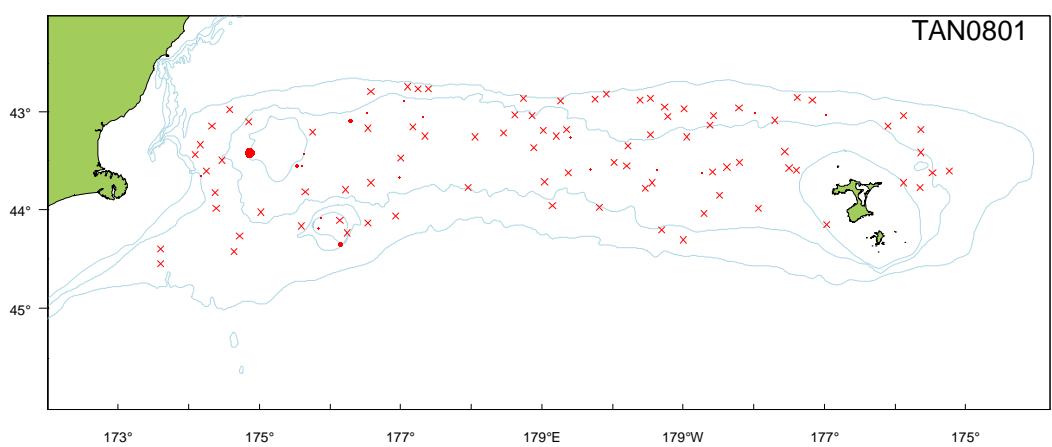
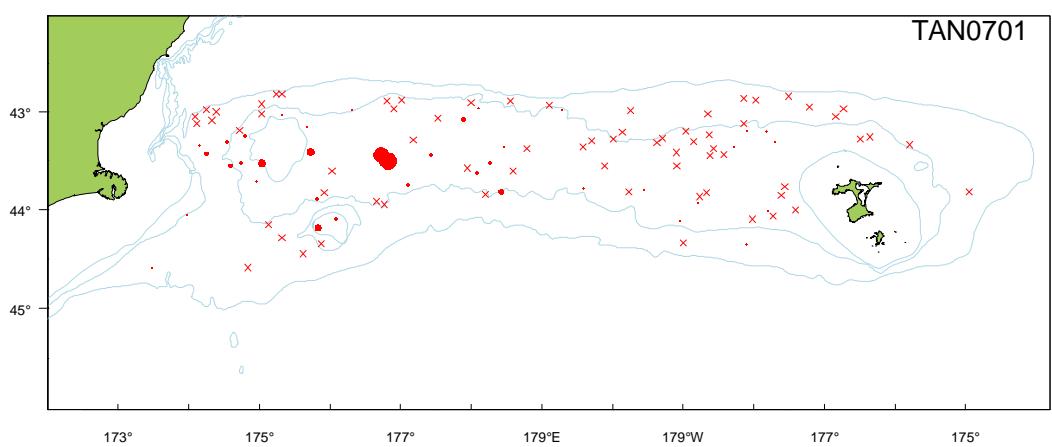
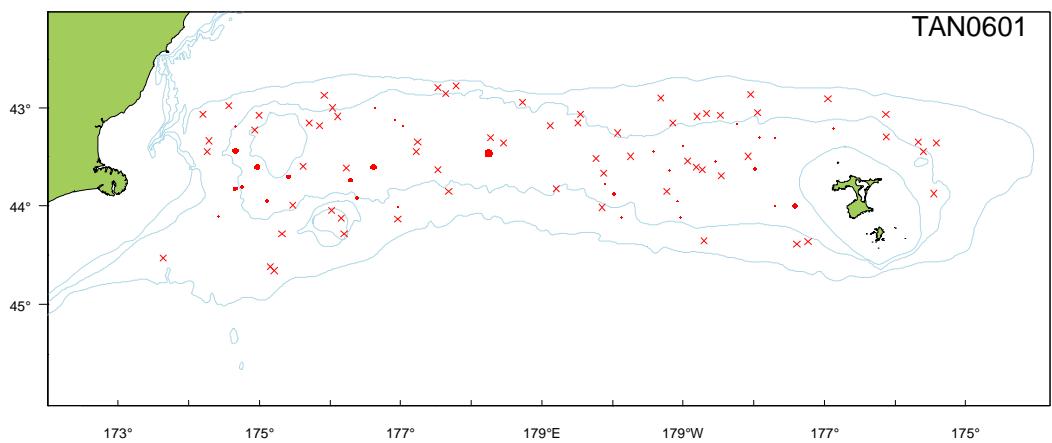


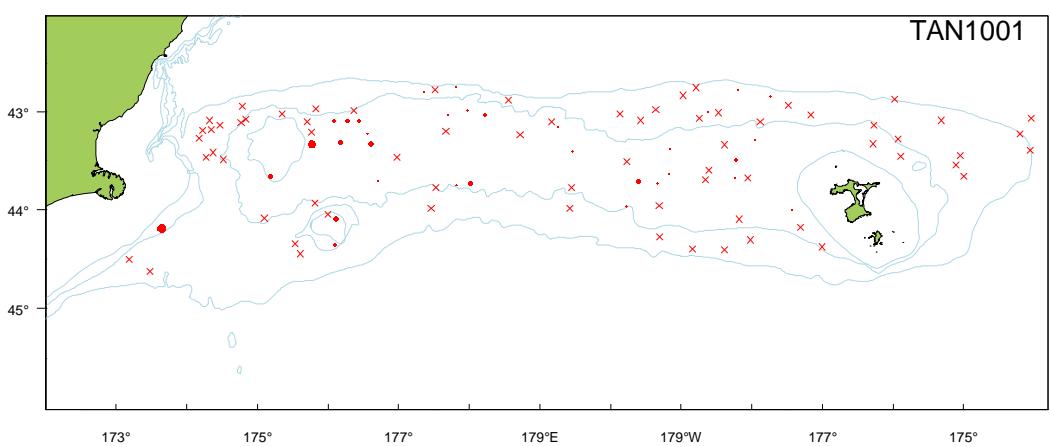
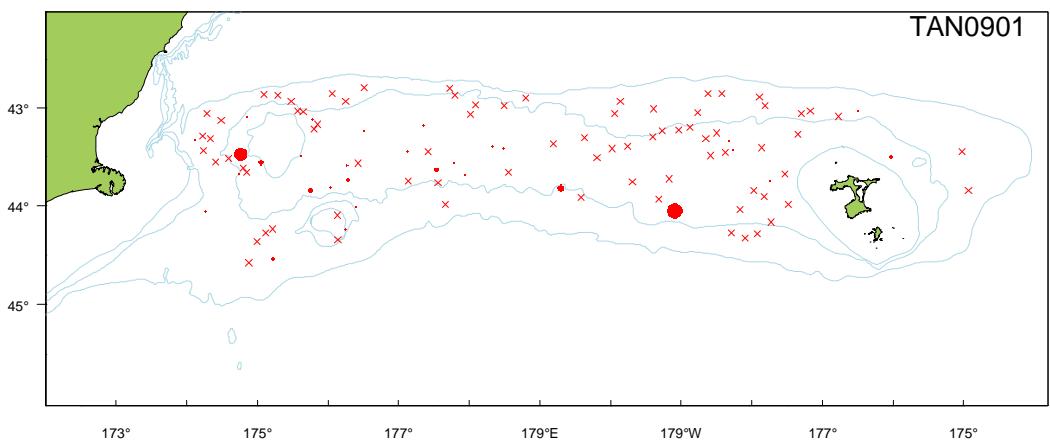




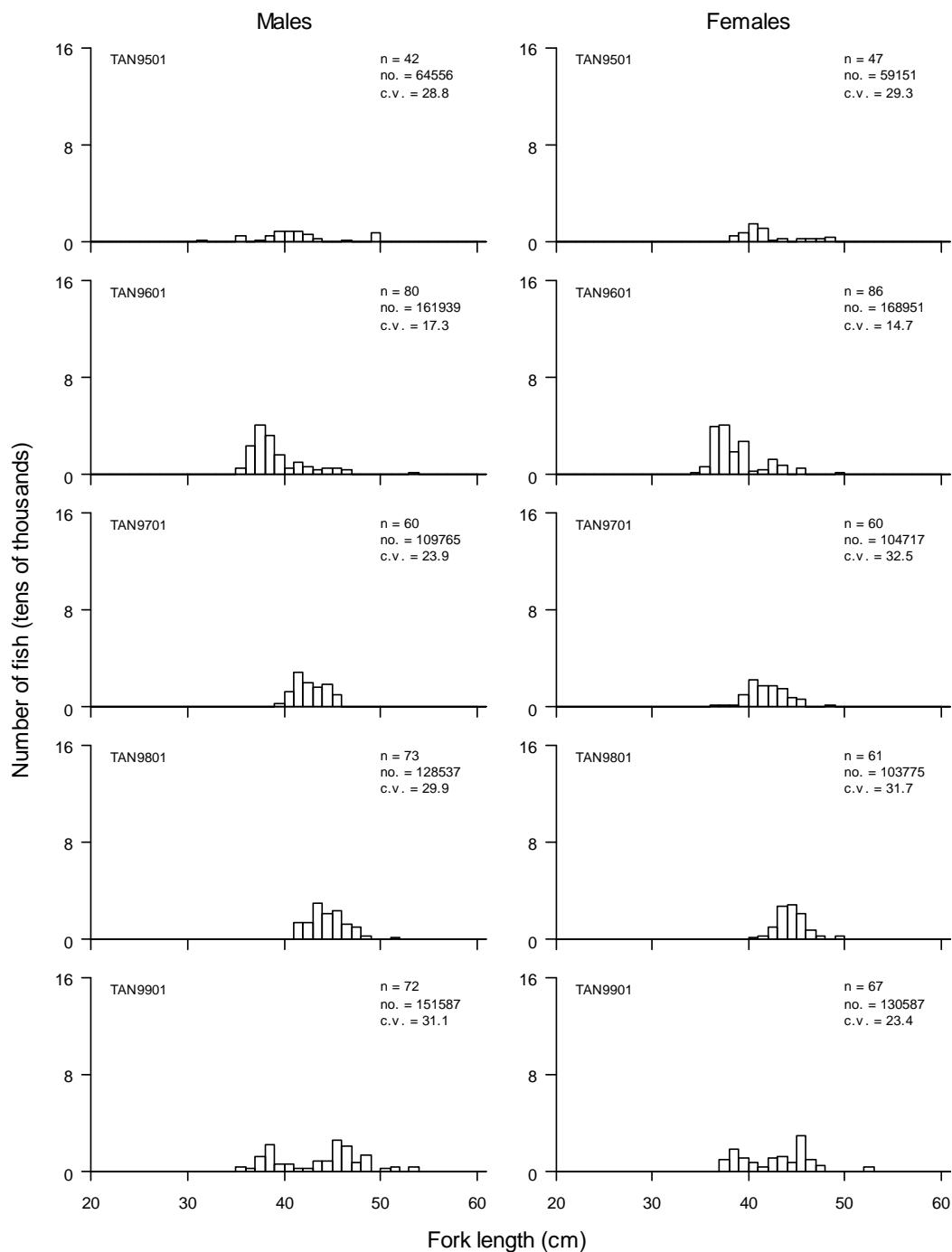


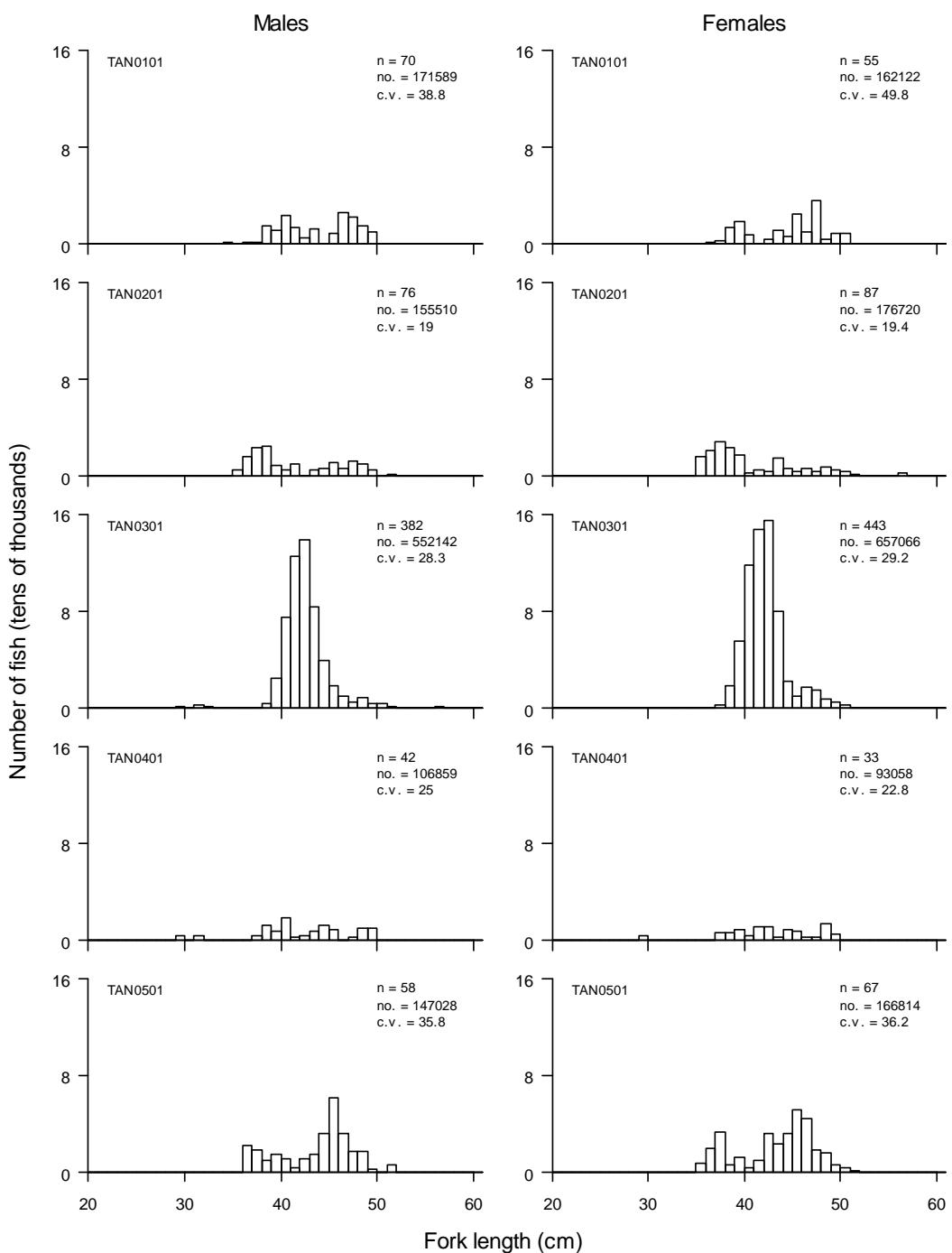


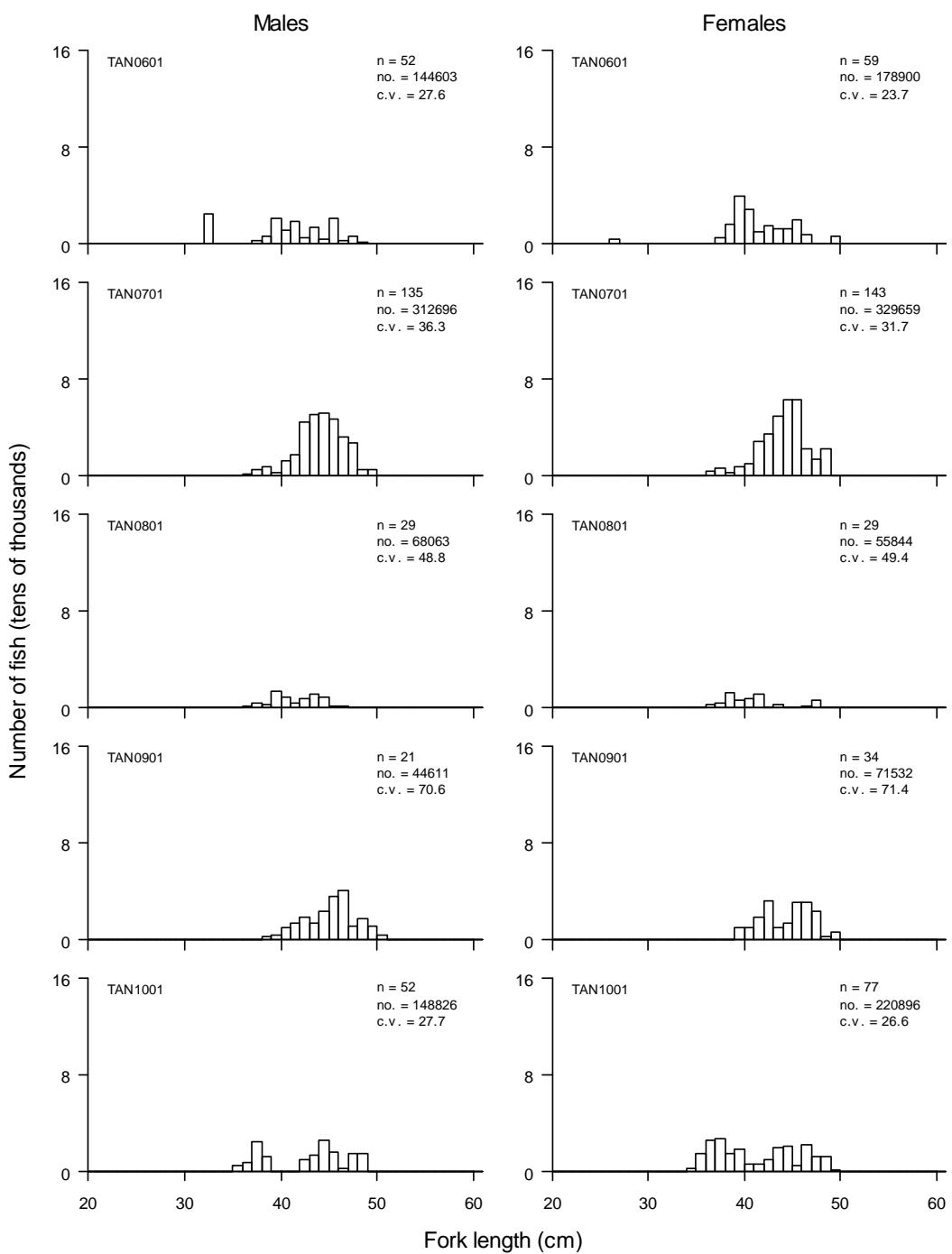




Length Frequencies







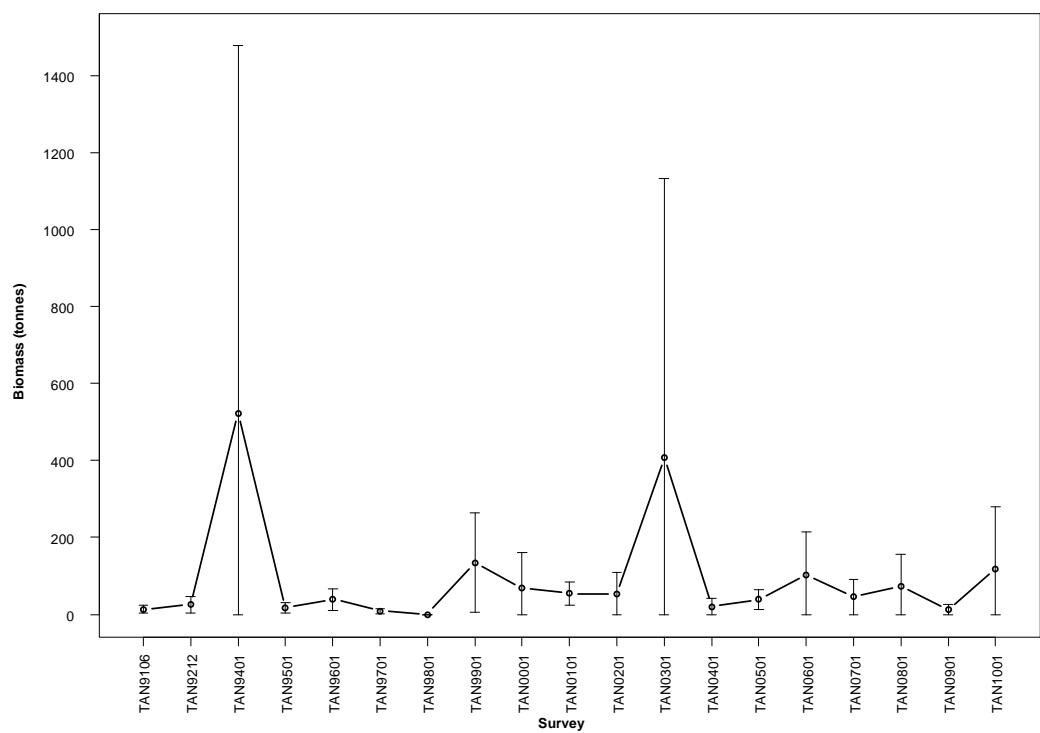


Number of surveys caught 1992–2010 (out of 19):	18
Total catch weight (kg):	1 320.1
Number measured	697
Length range (mean) (cm, FL)	14–42 (33.5)
Number weighed	165
Length-weight parameters a, b (r^2)	0.014358, 2.968138 (95.53)

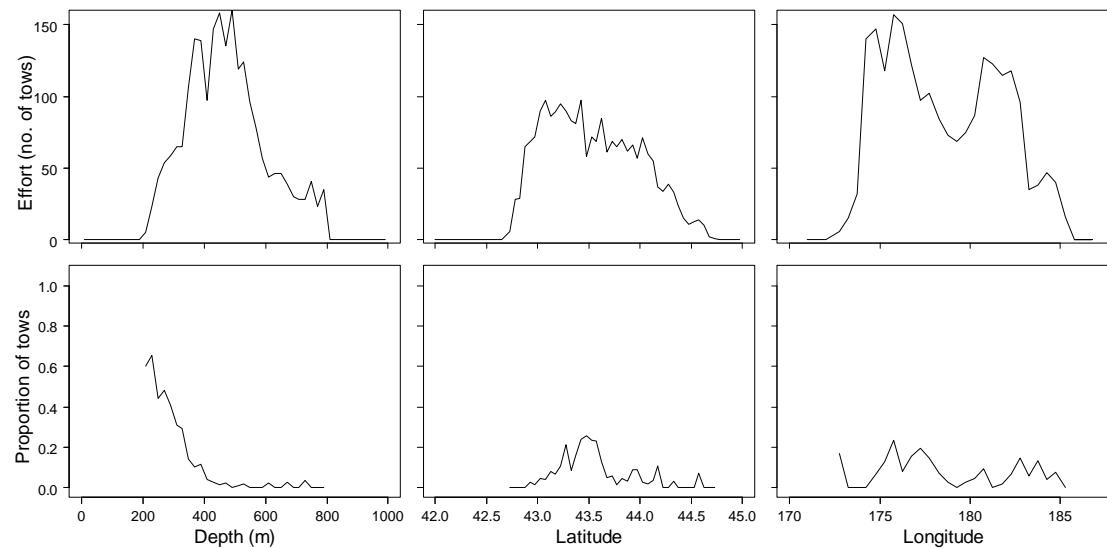
The core survey area and depth range is **not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Length frequencies are usually **unimodal**. Mean length **shows no clear trend** since the start of the time series.

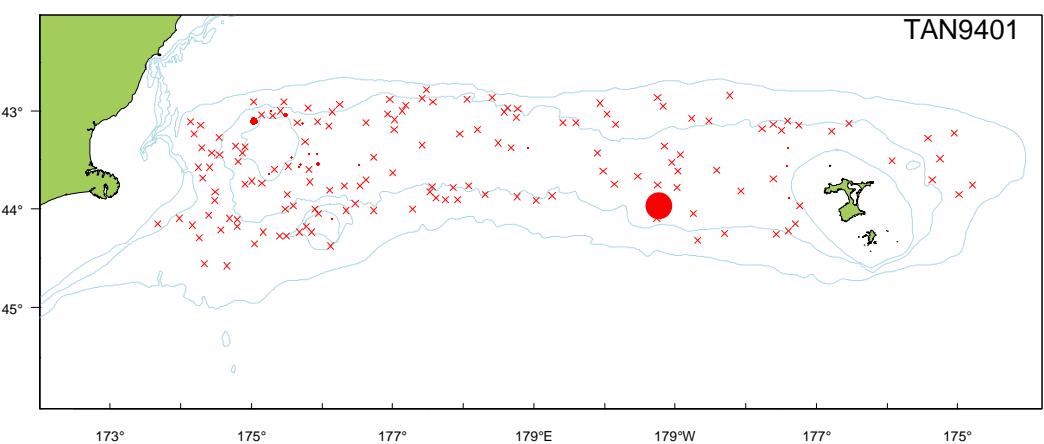
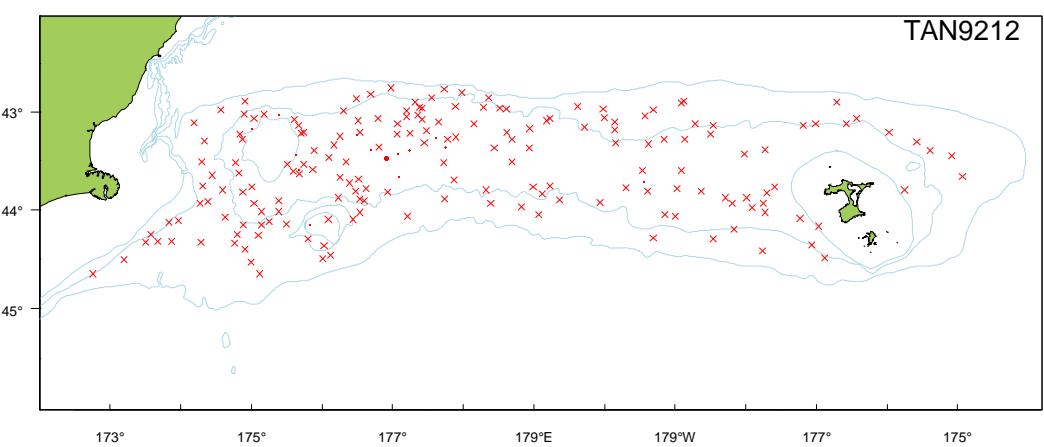
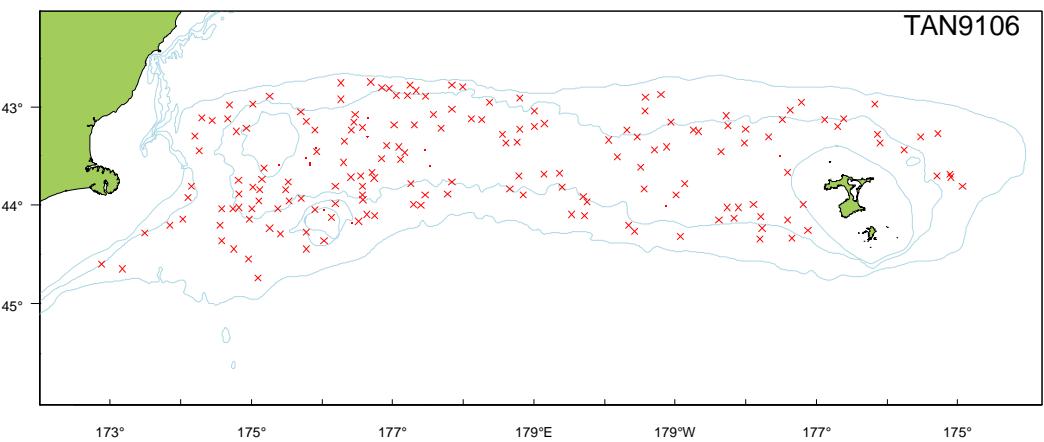
Relative biomass estimates and length summary

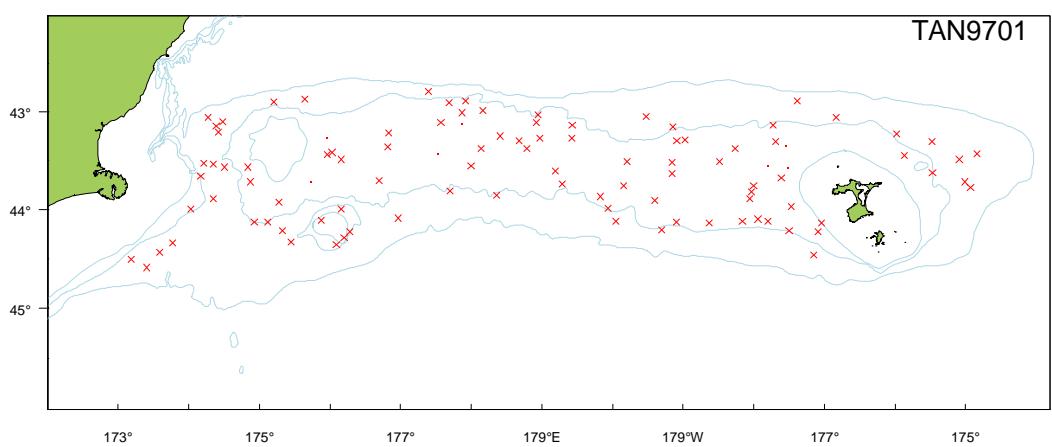
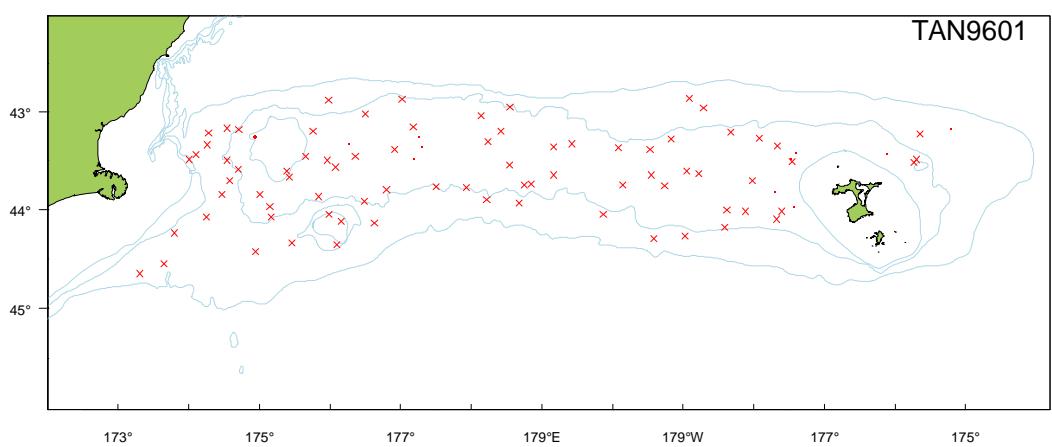
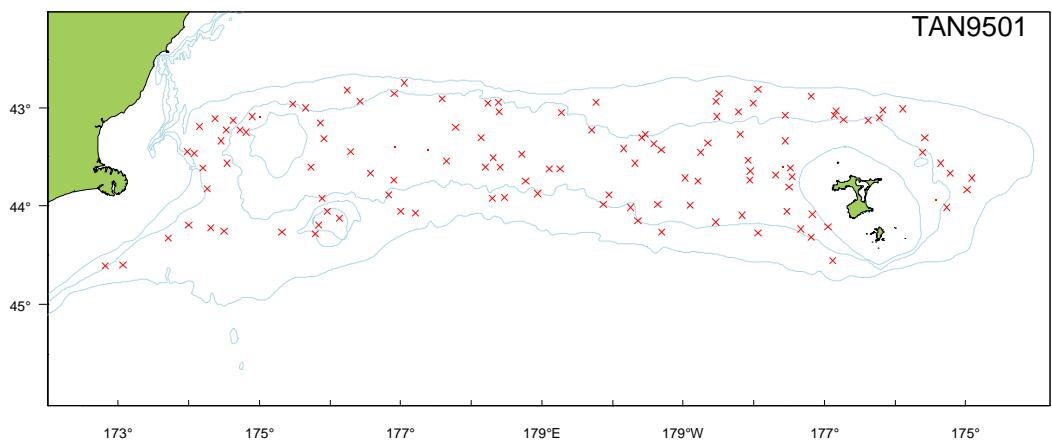
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	13	40	-	-	-	0
1993	25	43	-	-	-	0
1994	522	92	-	-	-	0
1995	17	42	-	-	-	0
1996	39	35	-	-	-	0
1997	9	39	-	-	-	0
1998	0	-	-	-	-	0
1999	134	48	14	42	36.0	99
2000	68	68	32	38	35.6	48
2001	54	29	19	40	34.9	34
2002	52	55	14	37	32.8	69
2003	408	89	26	39	35.1	111
2004	20	55	21	36	28.2	11
2005	39	33	20	41	35.0	31
2006	102	55	20	37	29.0	105
2007	46	50	33	37	35.0	2
2008	73	58	37	38	37.7	3
2009	12	49	23	38	30.1	13
2010	119	68	18	39	33.1	79

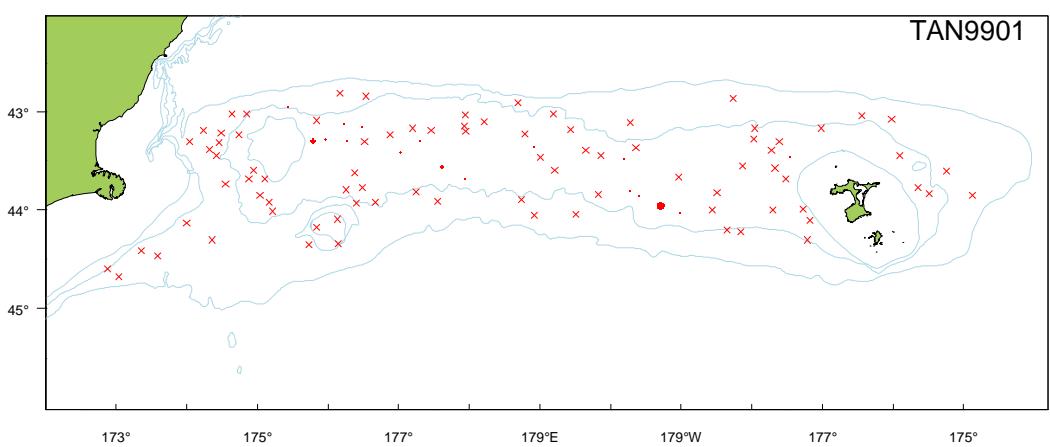
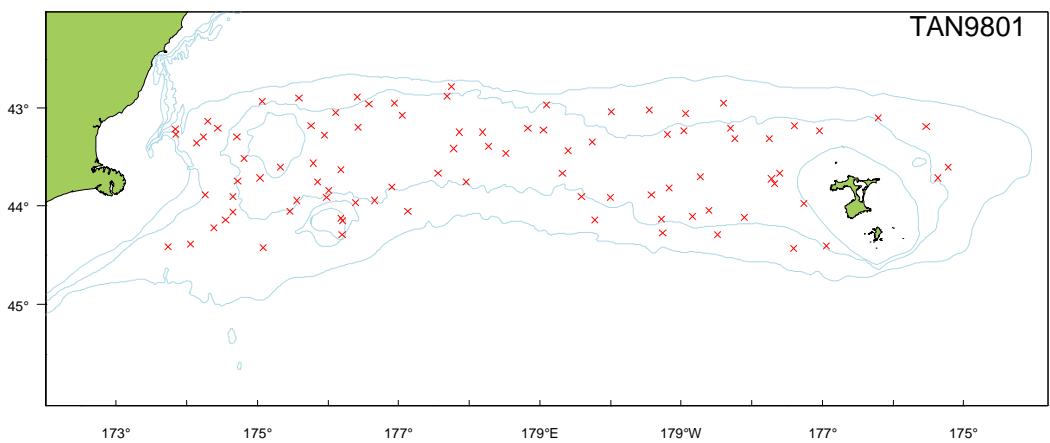


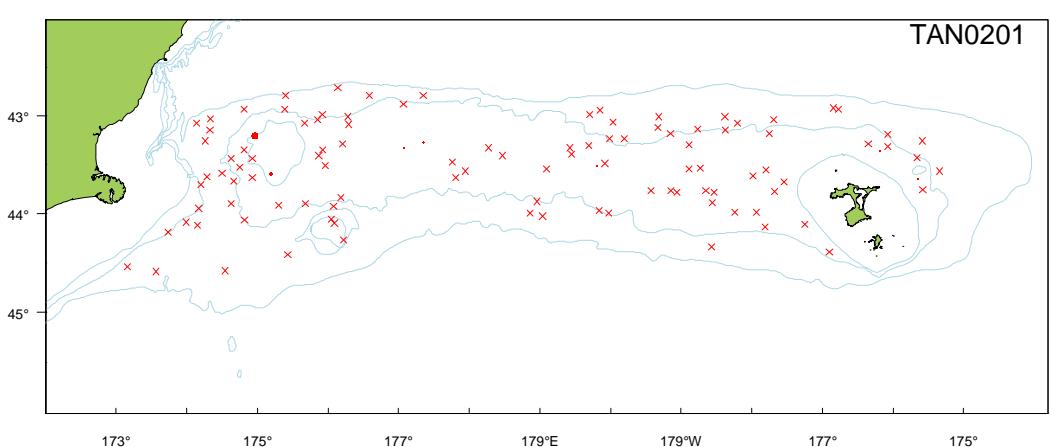
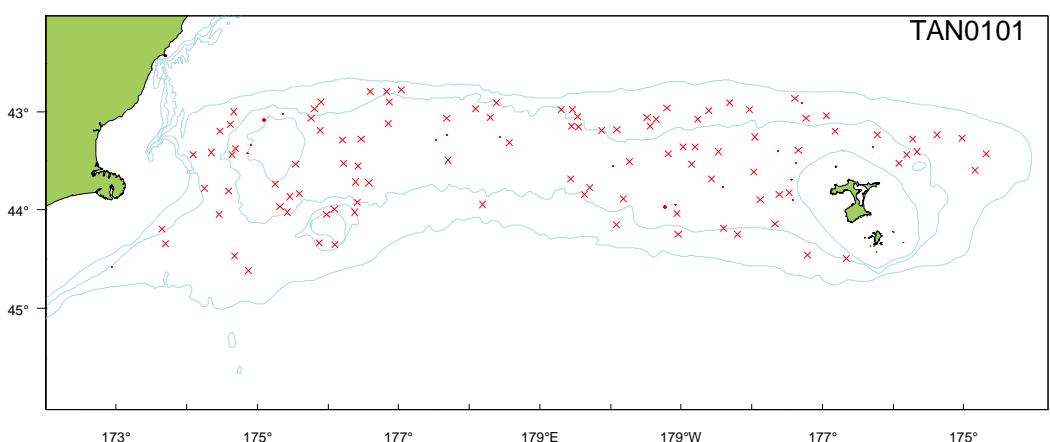
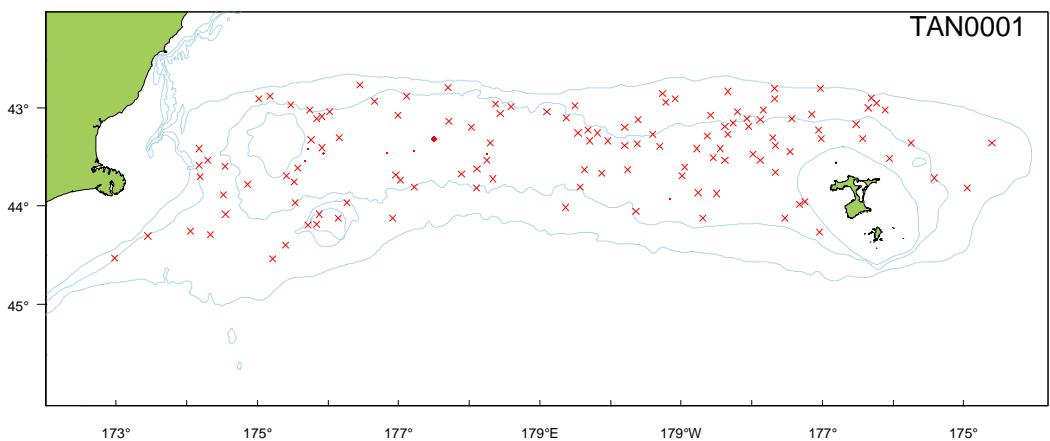
Distribution

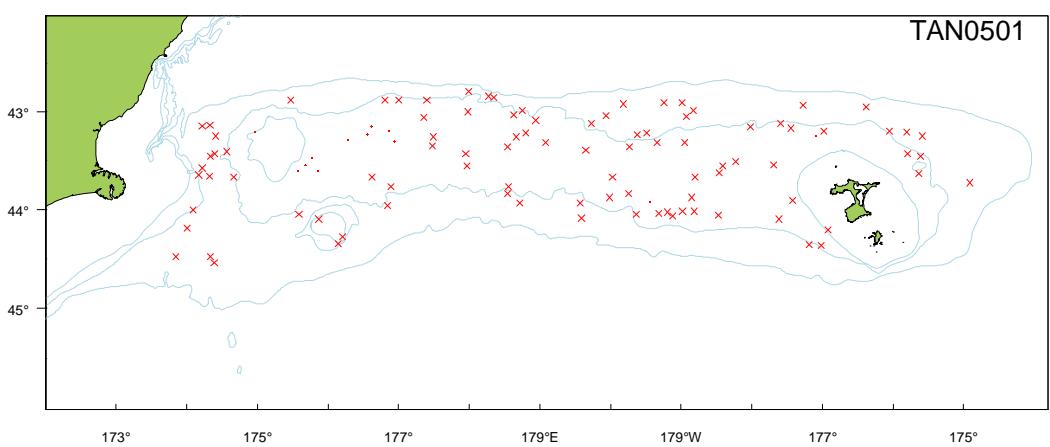
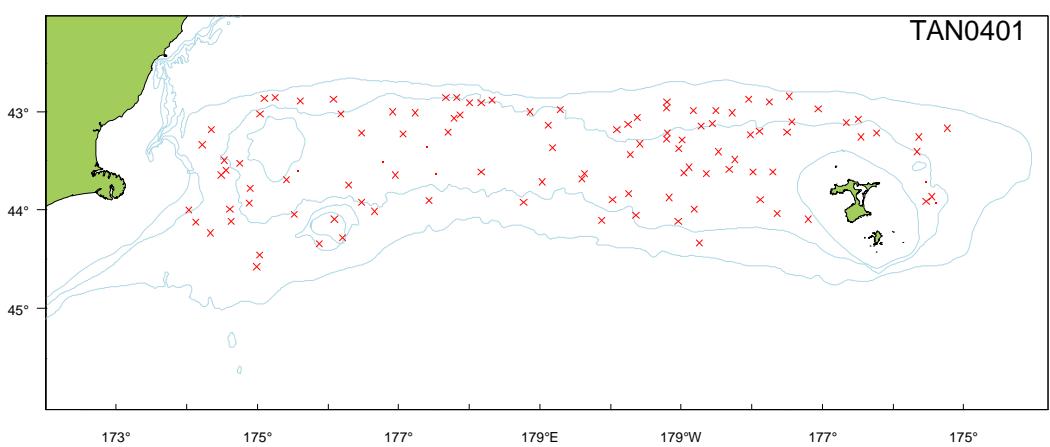
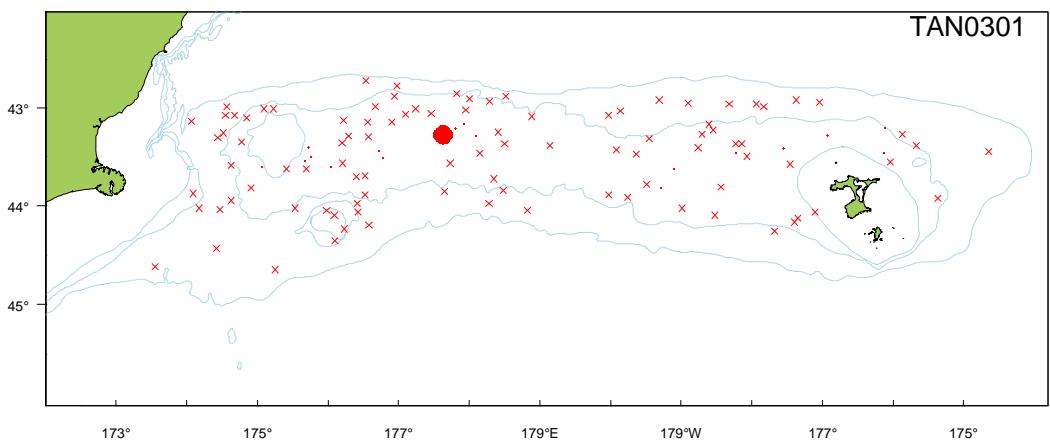


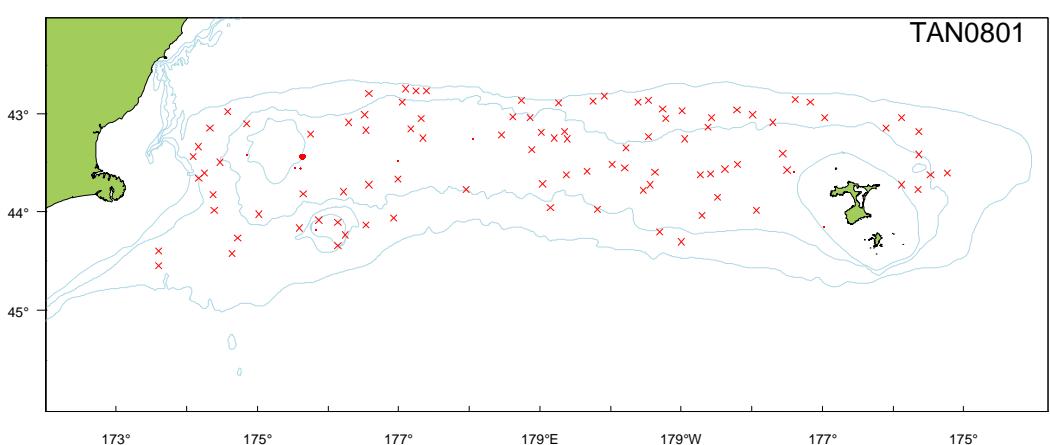
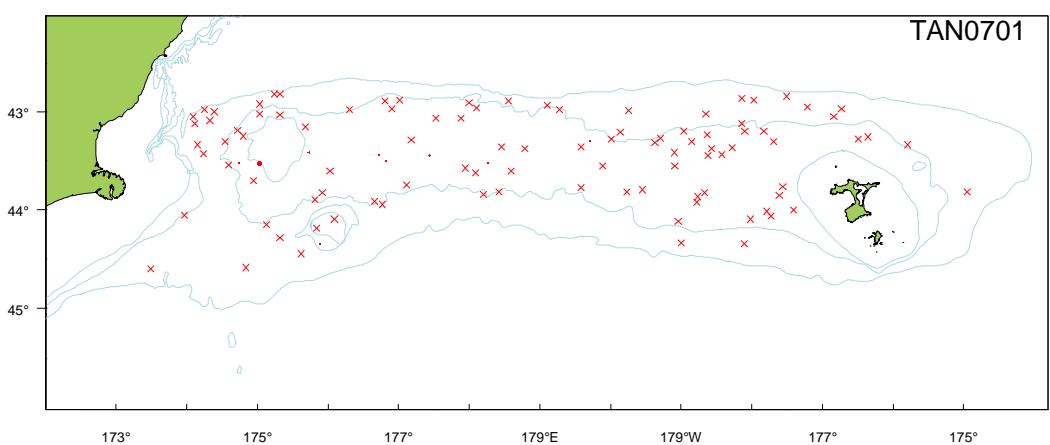
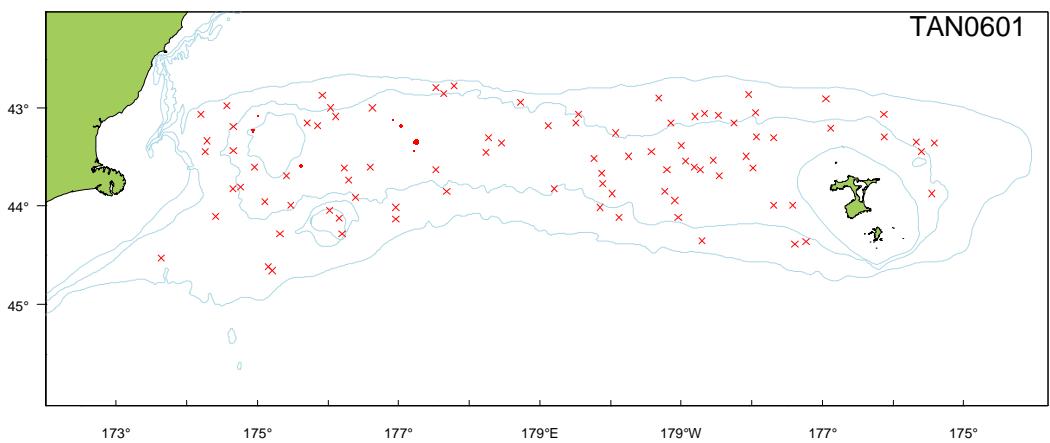


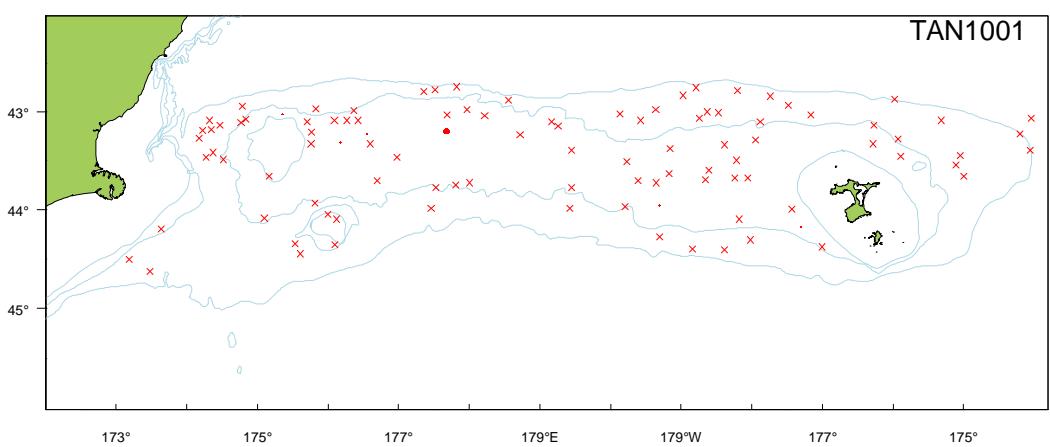
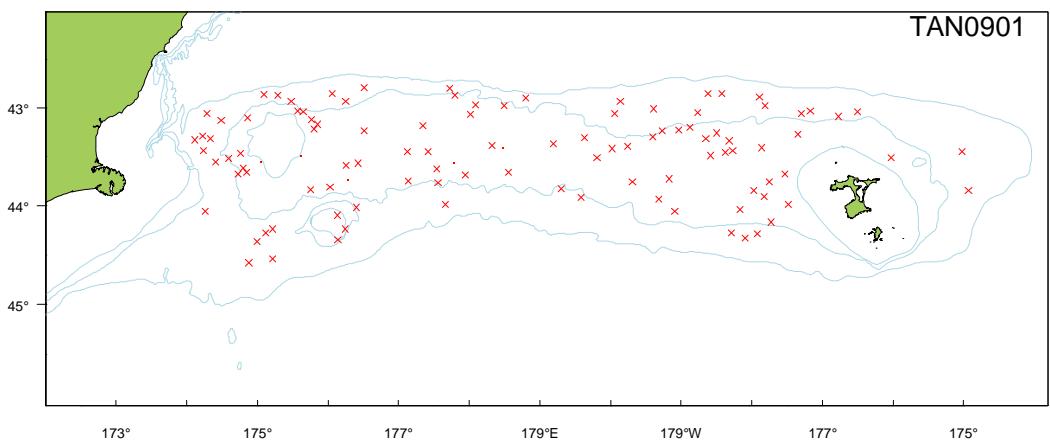




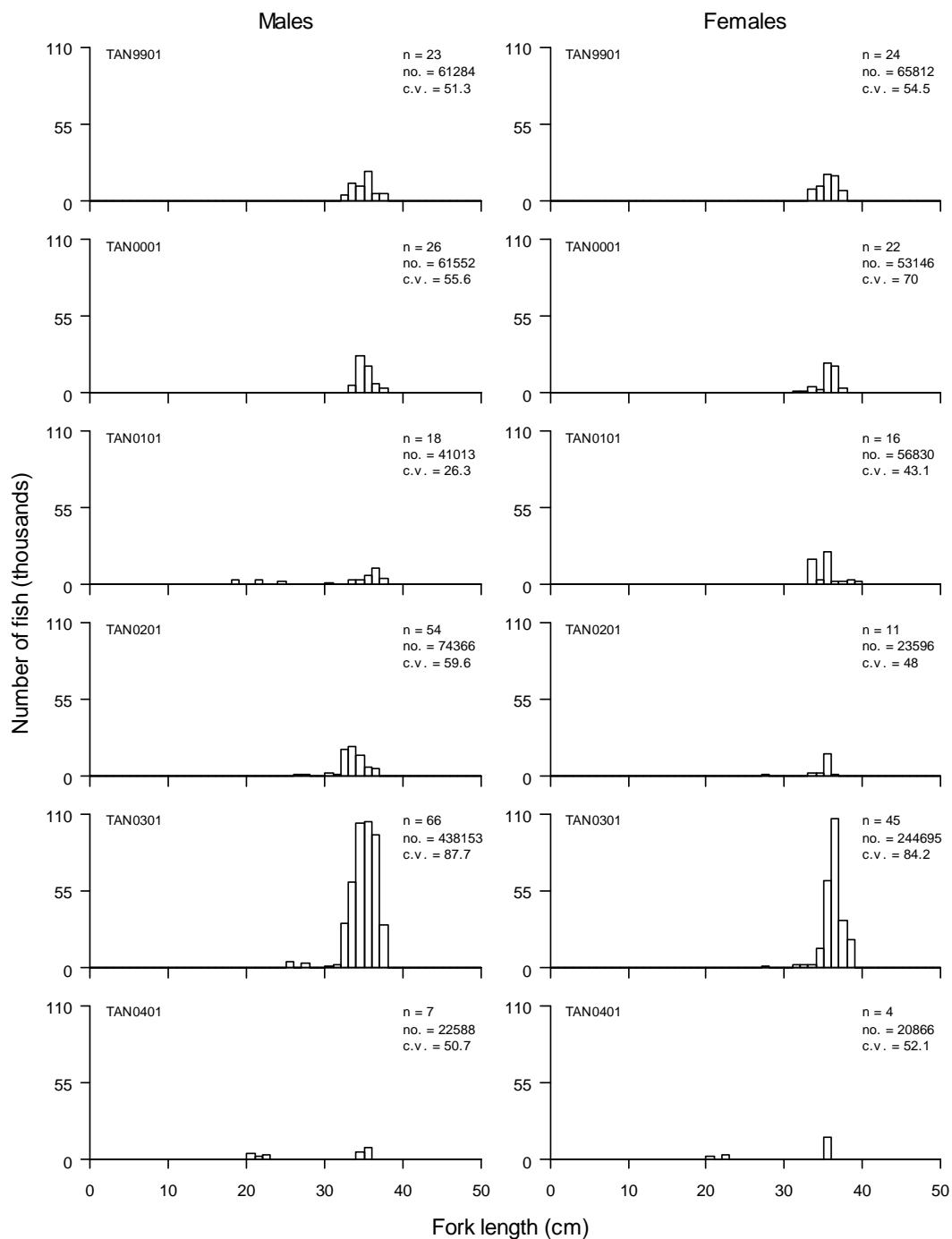


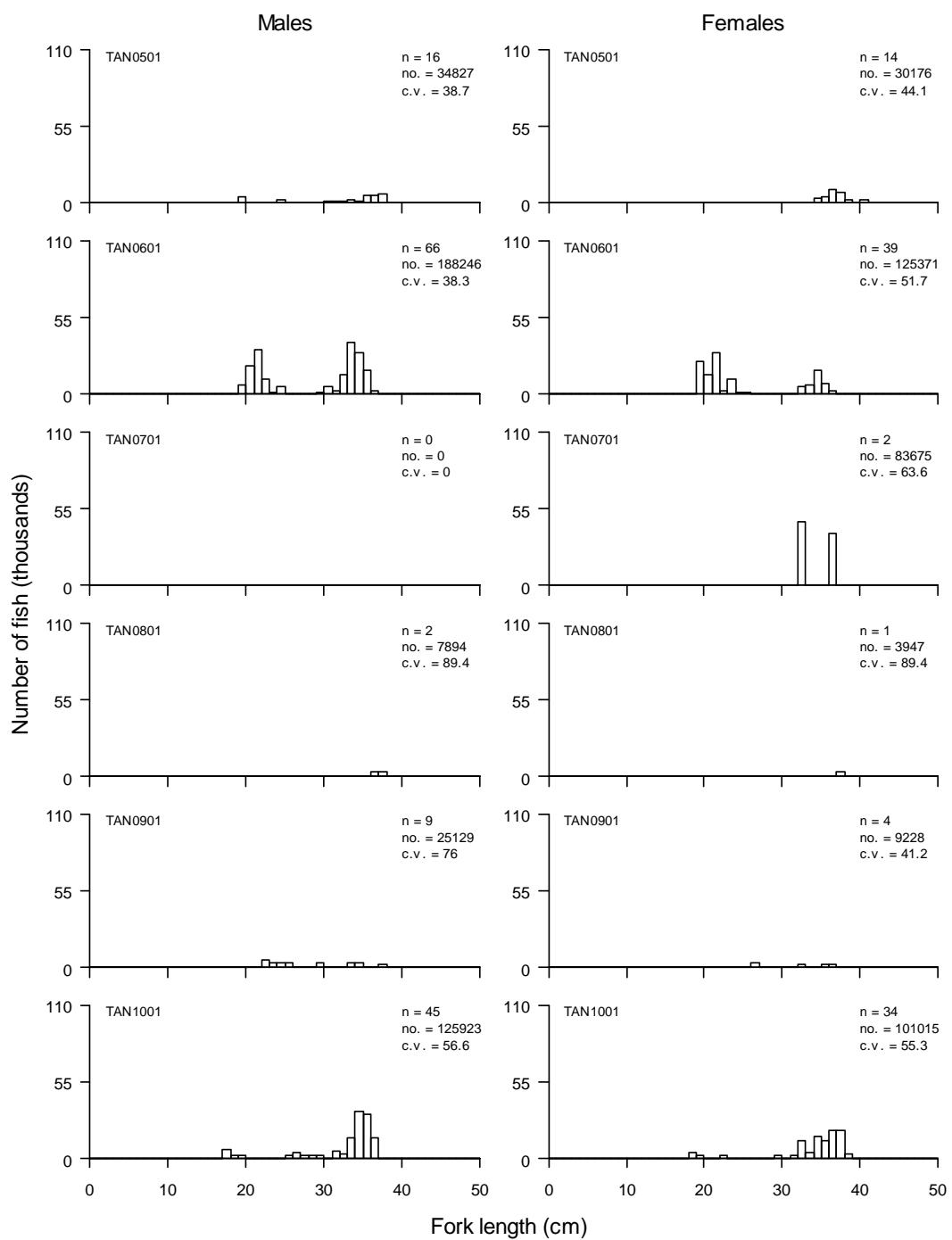






Length Frequencies





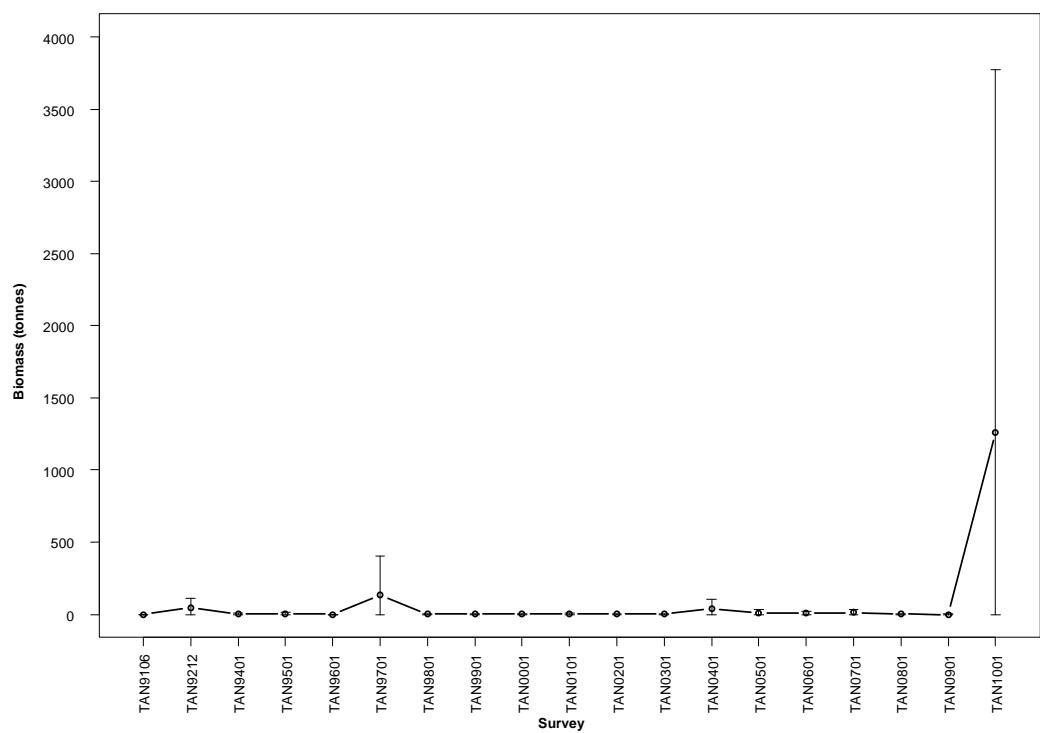


Number of surveys caught 1992–2010 (out of 19):	17
Total catch weight (kg):	841.5
Number measured	270
Length range (mean) (cm, FL)	14–49 (26)
Number weighed	123
Length-weight parameters a, b (r^2)	—

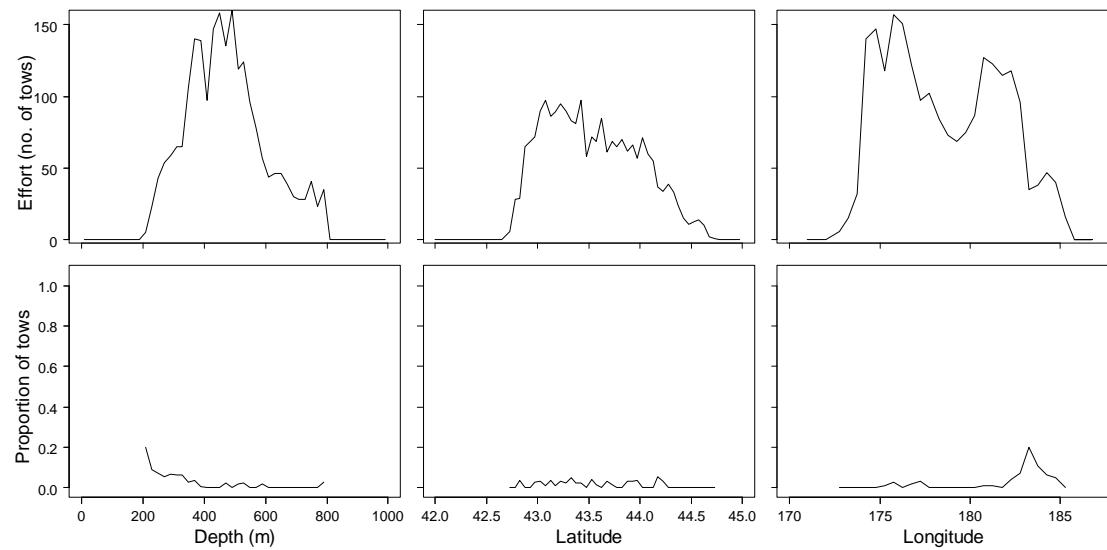
The core survey area and depth range is **not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Catch rates are highest in the **east**.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	0	-
1993	45	71
1994	5	47
1995	5	85
1996	0	0
1997	134	100
1998	1	100
1999	1	100
2000	1	100
2001	4	46
2002	1	100
2003	1	71
2004	39	83
2005	12	88
2006	8	80
2007	13	72
2008	2	50
2009	0	100
2010	1 260	100



Distribution



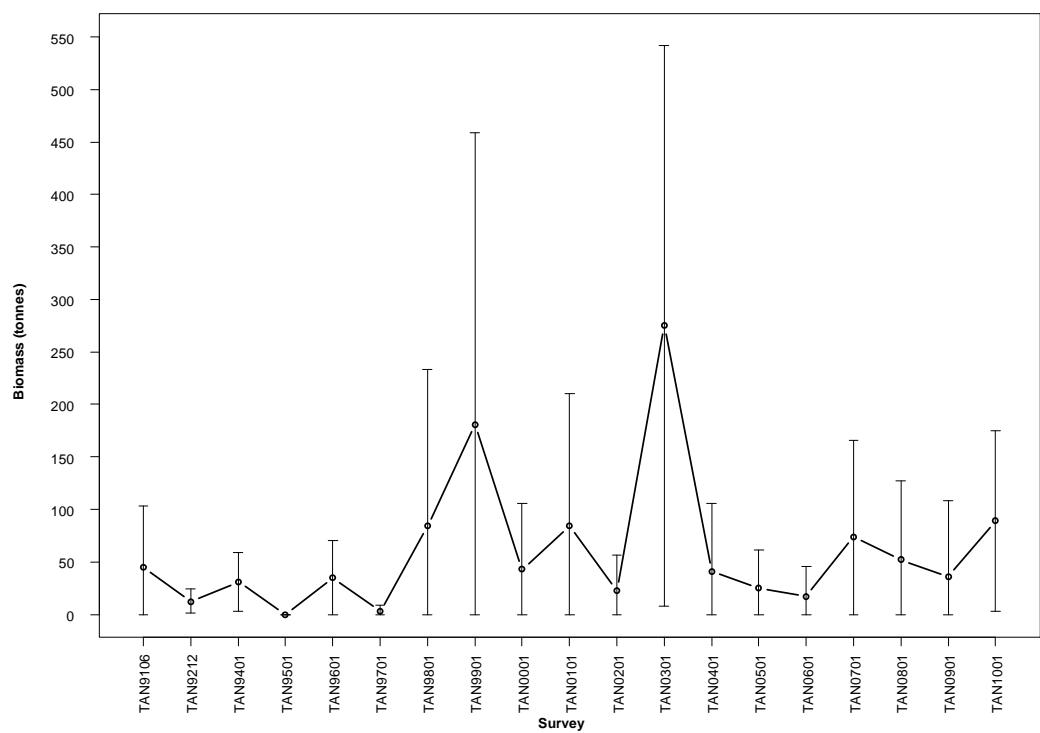


Number of surveys caught 1992–2010 (out of 19):	18
Total catch weight (kg):	743.6
Number measured	124
Length range (mean) (cm, GL)	49–145 (111.1)
Number weighed	111
Length-weight parameters a, b (r^2)	—

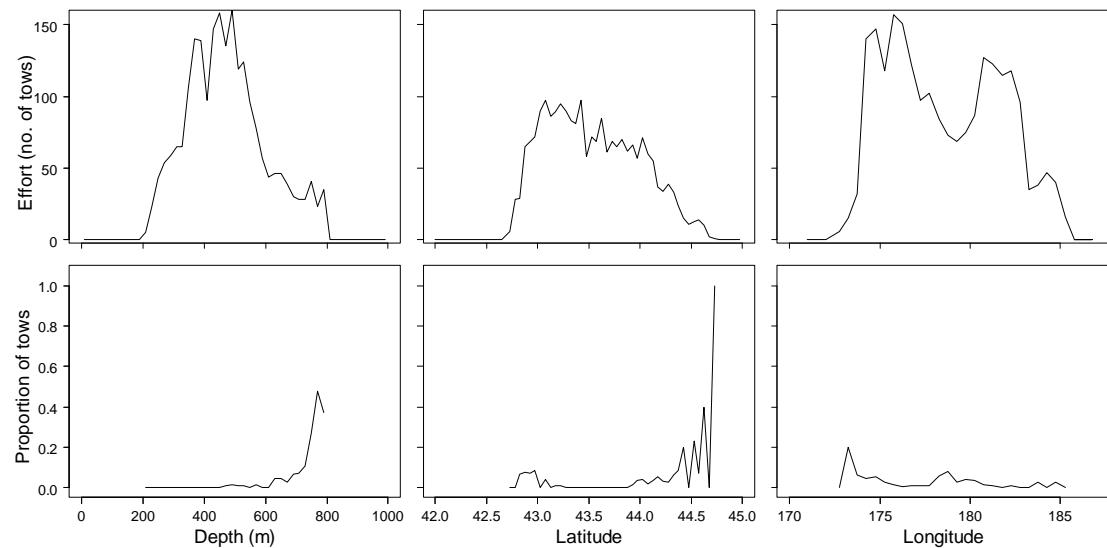
The core survey area and depth range is **not** appropriate for this species. It is found **deeper than 800 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass has **increased** since the start of the time series. Catch rates are highest in the **south**.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	45	66
1993	12	46
1994	31	46
1995	0	-
1996	35	52
1997	3	100
1998	84	88
1999	181	77
2000	43	74
2001	84	74
2002	23	72
2003	275	49
2004	41	78
2005	25	71
2006	17	82
2007	74	63
2008	52	72
2009	36	100
2010	89	48



Distribution



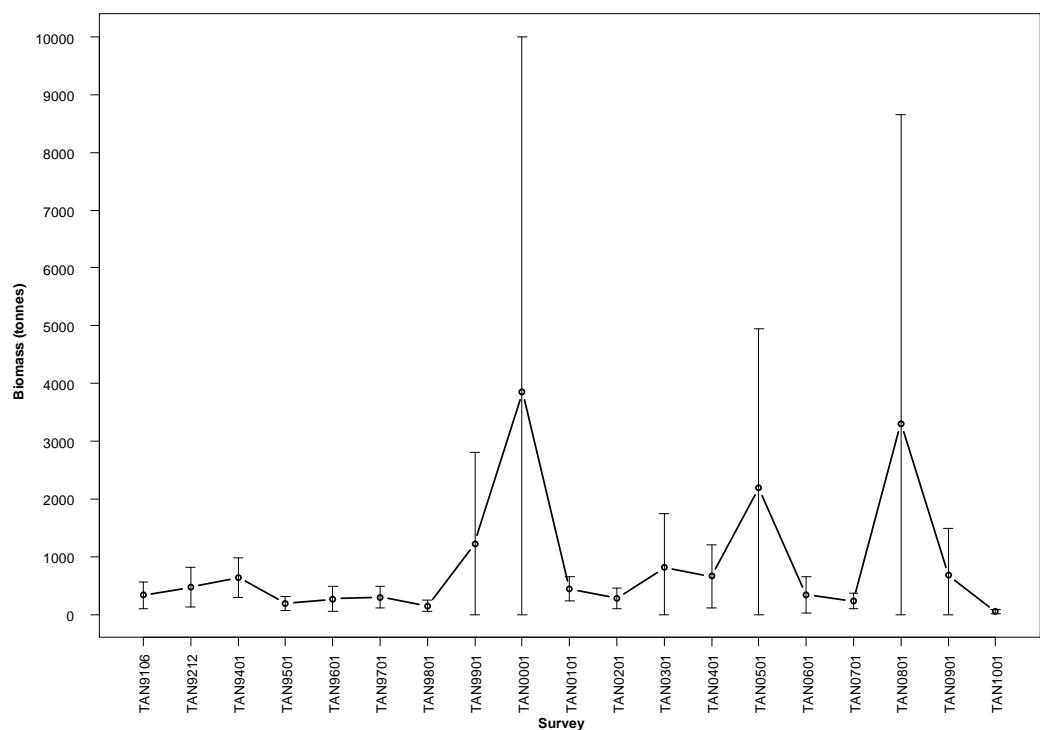


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	10 907.8
Number measured	7 572
Length range (mean) (cm, TL)	9–76 (40)
Number weighed	1 395
Length-weight parameters a, b (r^2)	0.01136, 2.926839 (98.34)

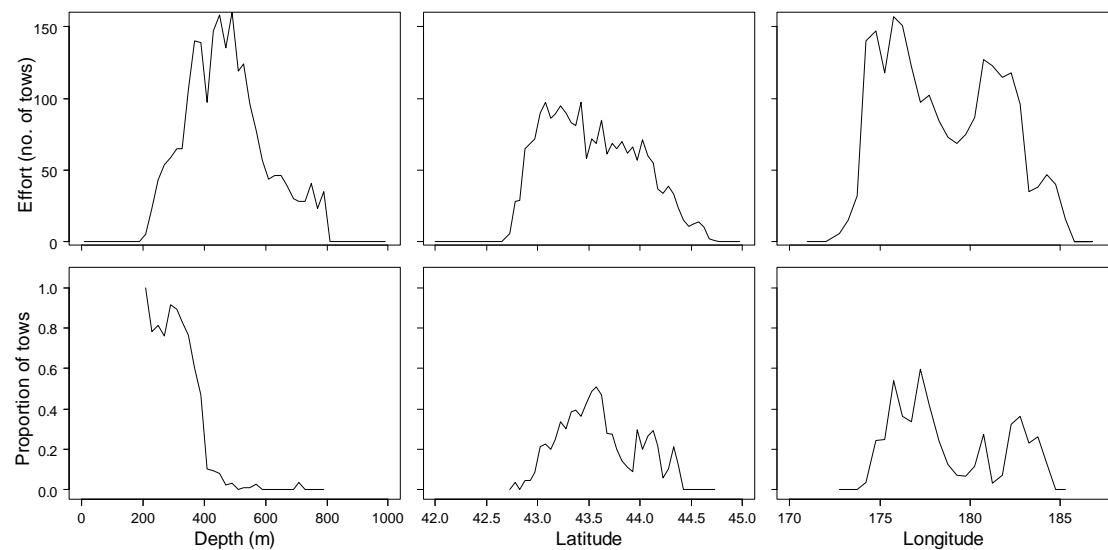
The core survey area and depth range **is not** appropriate for this species. It is found **shallower than 200 m**. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Catch rates are highest in the **west**. Length frequencies **have multiple modes which may contain information about year-class strength**. Mean length **shows no clear trend** since the start of the time series. Gonad stage data indicate that most fish are **immature or resting**.

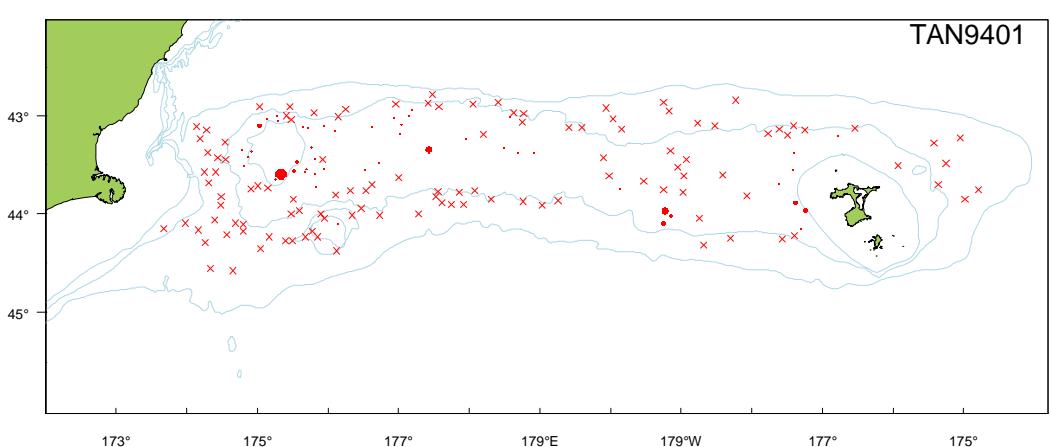
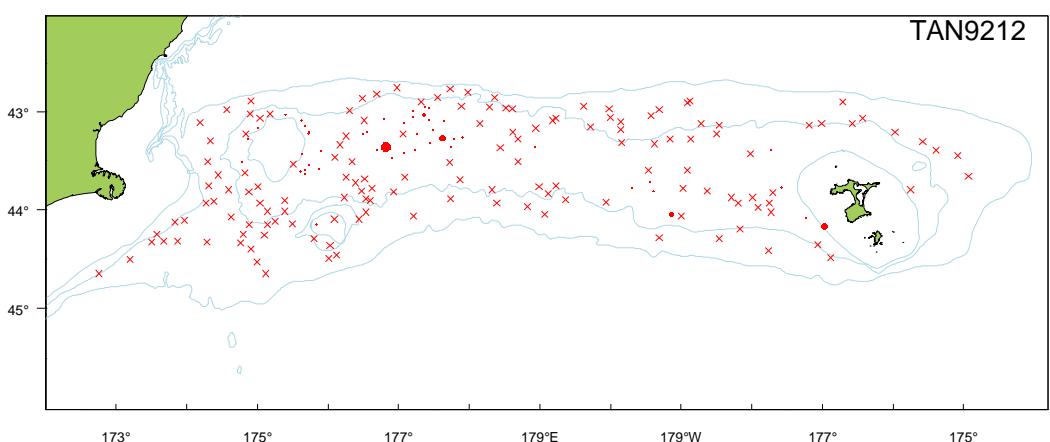
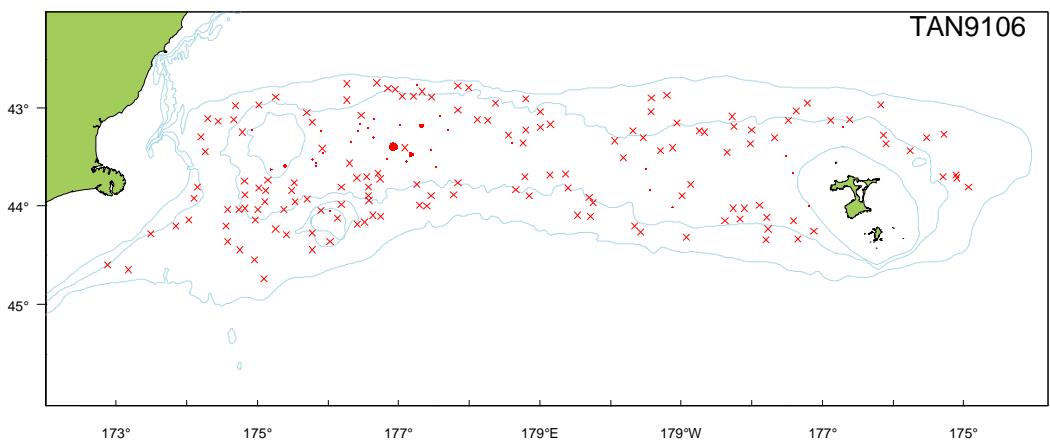
Relative biomass estimates and length summary

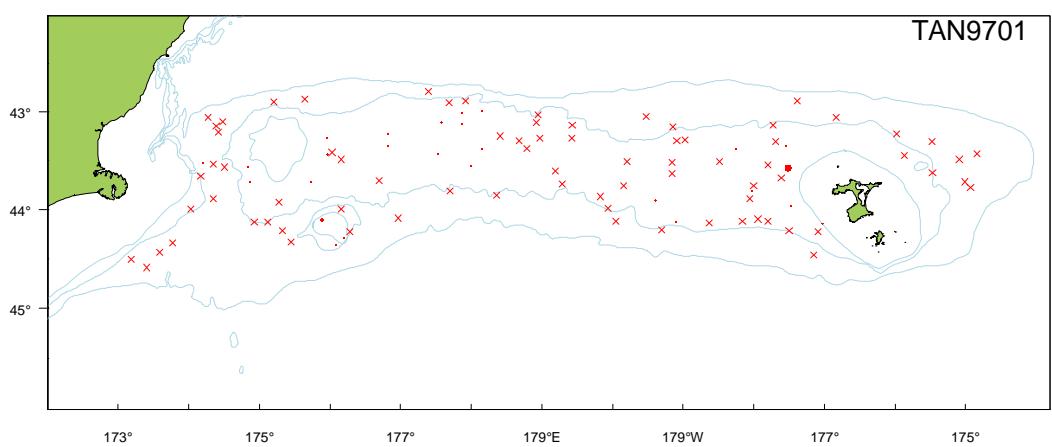
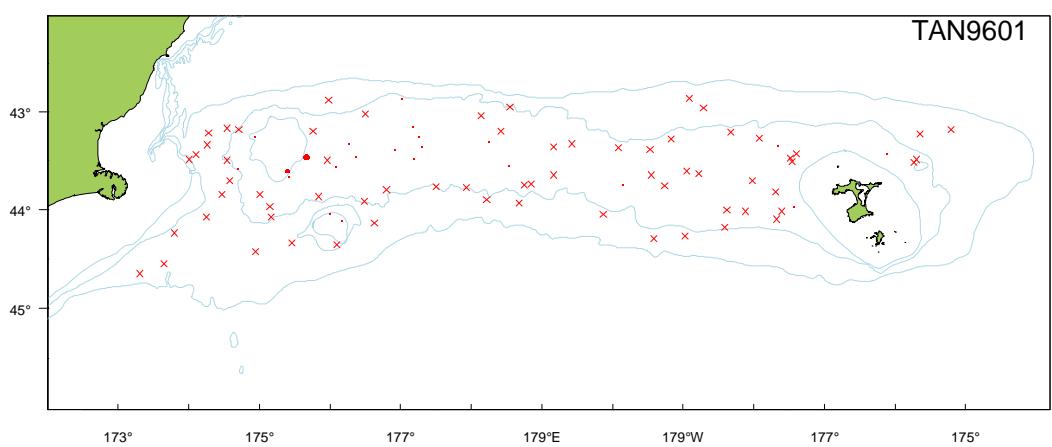
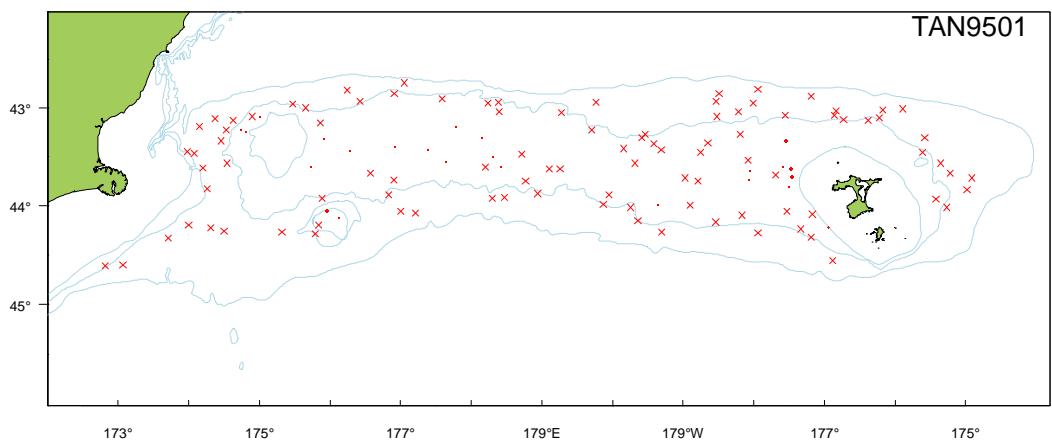
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	334	35	15	68	39.3	525
1993	468	36	15	65	38.7	599
1994	640	27	16	64	42.0	644
1995	189	32	20	73	40.5	163
1996	269	41	11	64	38.6	232
1997	296	31	16	69	39.9	256
1998	149	33	19	64	42.4	142
1999	1 227	64	17	65	43.0	525
2000	3 854	80	17	63	41.3	819
2001	441	24	17	76	35.8	390
2002	276	34	9	62	41.7	294
2003	809	58	16	62	35.6	603
2004	662	41	18	72	41.1	391
2005	2 194	63	19	58	39.7	687
2006	337	46	22	61	43.7	214
2007	229	29	19	67	43.0	158
2008	3 305	81	19	61	40.1	374
2009	675	61	19	59	38.1	327
2010	47	44	19	62	35.9	39

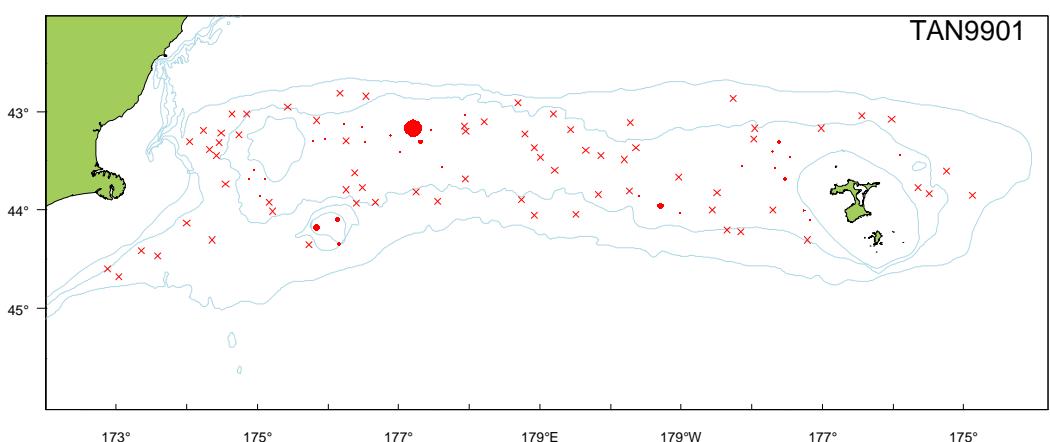
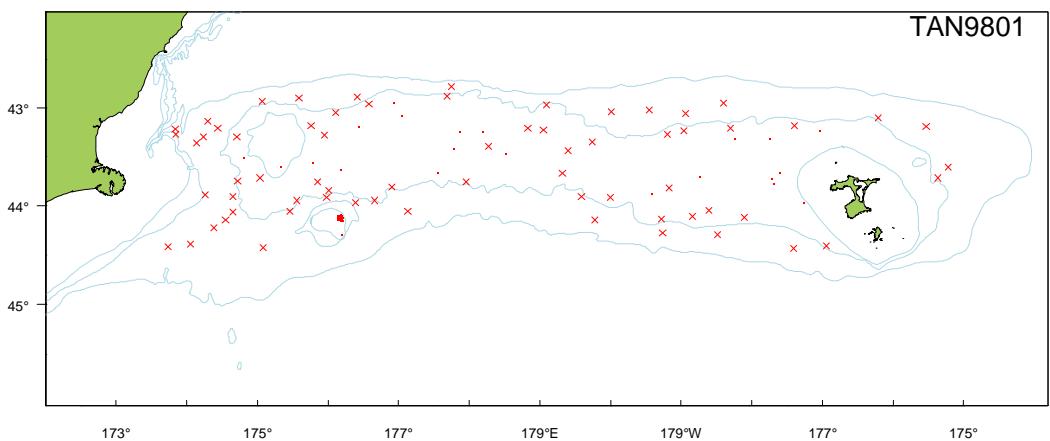


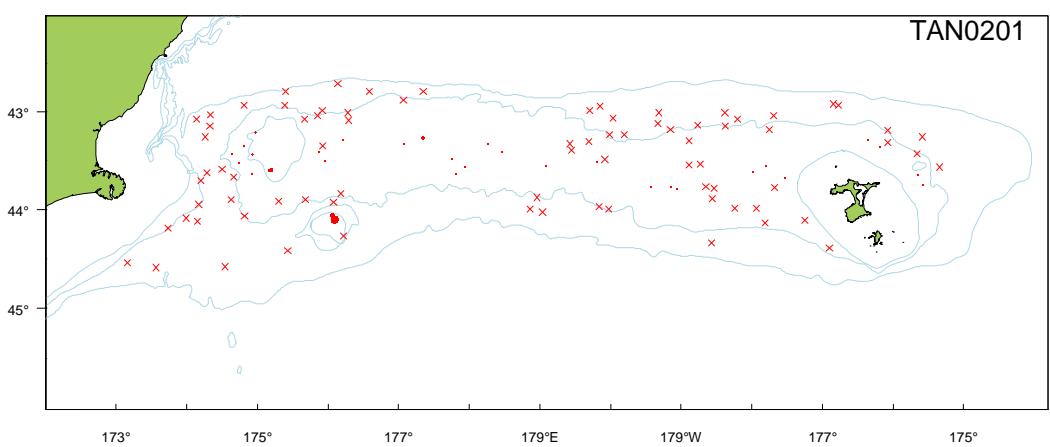
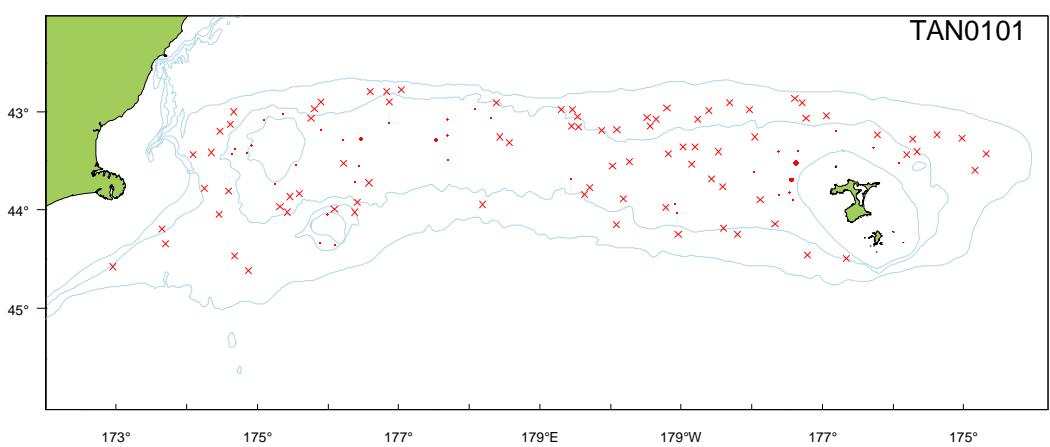
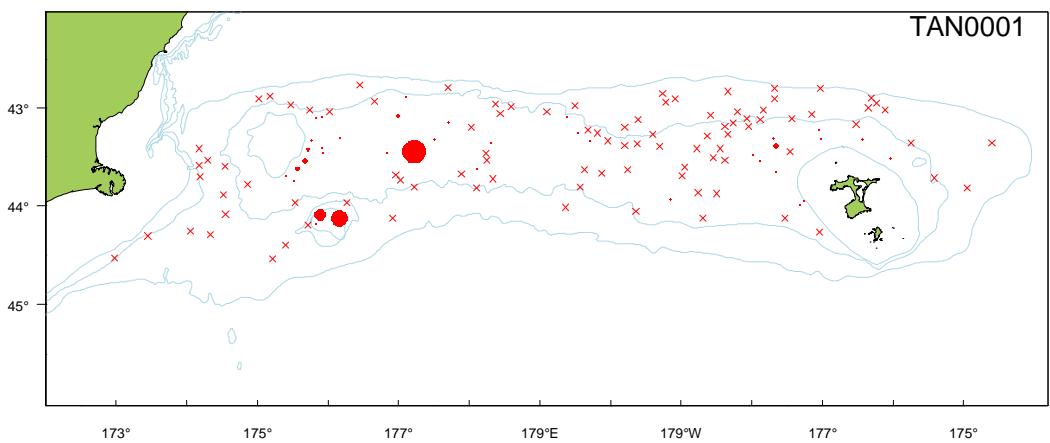
Distribution

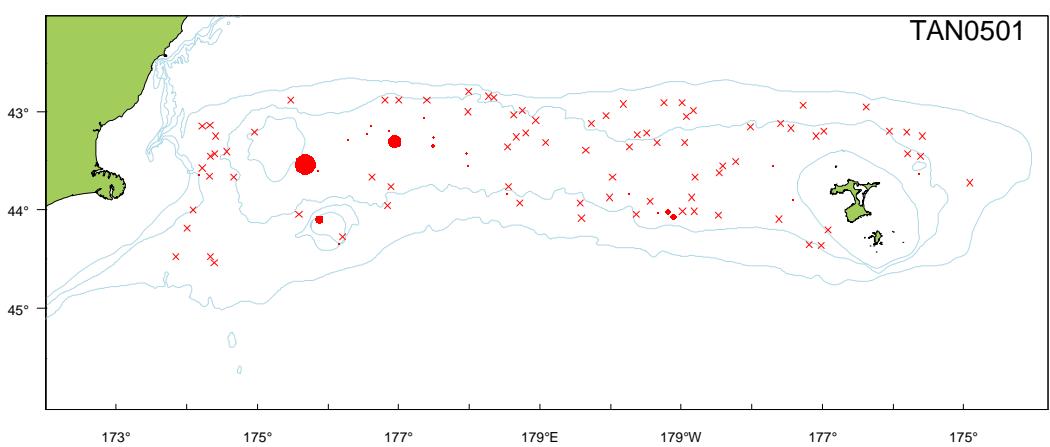
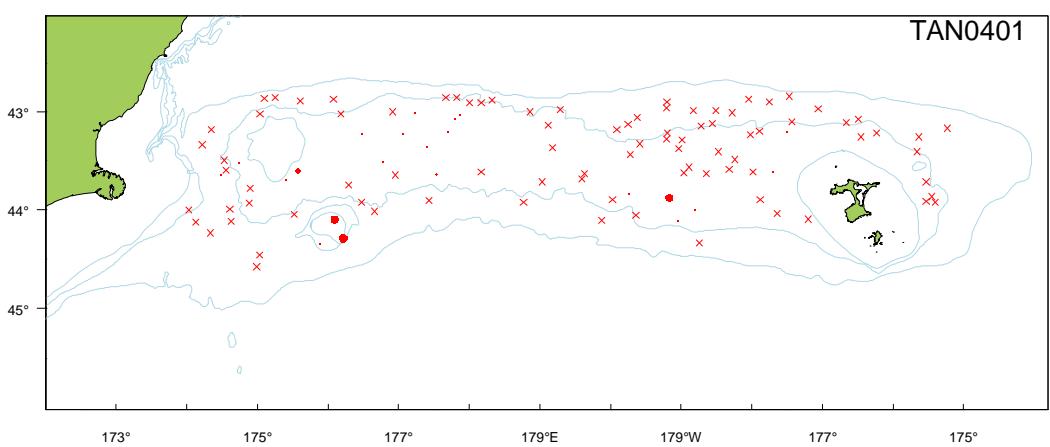
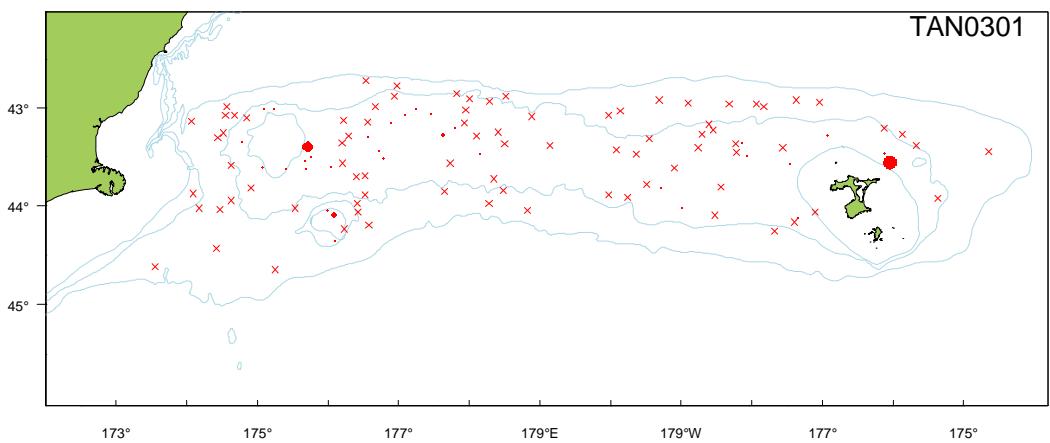


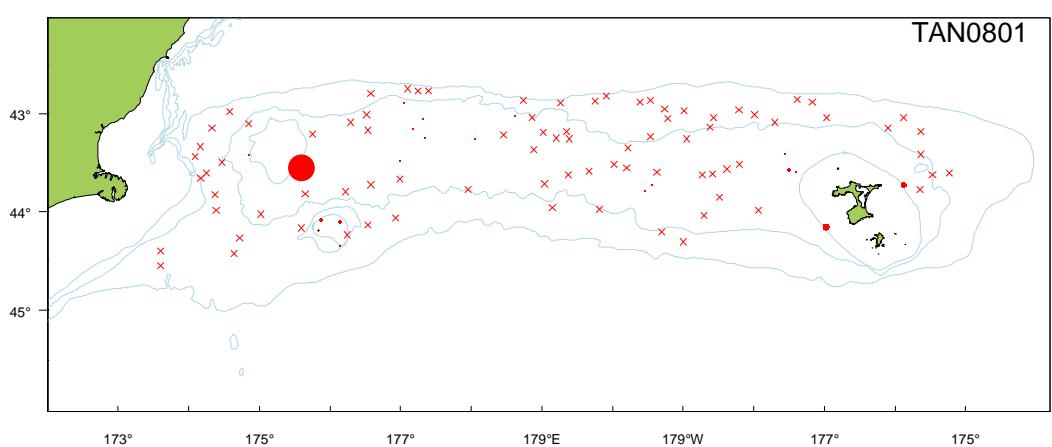
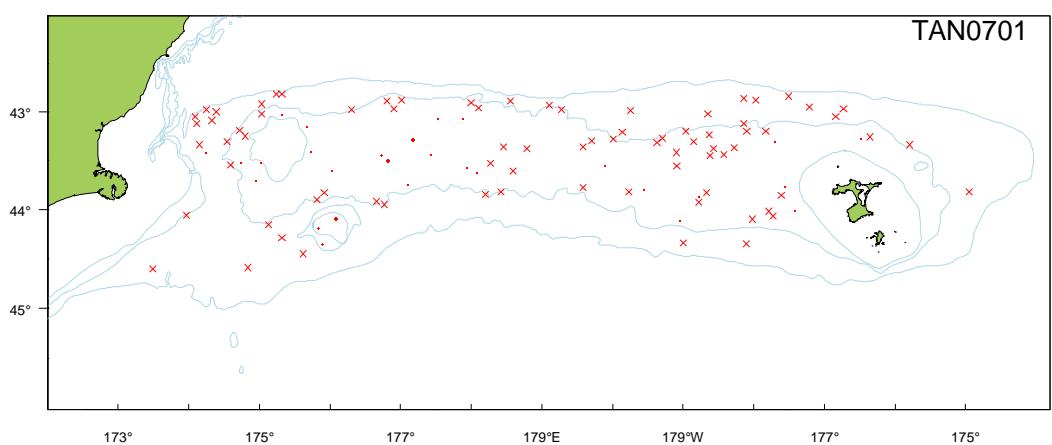
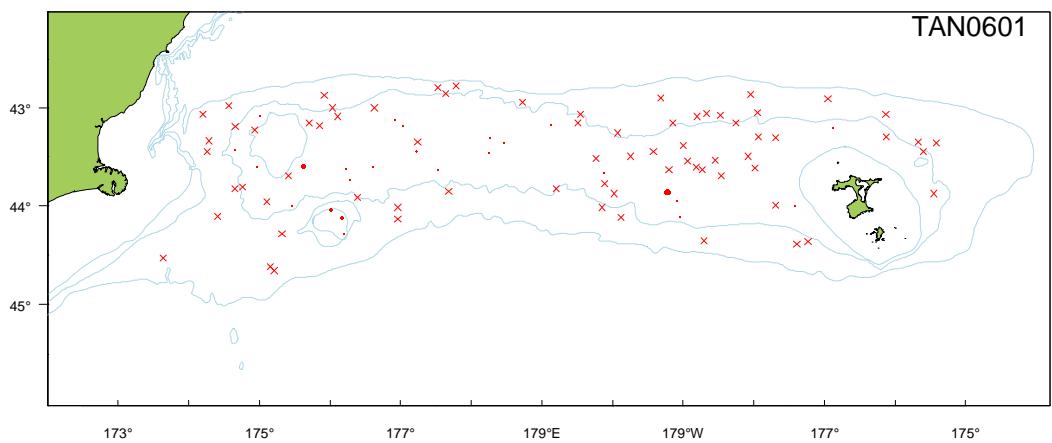


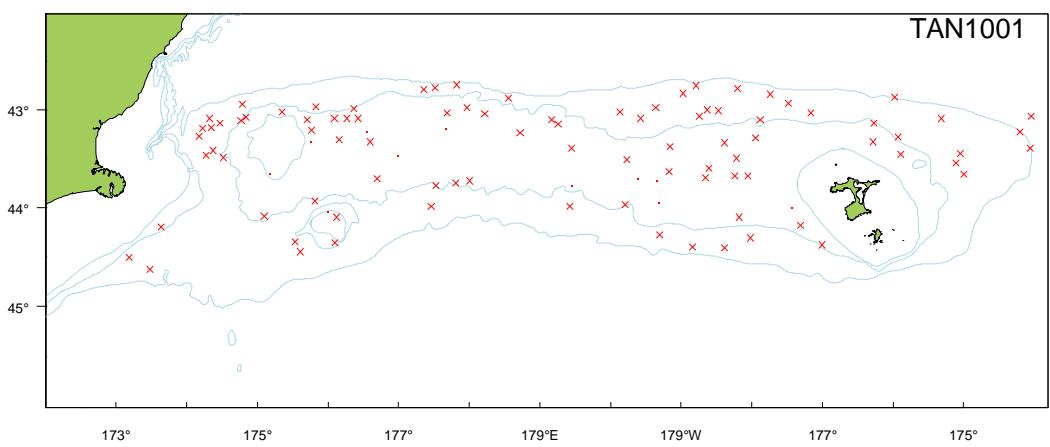
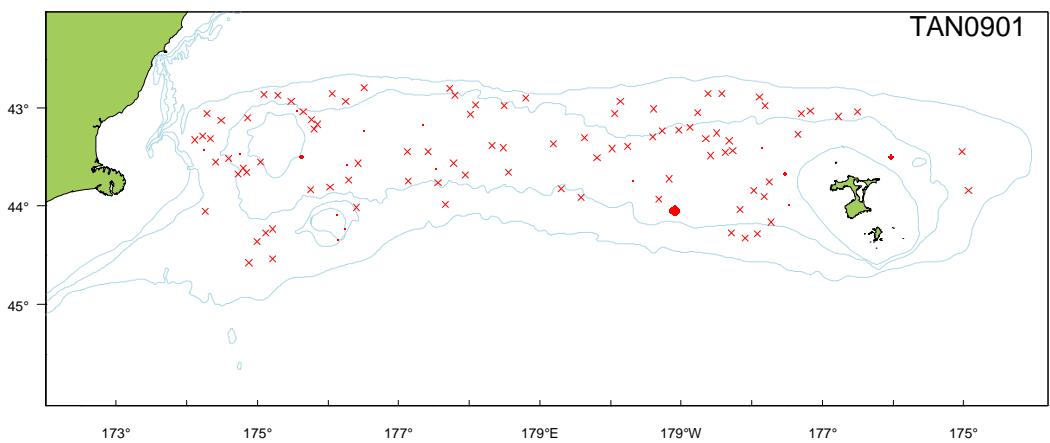




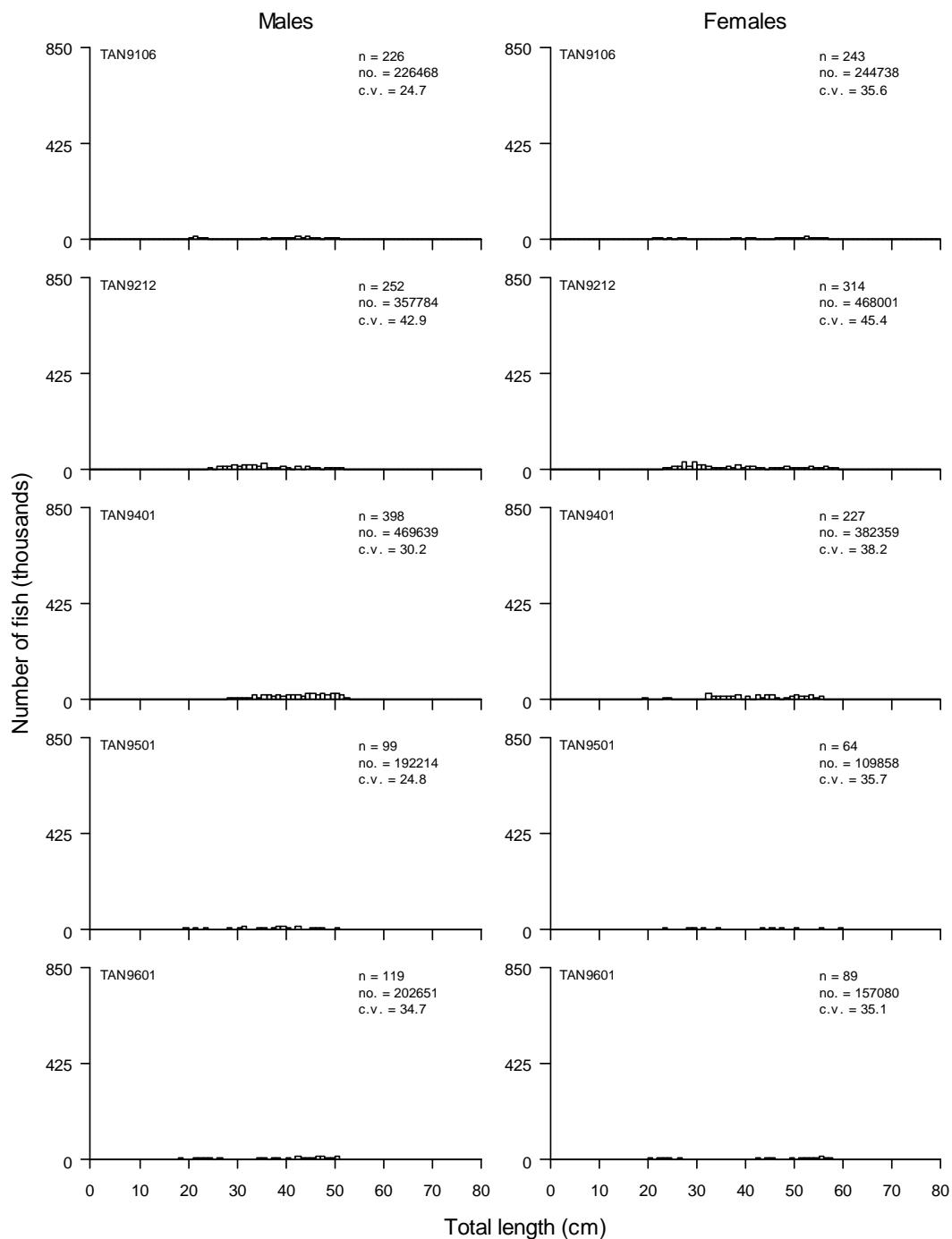


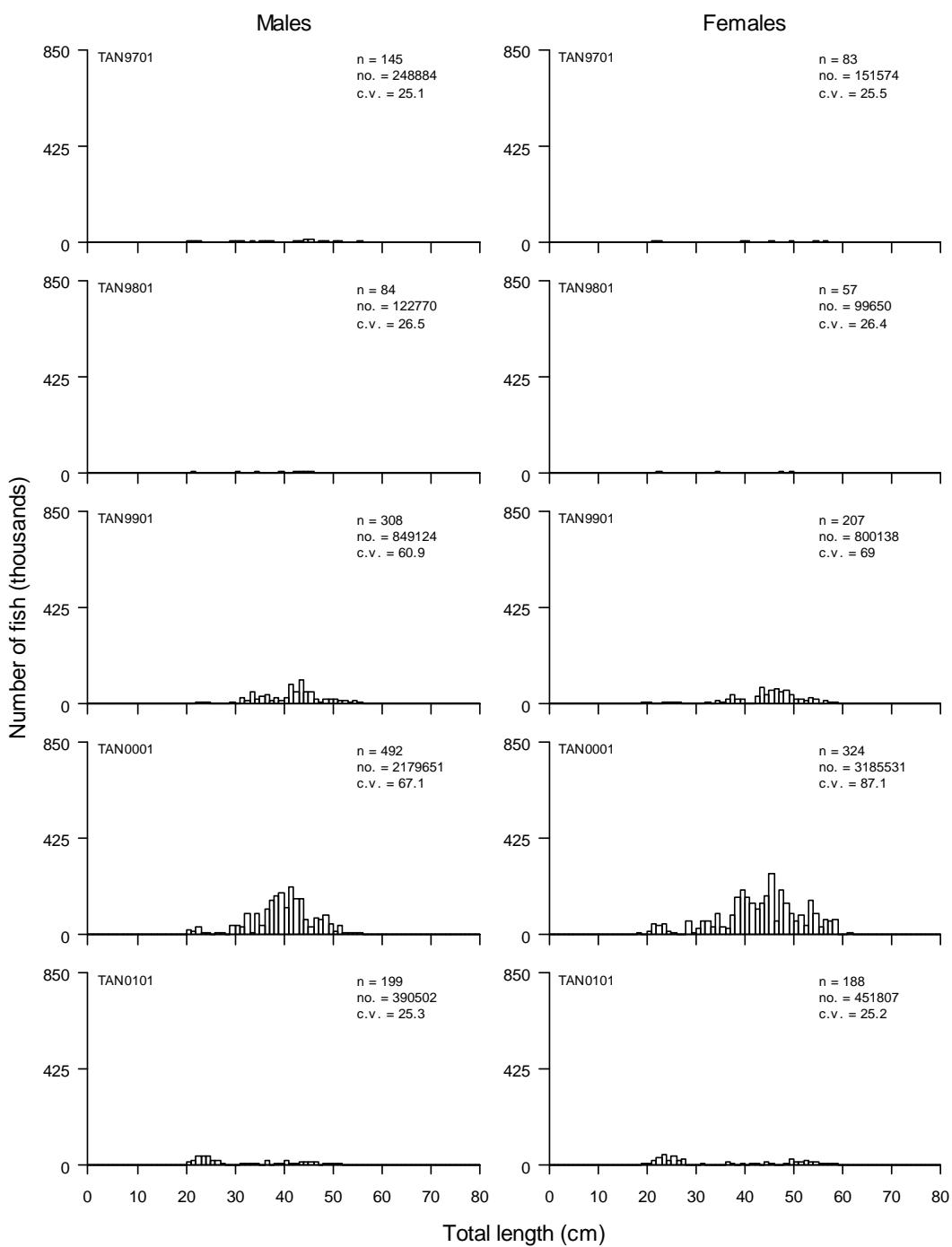


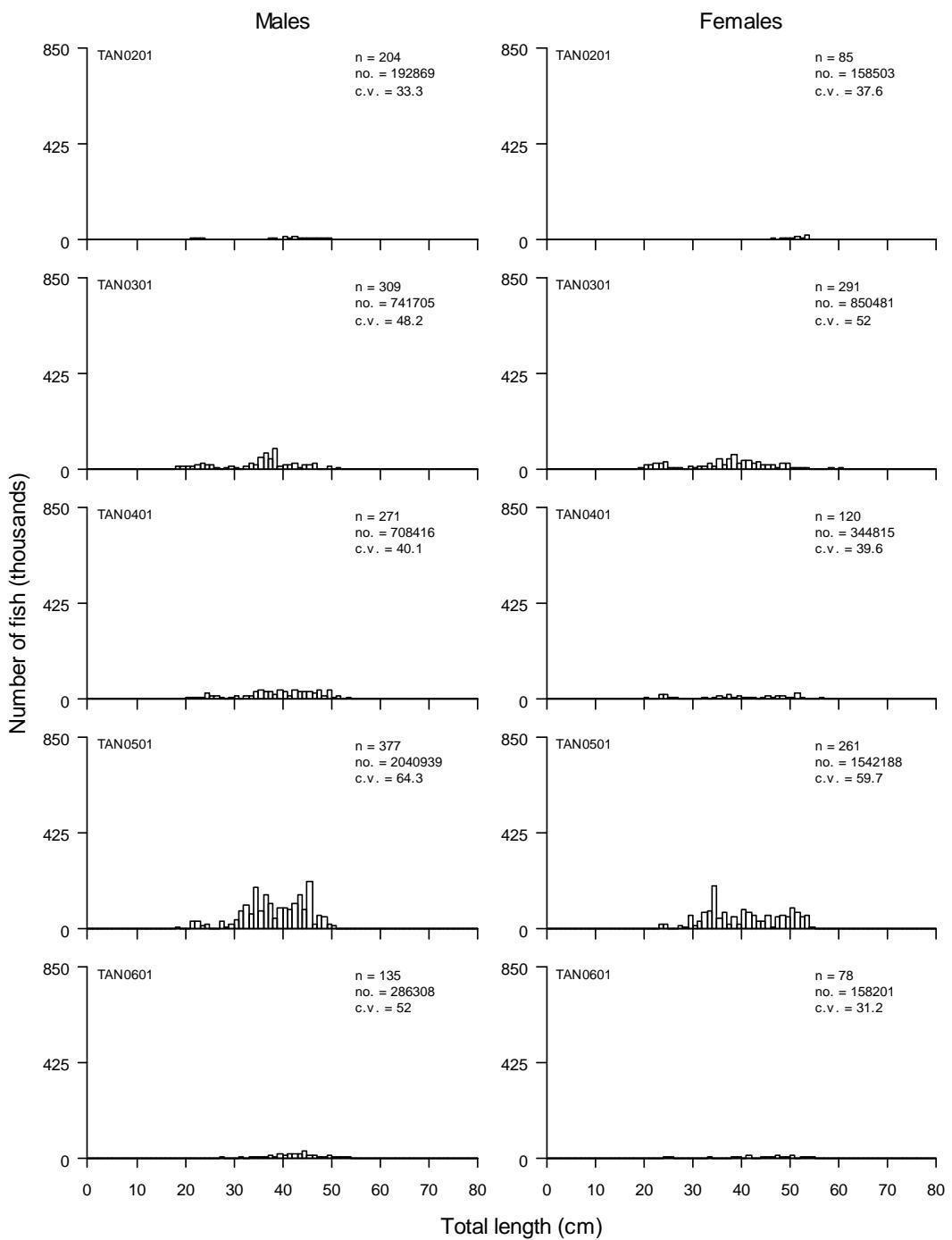


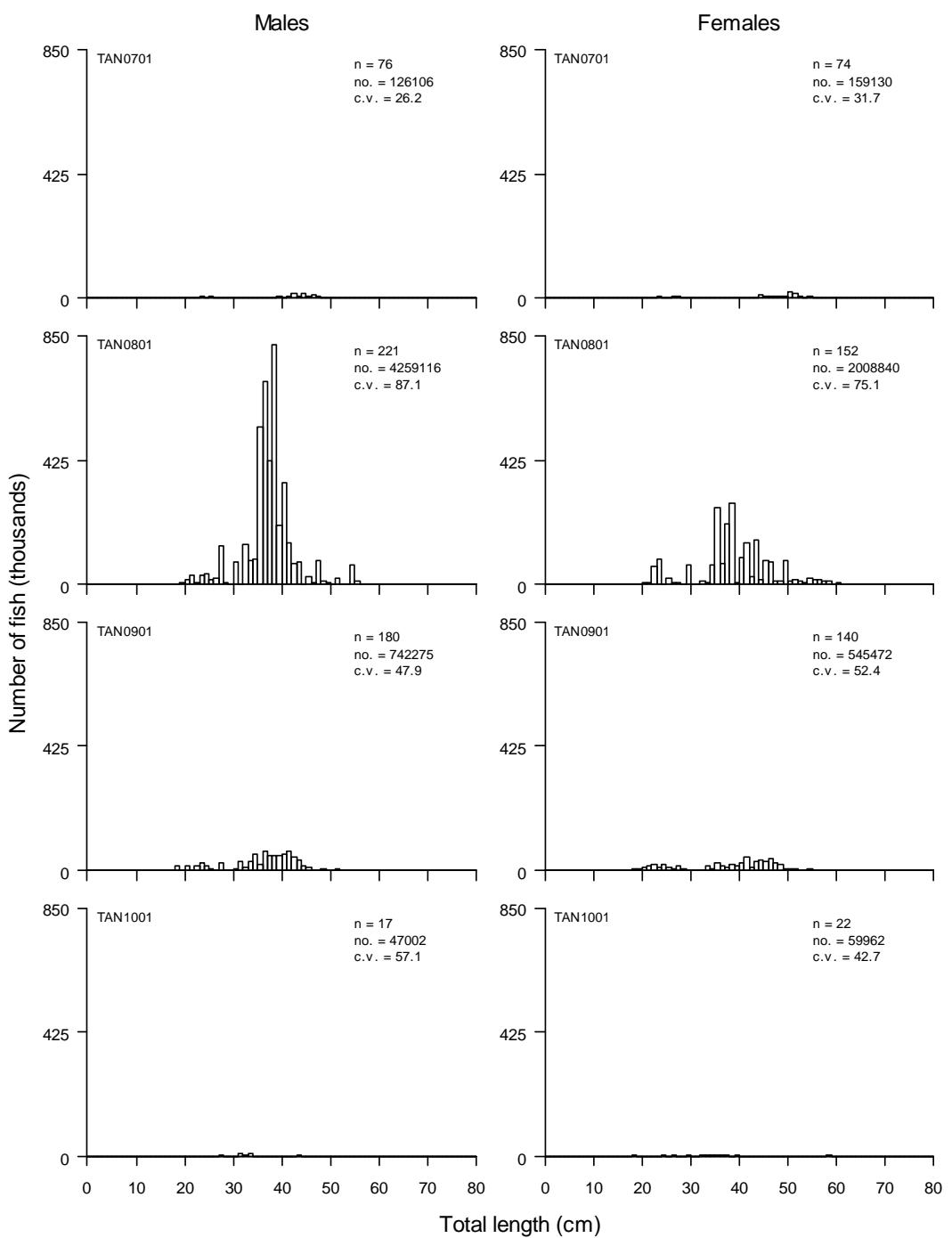


Length Frequencies









Gonad Stage Information

Males

Year	p_M1	p_M2	p_M3	p_M4	p_M5	p_M6	p_M7	n_allM
1992	NA	0						
1993	NA	0						
1994	NA	0						
1995	NA	0						
1996	0	0.33	0.67	0	0	0	0	6
1997	NA	0						
1998	NA	0						
1999	NA	0						
2000	NA	0						
2001	0.47	0.18	0.12	0.12	0	0	0.12	17
2002	NA	0						
2003	NA	0						
2004	NA	0						
2005	0.41	0.23	0.06	0.24	0.03	0	0.03	70
2006	0	0.12	0.08	0.04	0	0.21	0.54	24
2007	NA	0						
2008	NA	0						
2009	0	1	0	0	0	0	0	1
2010	0	0	1	0	0	0	0	2
ALL	0.31	0.21	0.12	0.17	0.02	0.04	0.14	120

Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	p_F7	n_allF
1992	NA	0						
1993	NA	0						
1994	NA	0						
1995	NA	0						
1996	0	0	0	0	0	0	1	4
1997	NA	0						
1998	NA	0						
1999	NA	0						
2000	NA	0						
2001	0.53	0.26	0	0.05	0	0	0.16	19
2002	NA	0						
2003	NA	0						
2004	NA	0						
2005	0.31	0.6	0.1	0	0	0	0	52
2006	0.29	0.71	0	0	0	0	0	7
2007	0.67	0.33	0	0	0	0	0	3
2008	NA	0						
2009	NA	0						
2010	0.5	0.5	0	0	0	0	0	2
ALL	0.36	0.49	0.06	0.01	0	0	0.08	87

Common roughy (*Paratrachichthys tralli*)

RHY

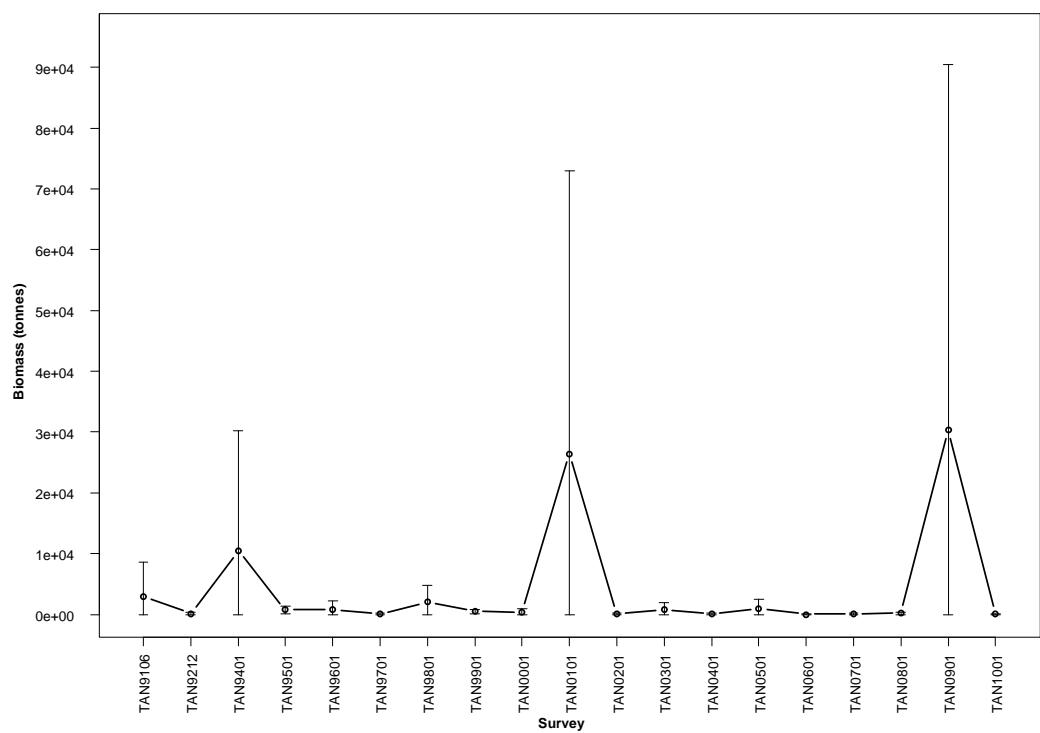


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	44 541.4
Number measured	924
Length range (mean) (cm, SL)	10–25 (18.9)
Number weighed	96
Length-weight parameters a, b (r^2)	0.086125, 2.519169 (78.6)

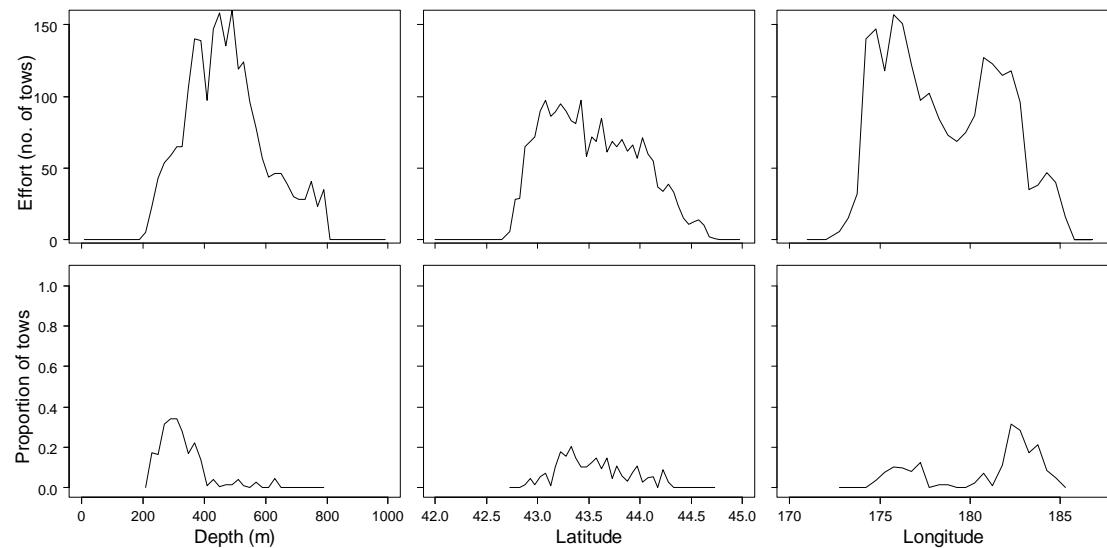
The core survey area and depth range is appropriate for this species. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Catch rates are highest in the **east**. Length frequencies are usually **unimodal**. Mean length **shows no clear trend** since the start of the time series.

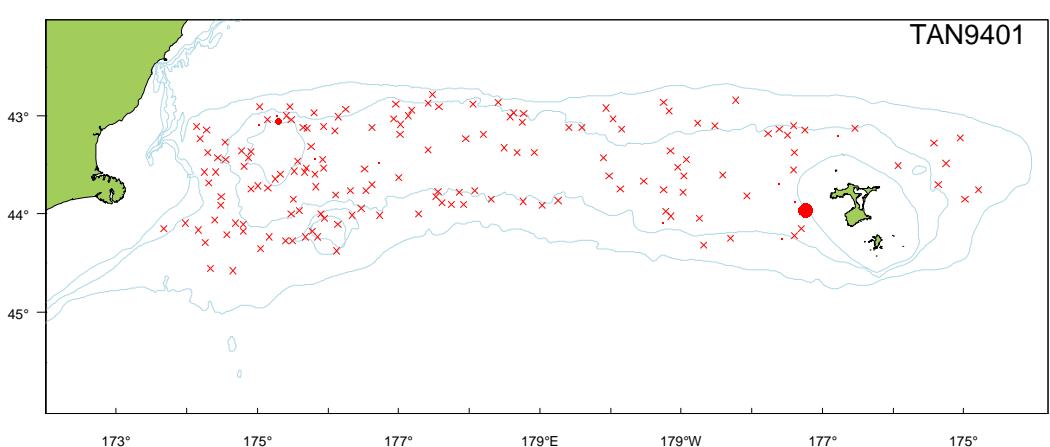
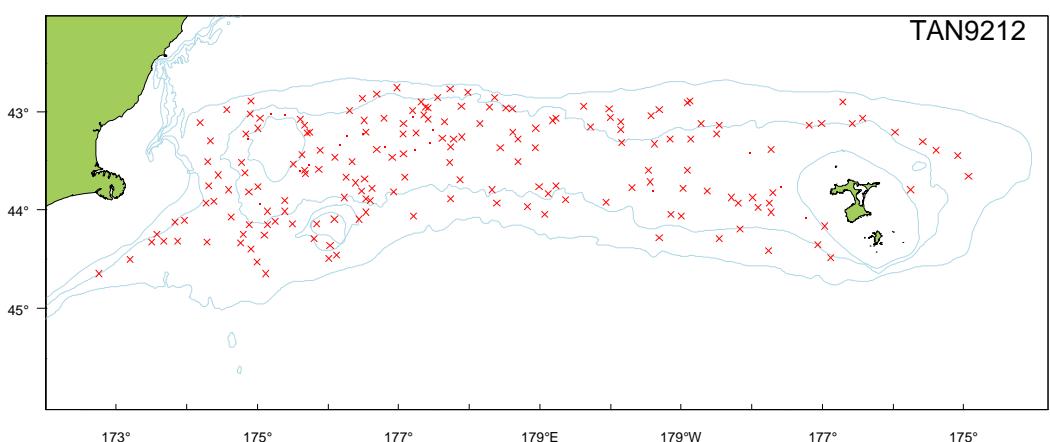
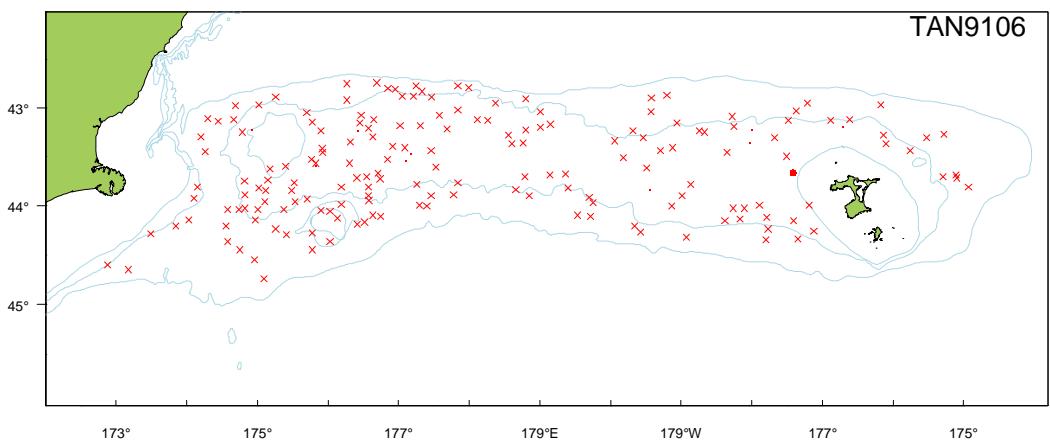
Relative biomass estimates and length summary

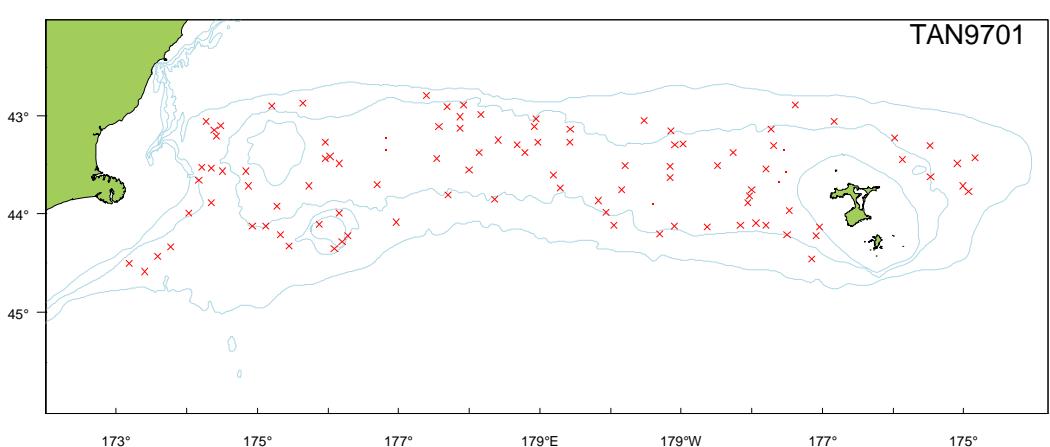
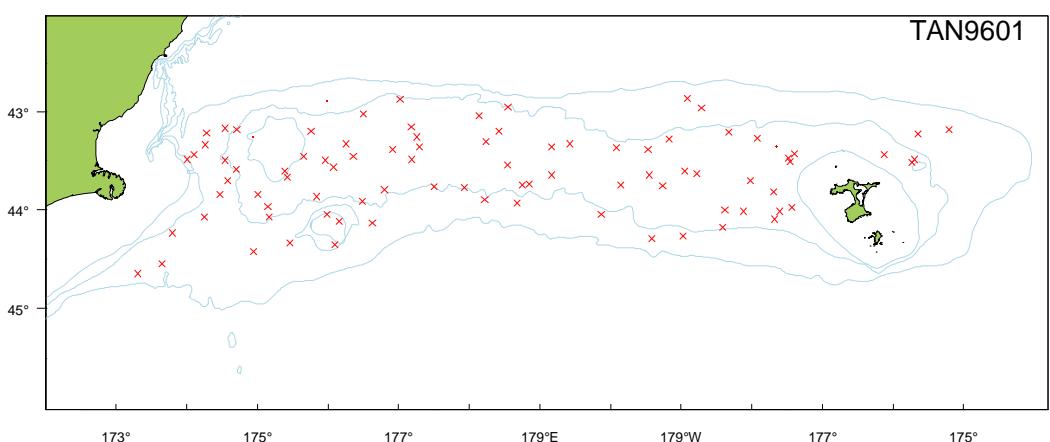
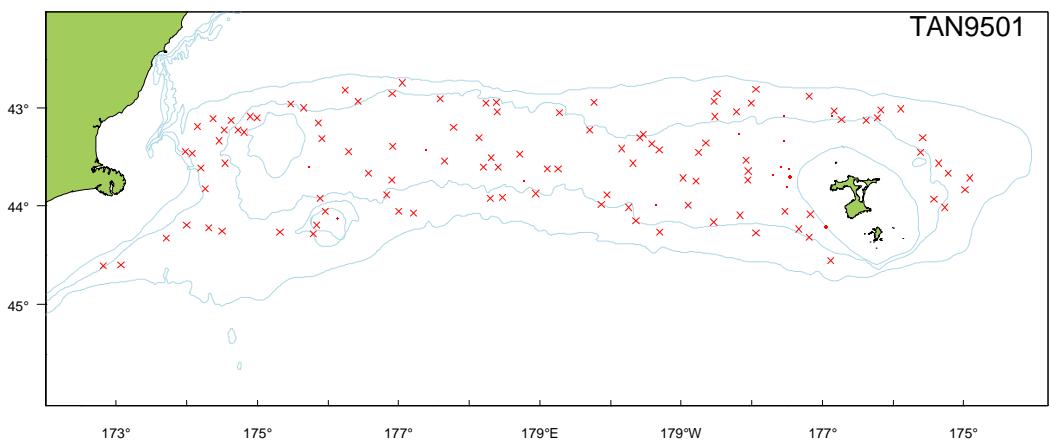
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	2 946	95	-	-	-	0
1993	145	60	-	-	-	0
1994	10 460	95	-	-	-	0
1995	739	44	-	-	-	0
1996	757	93	-	-	-	0
1997	100	64	-	-	-	0
1998	2 041	68	-	-	-	0
1999	451	44	-	-	-	0
2000	415	61	-	-	-	0
2001	26 350	88	-	-	-	0
2002	109	53	11	25	18.6	236
2003	824	64	10	25	18.9	468
2004	89	74	-	-	-	0
2005	943	84	-	-	-	0
2006	8	65	-	-	-	0
2007	87	94	-	-	-	0
2008	186	54	-	-	-	0
2009	30 318	99	15	25	19.0	164
2010	12	57	-	-	-	0

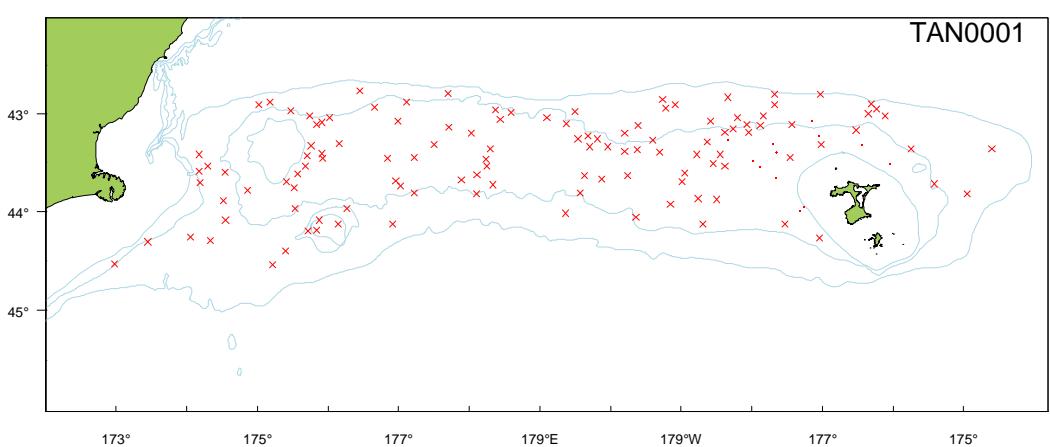
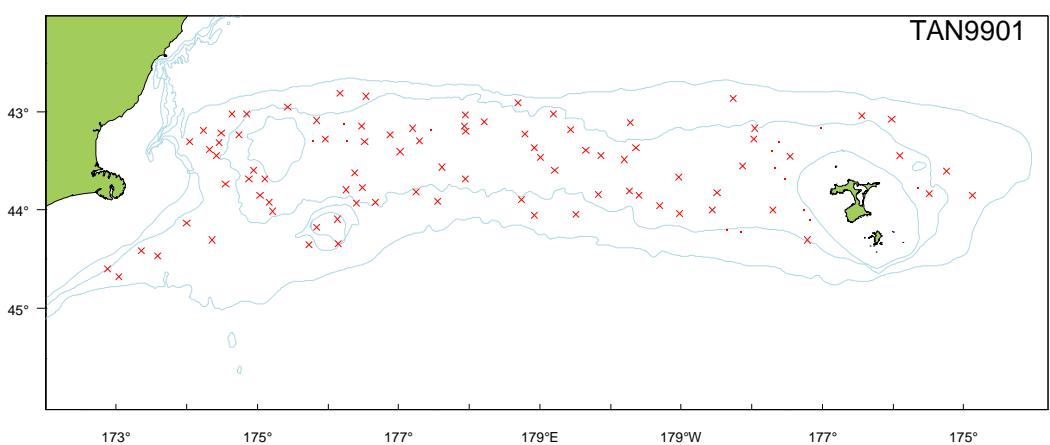
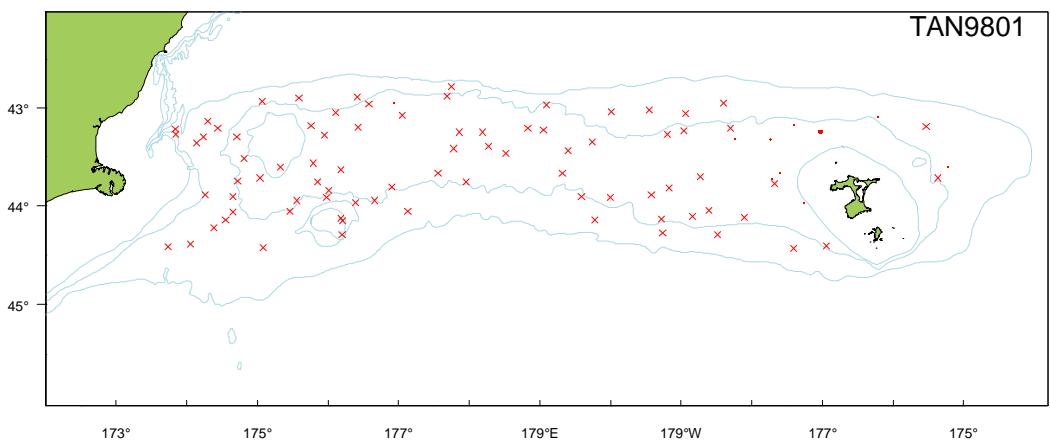


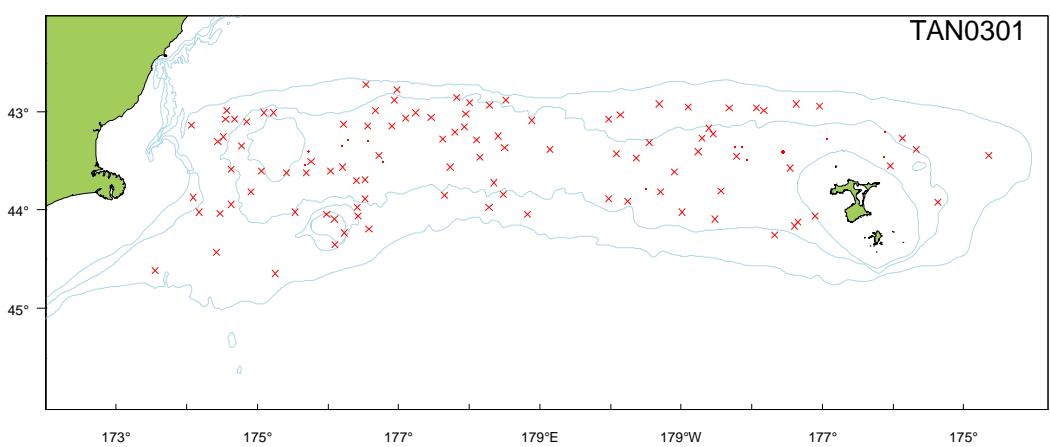
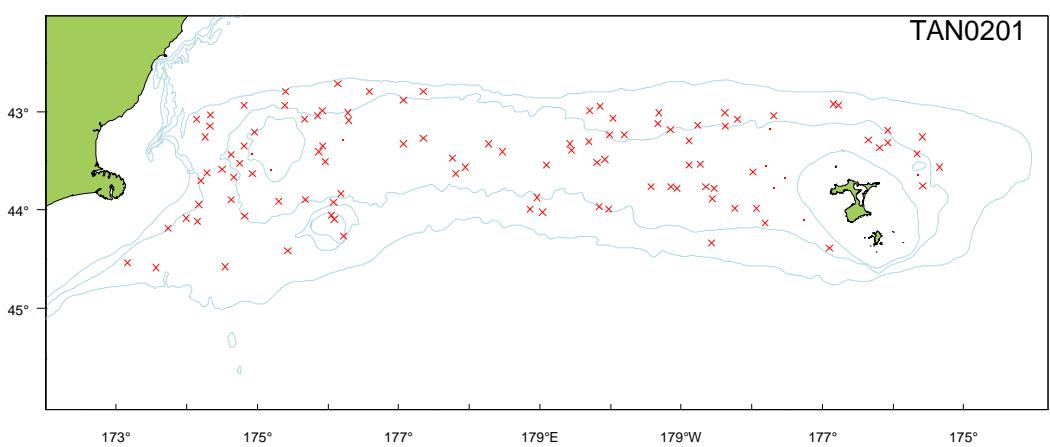
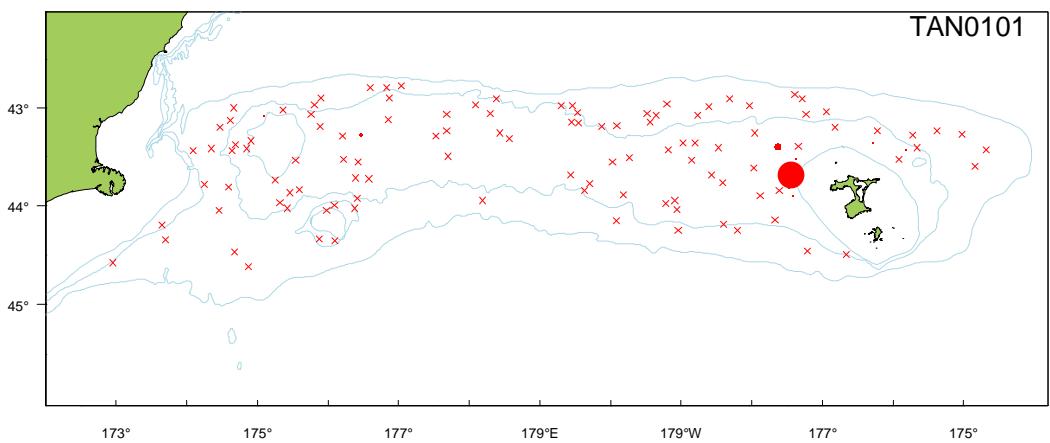
Distribution

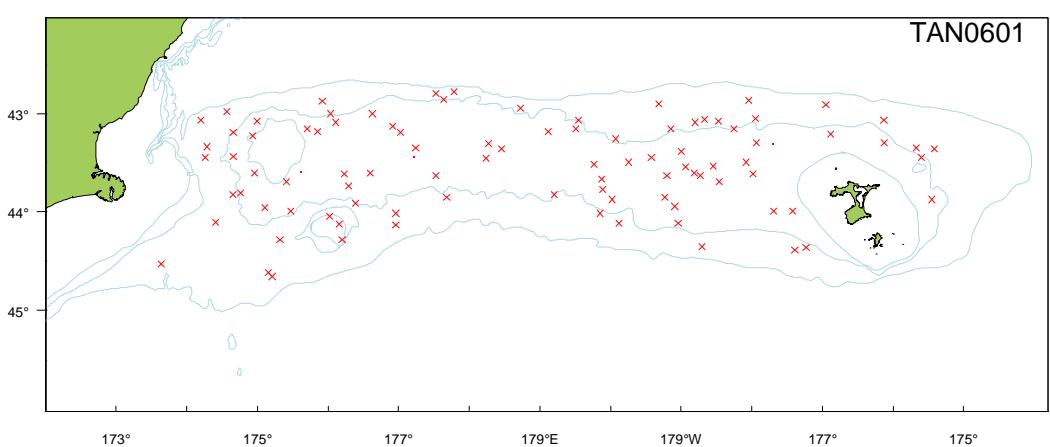
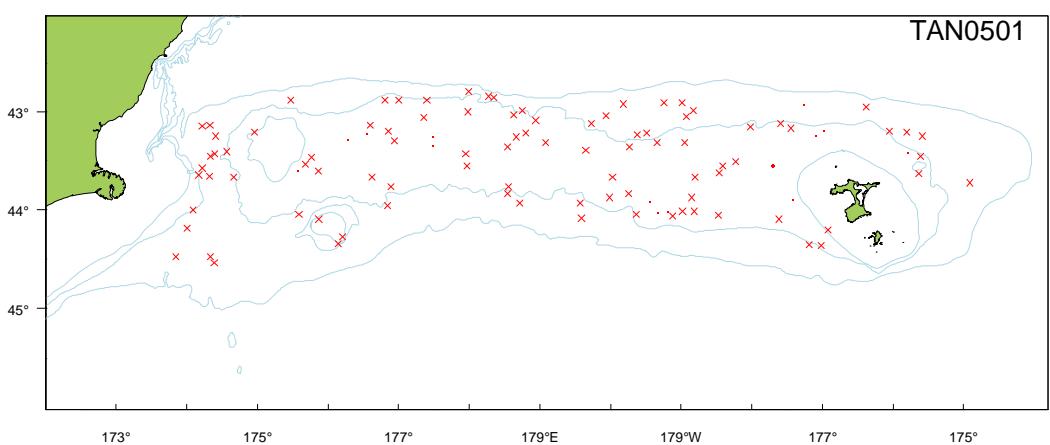
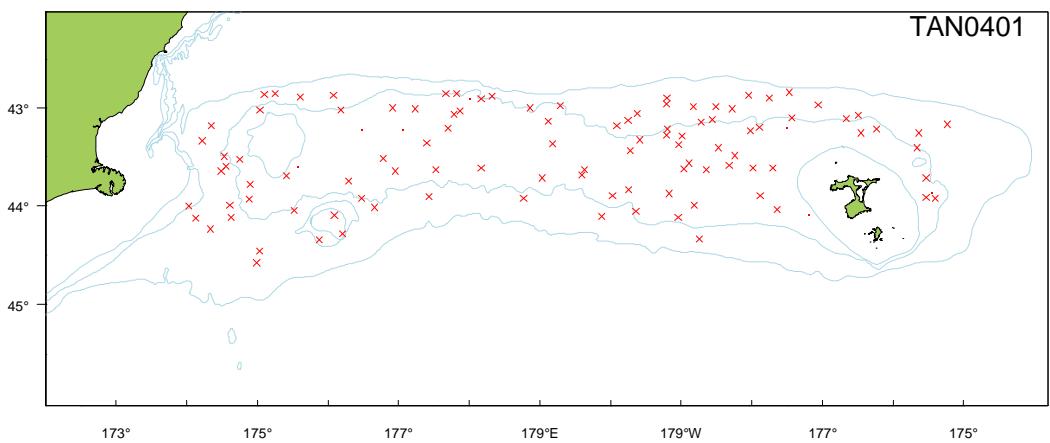


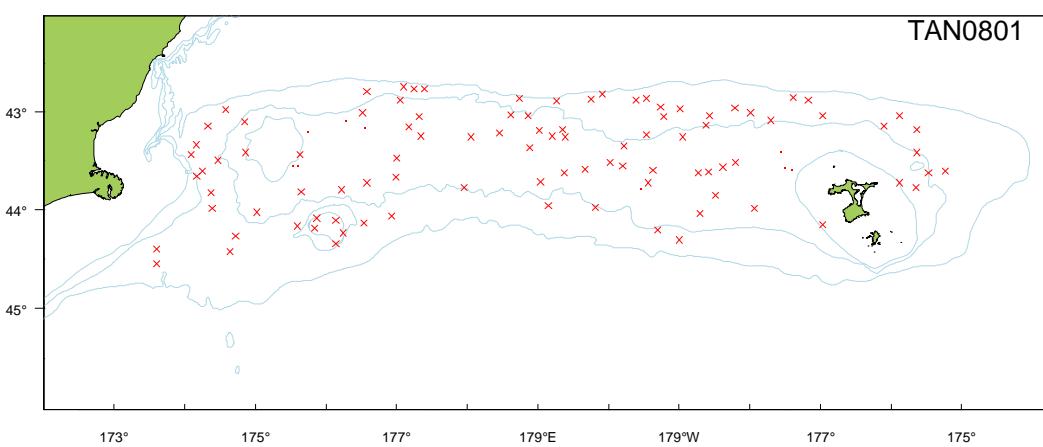
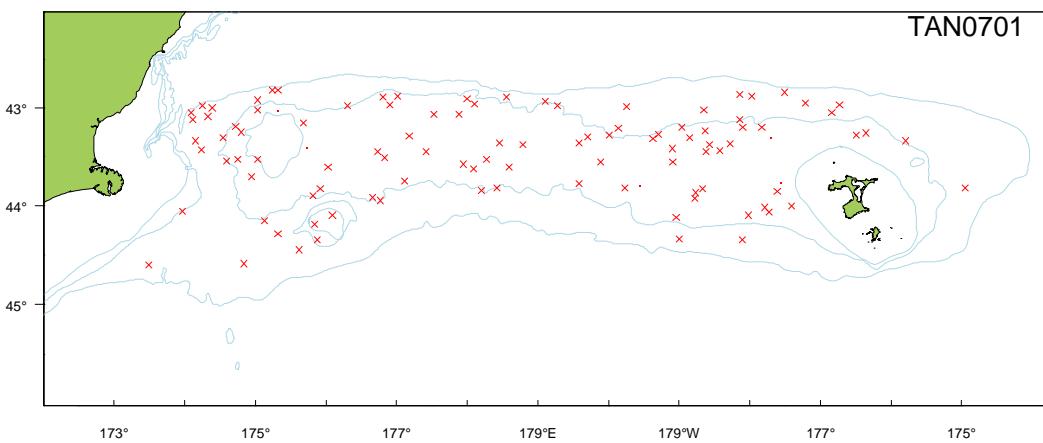


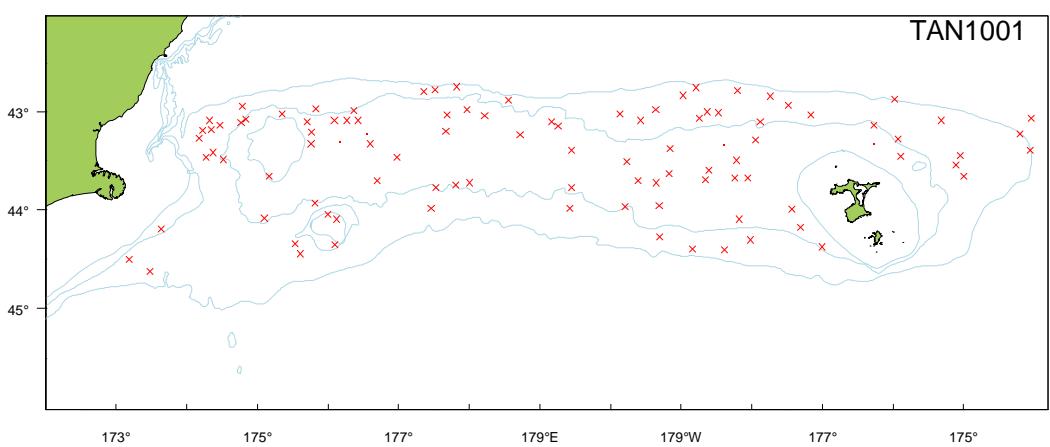
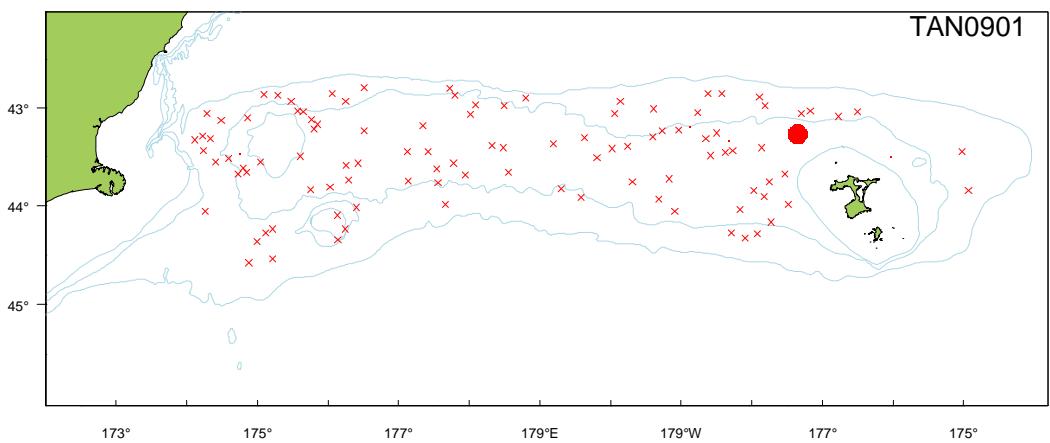




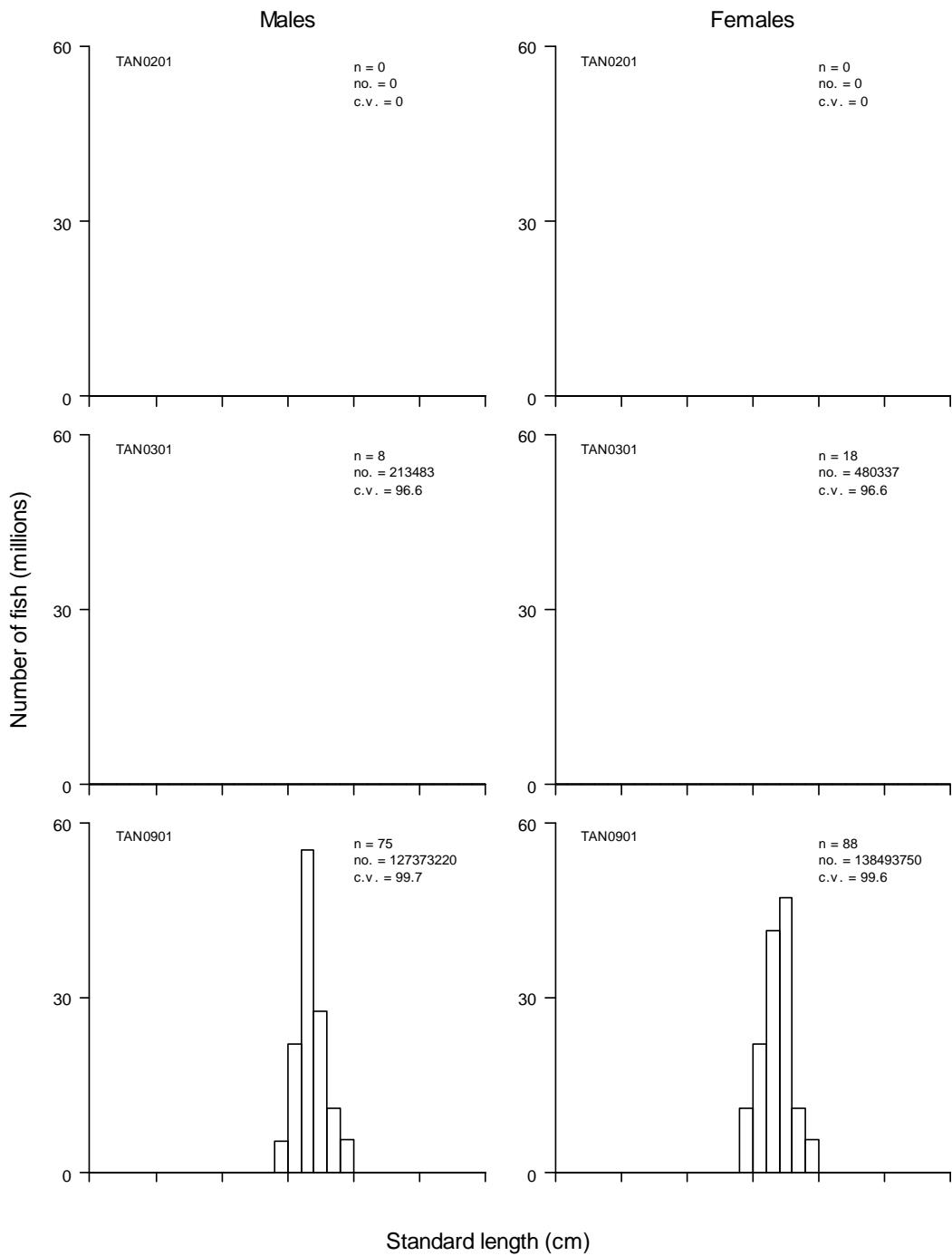








Length Frequencies



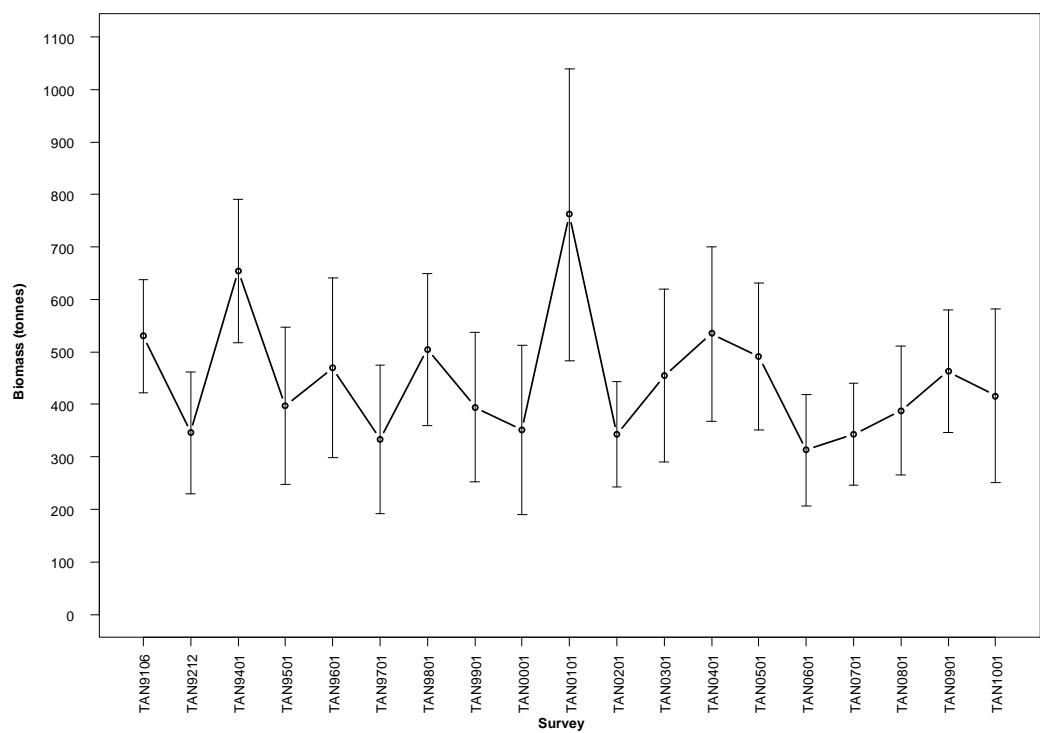


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	5 038.4
Number measured	2 621
Length range (mean) (cm, TL)	19–78 (51.8)
Number weighed	1 629
Length-weight parameters a, b (r^2)	0.003232, 3.314824 (96.91)

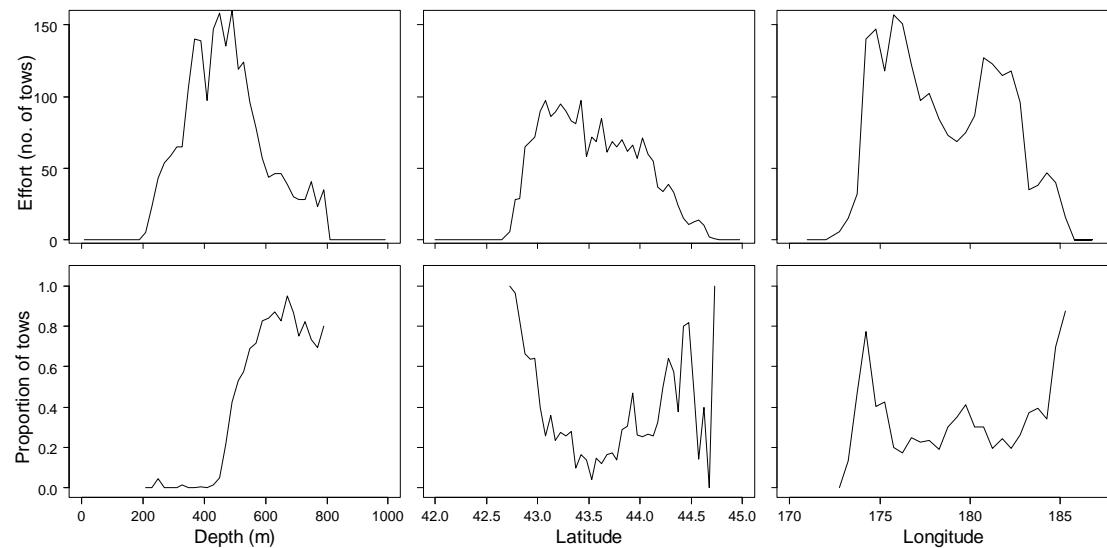
The core survey area and depth range is **not** appropriate for this species. It is found **deeper than 800 m**. Biomass of this species is **very well** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series. Catch rates are highest in the **north and west**. Length frequencies **have multiple modes which may contain information about year-class strength**. Mean length has **decreased** since the start of the time series. Gonad stage data indicate that most fish are **resting**.

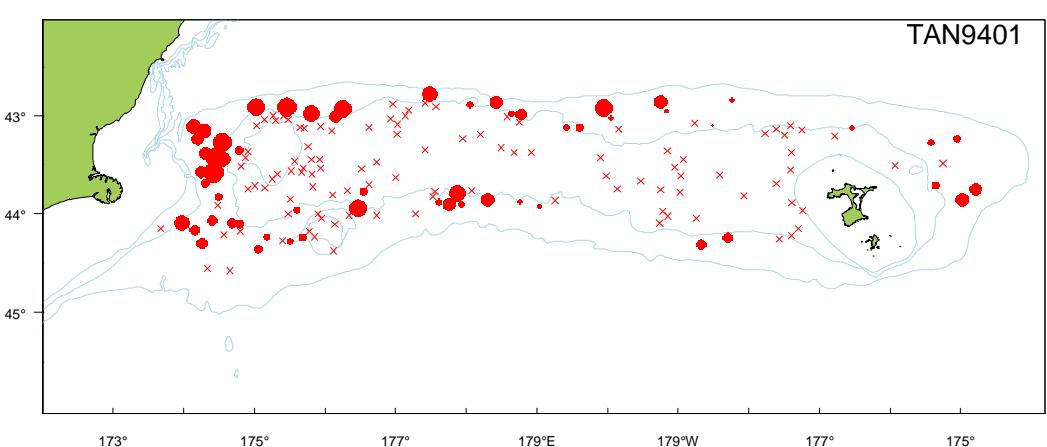
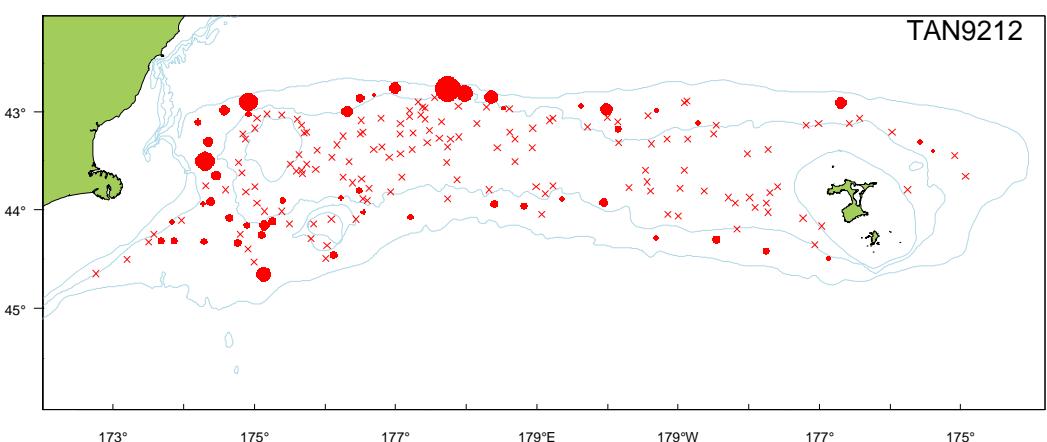
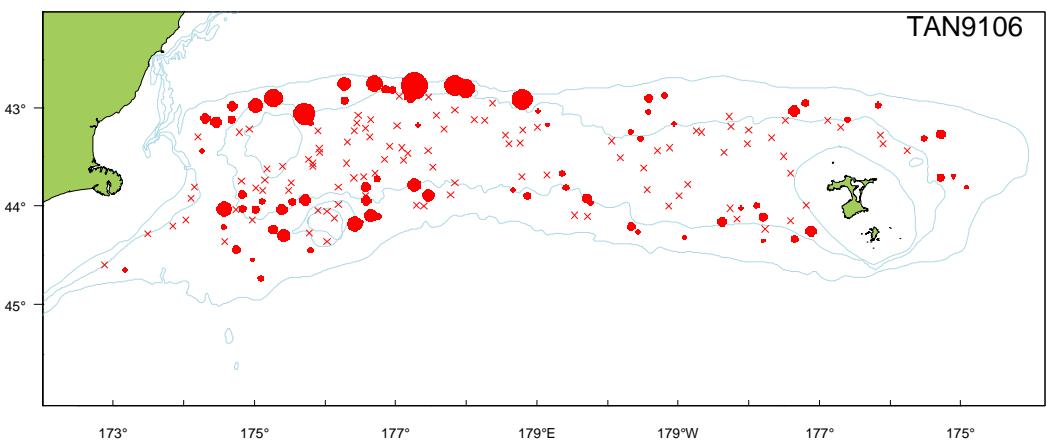
Relative biomass estimates and length summary

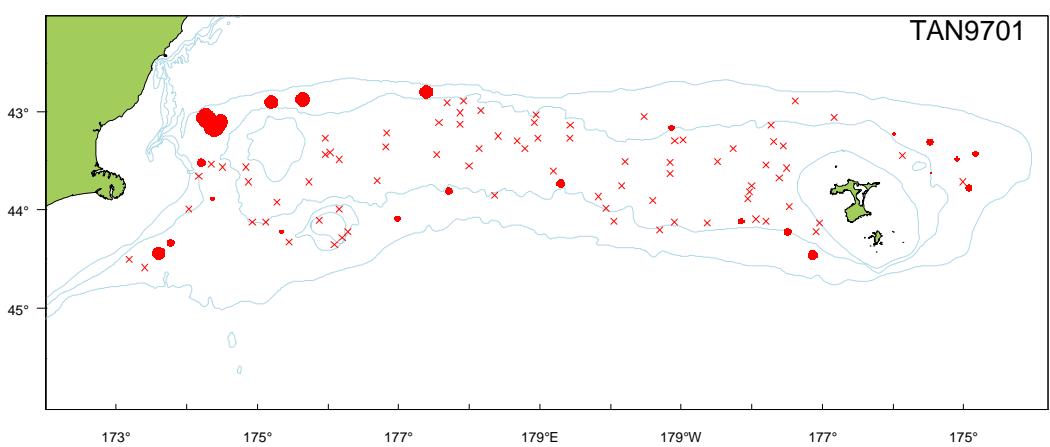
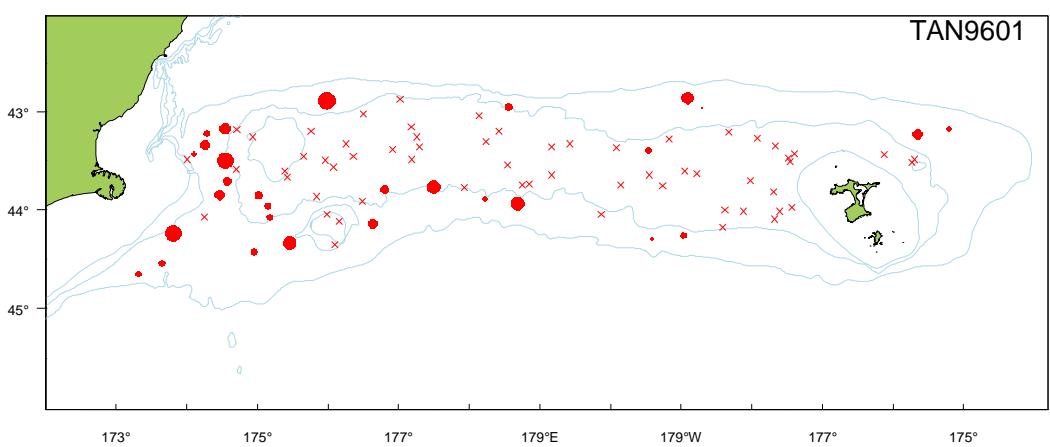
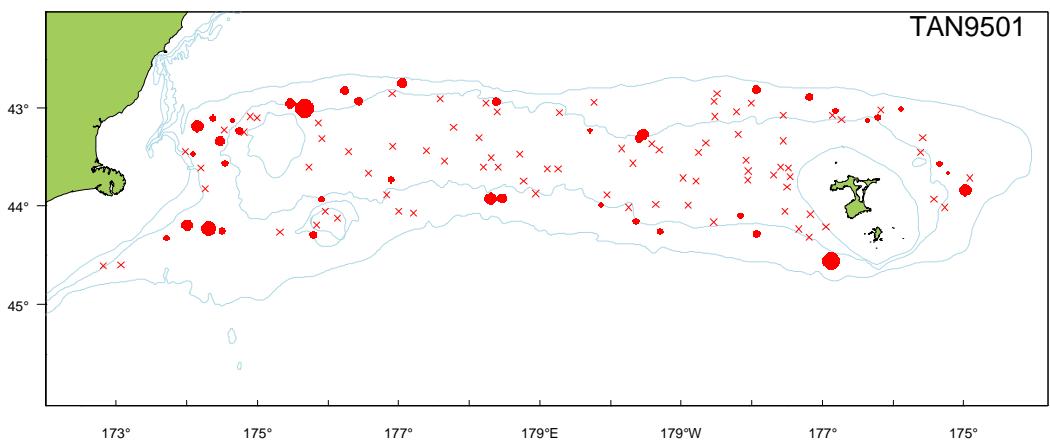
Year	Biomass (t)	cv (%)	Length (cm)			No. measure d
			Min.	Max.	Mean	
1992	530	10	19	76	53.5	215
1993	346	17	35	74	52.6	131
1994	654	10	24	74	53.7	223
1995	397	19	38	78	54.3	94
1996	470	18	24	70	55.3	73
1997	333	21	21	72	51.5	94
1998	505	14	32	78	54.1	82
1999	395	18	27	70	52.2	77
2000	351	23	31	75	52.7	85
2001	762	18	26	71	51.1	191
2002	343	15	26	72	50.4	114
2003	455	18	32	71	49.0	138
2004	535	16	30	71	50.3	158
2005	491	14	30	72	50.6	167
2006	313	17	21	73	50.6	83
2007	343	14	28	70	50.0	102
2008	388	16	27	75	50.7	109
2009	463	13	29	73	50.9	150
2010	416	20	28	72	50.7	139

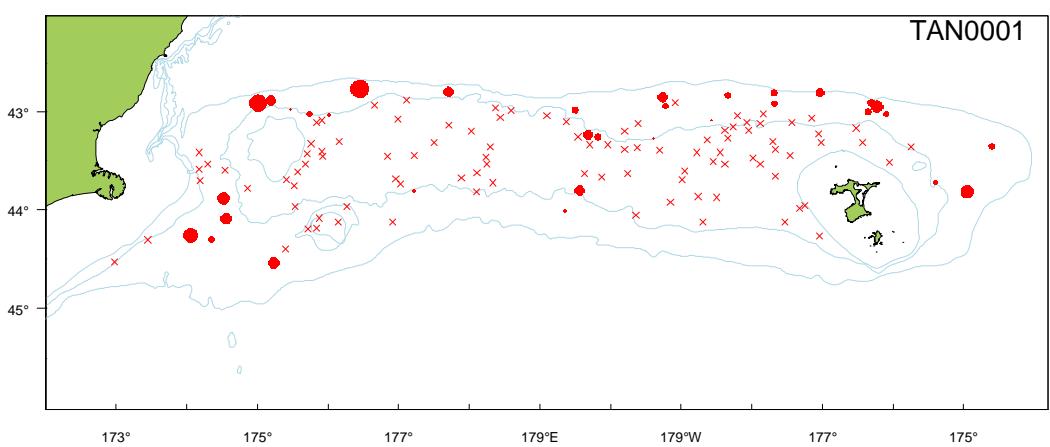
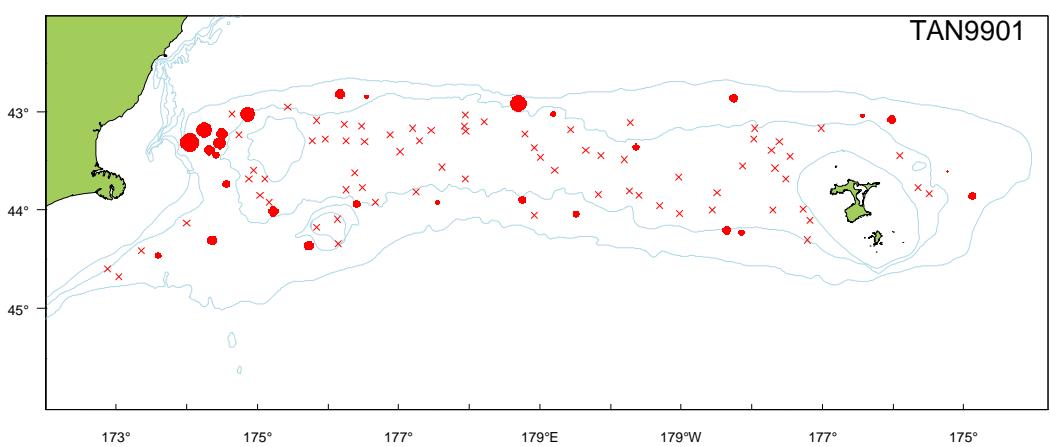
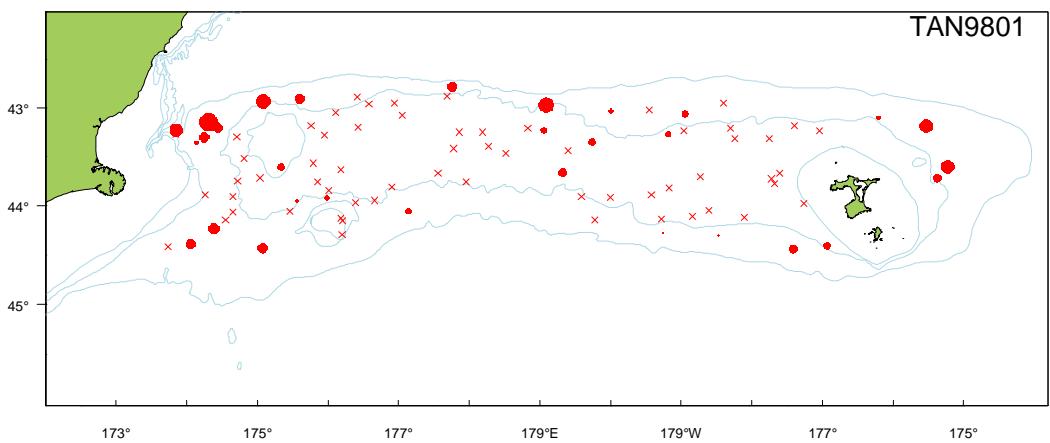


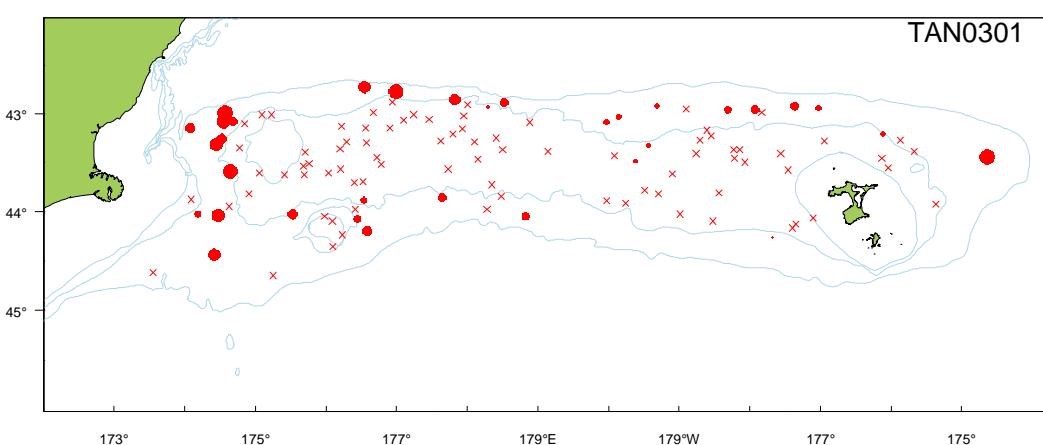
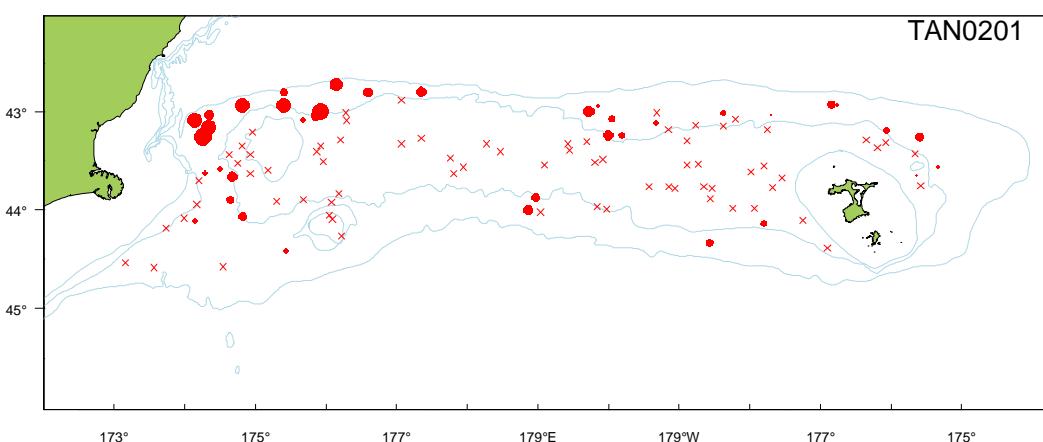
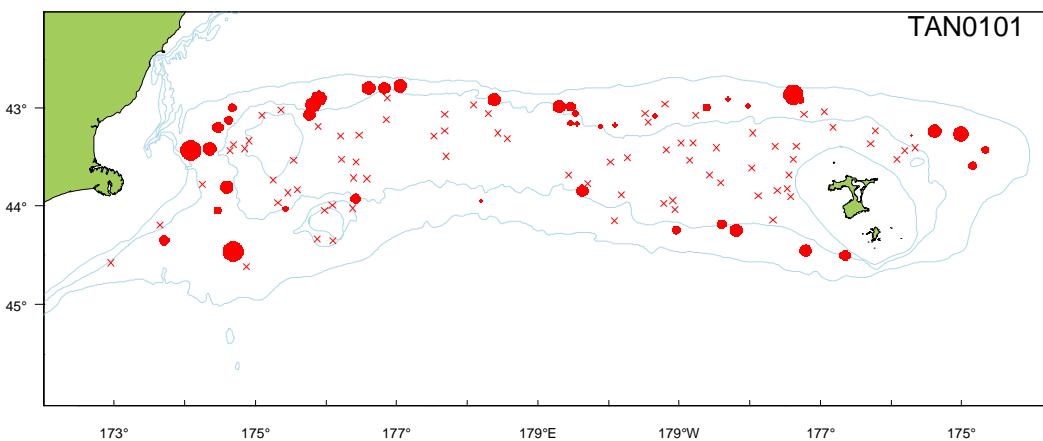
Distribution

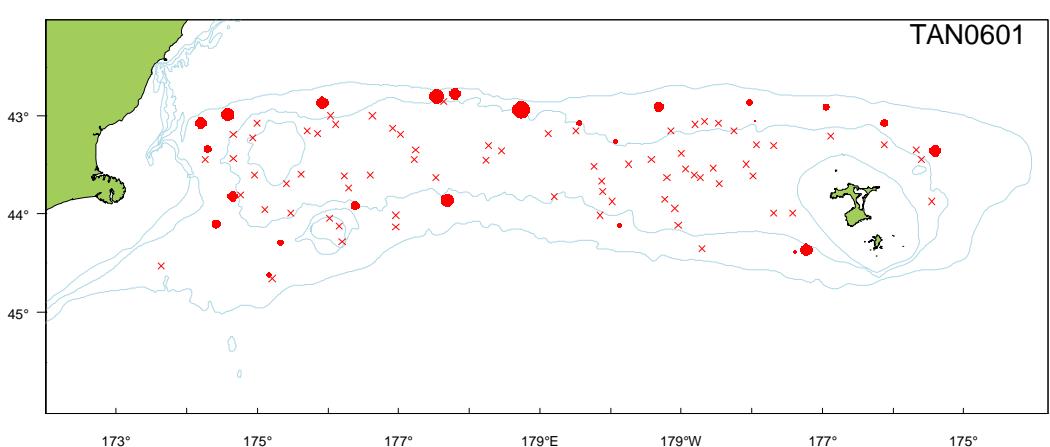
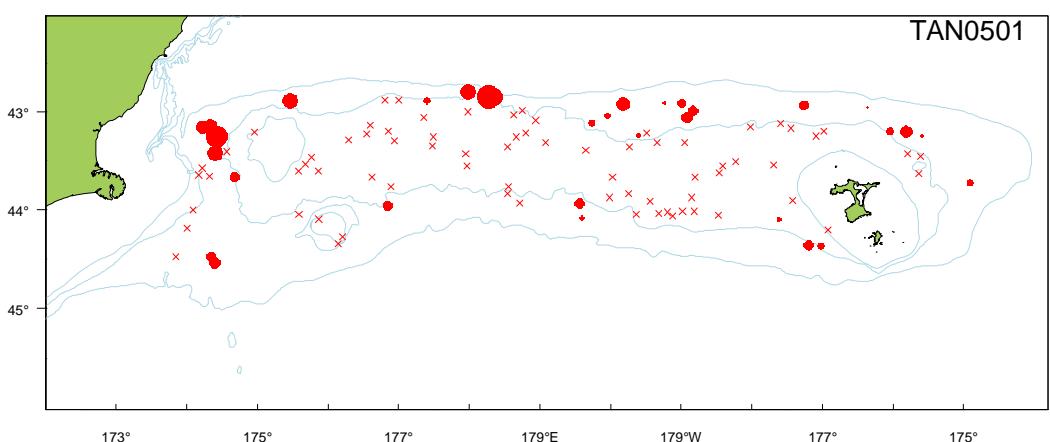
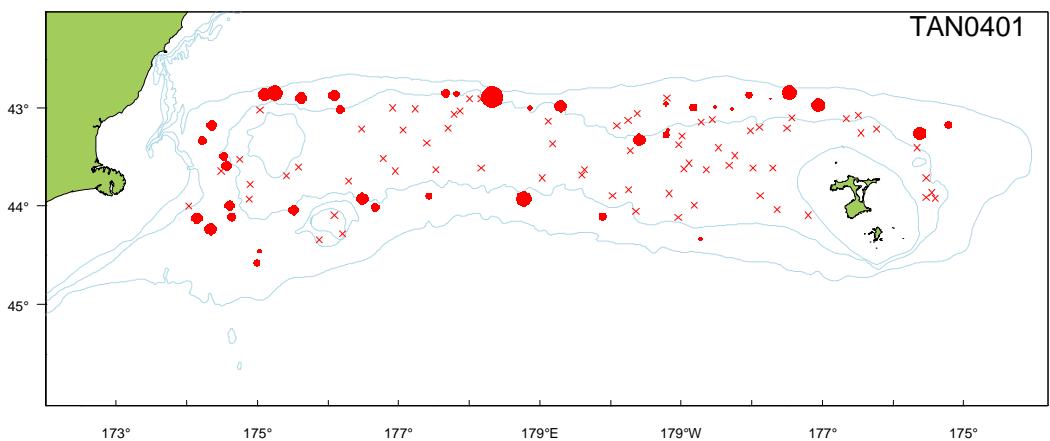


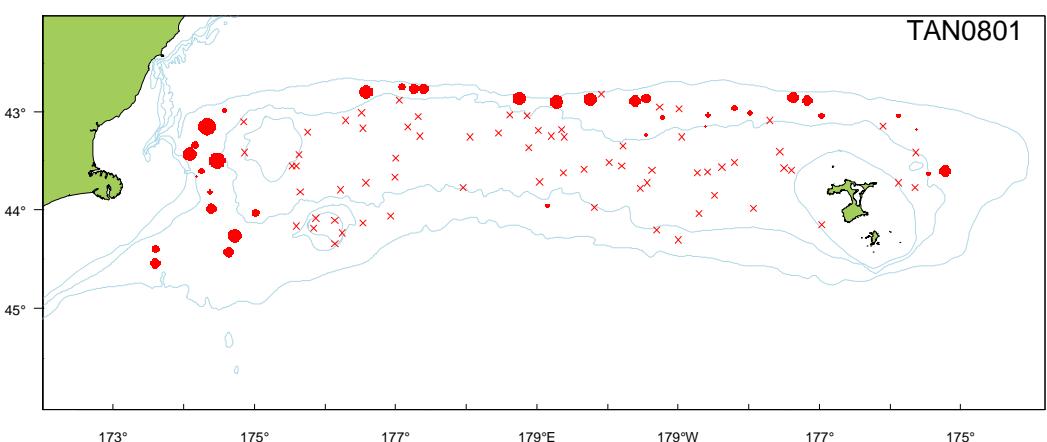
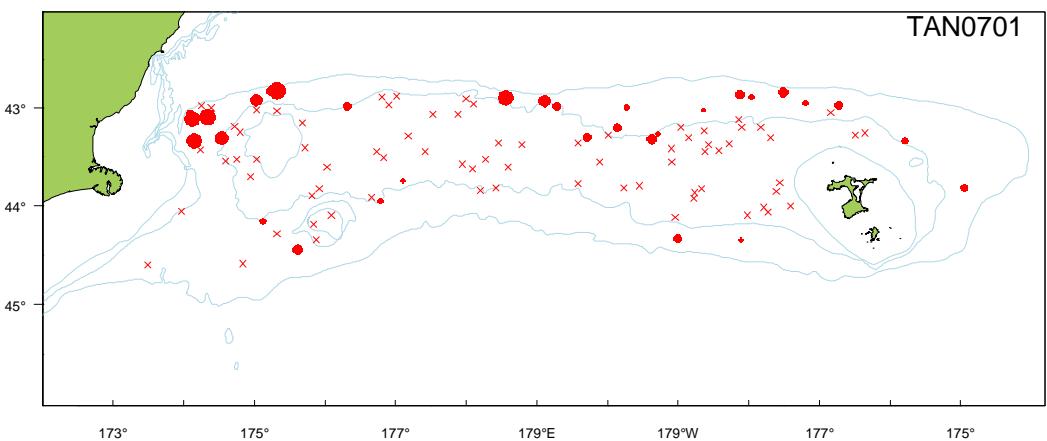


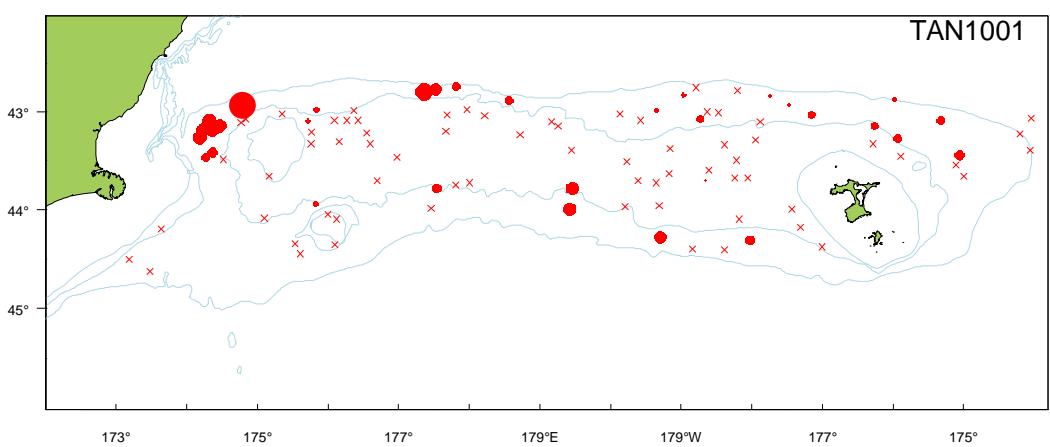
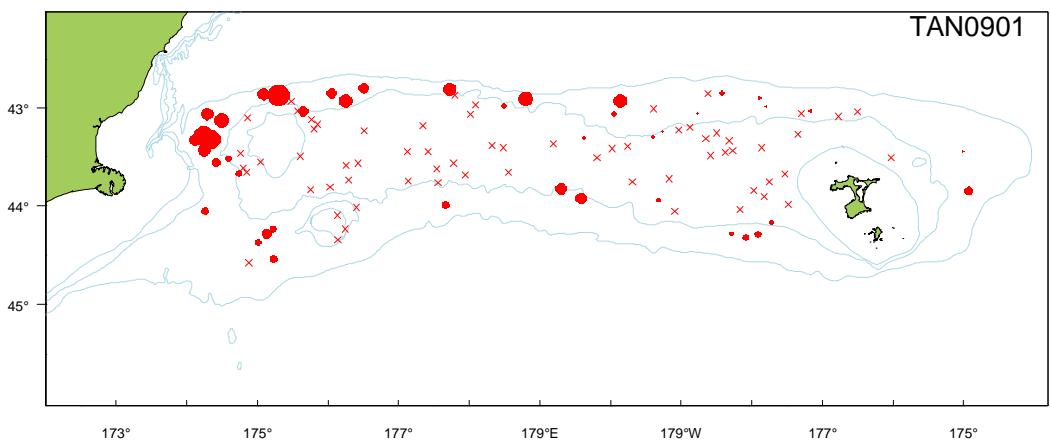




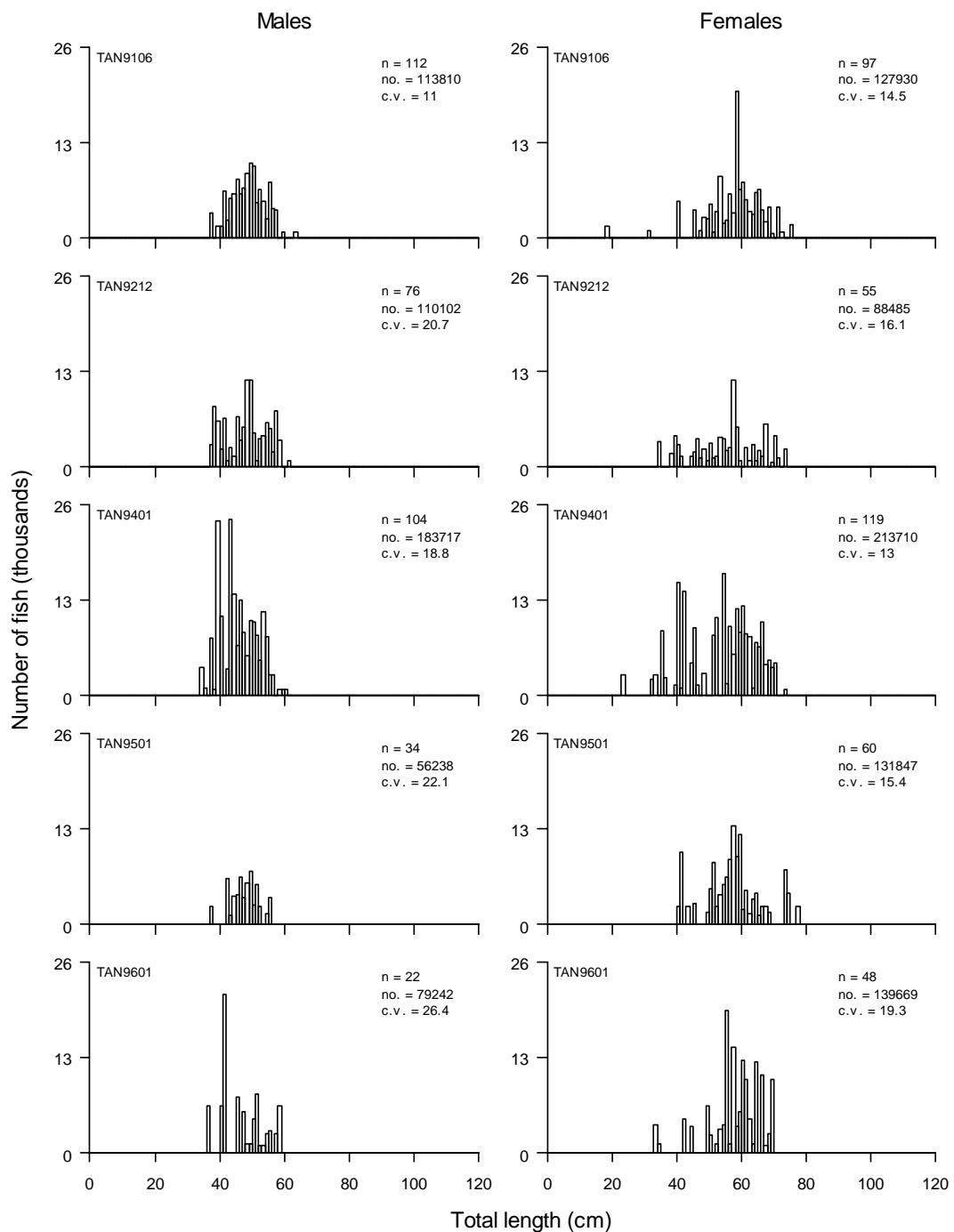


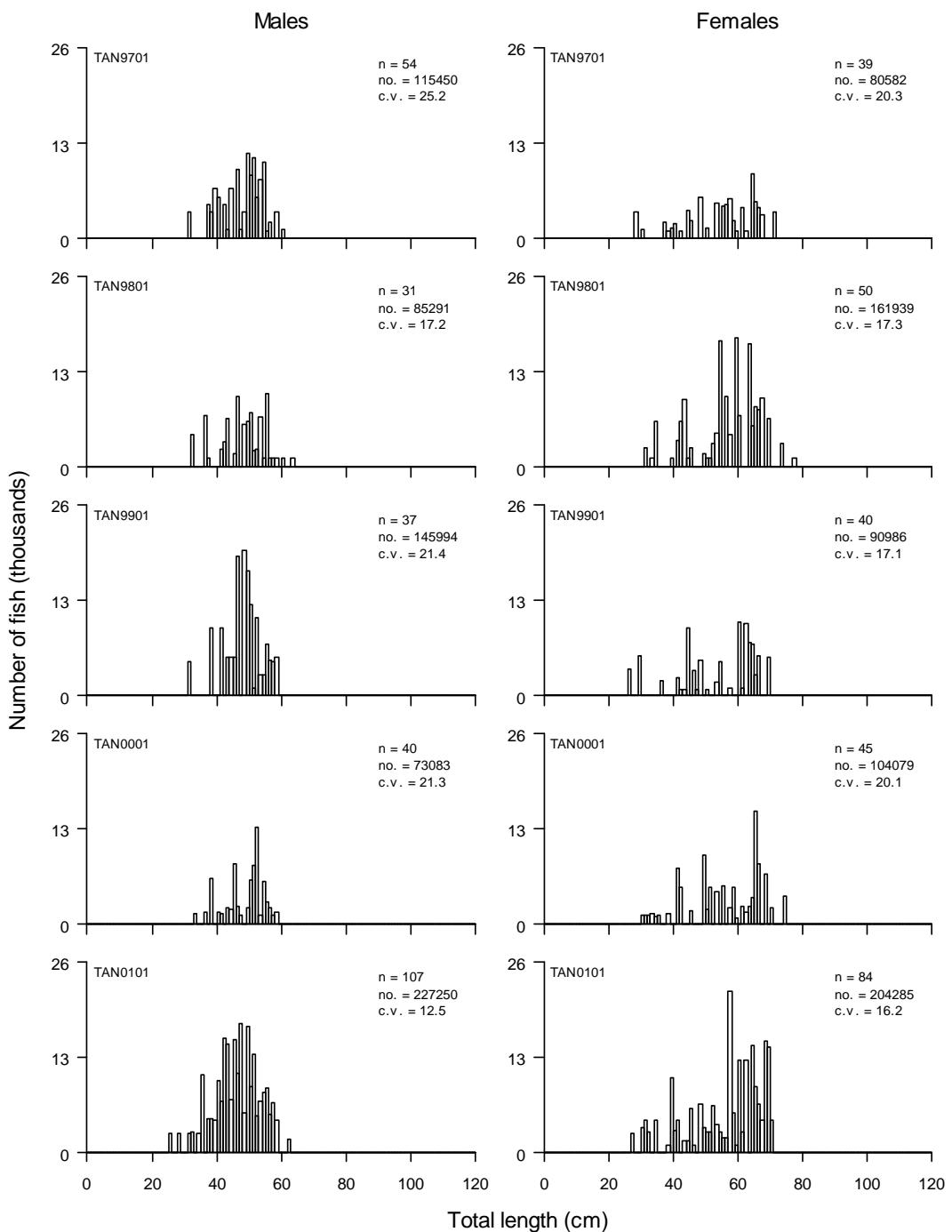


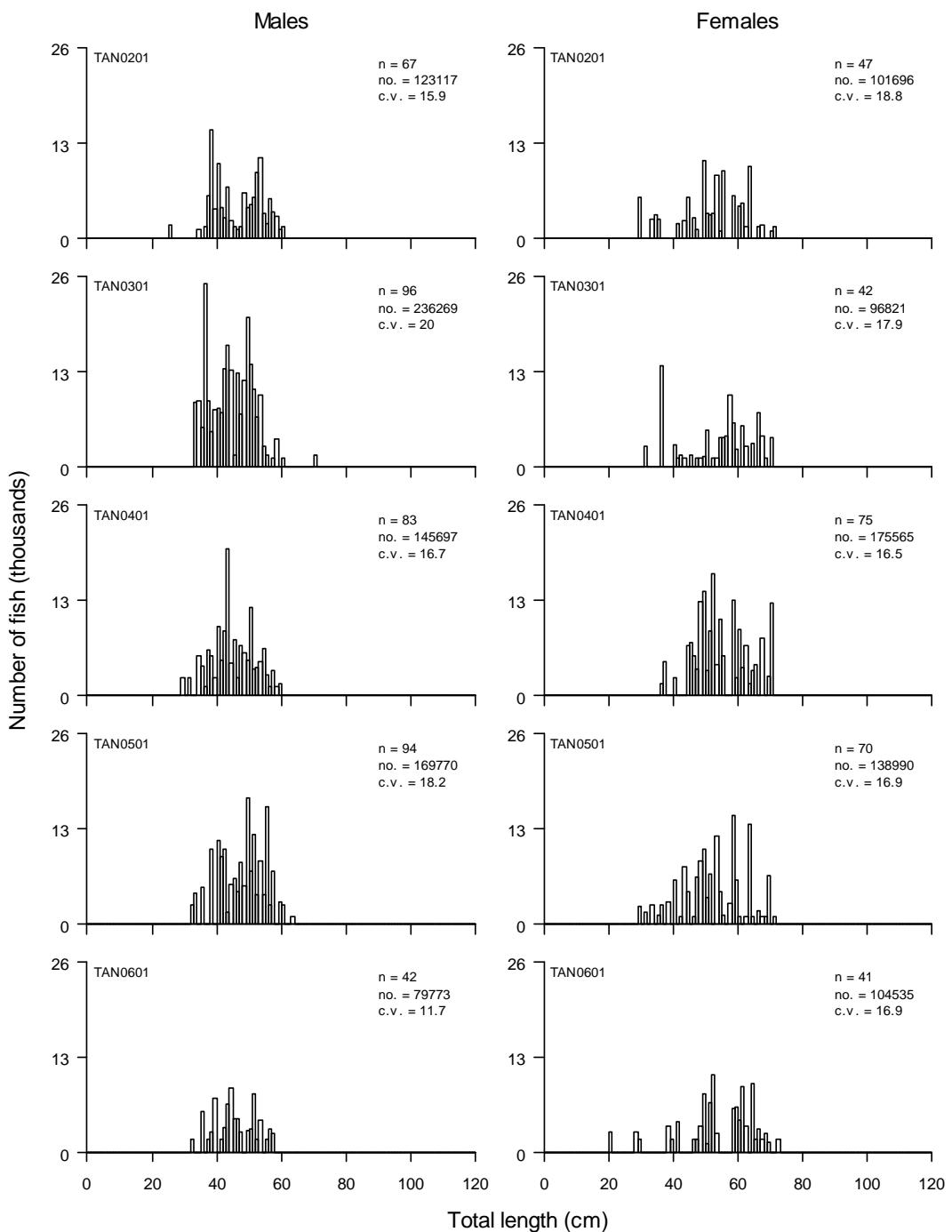


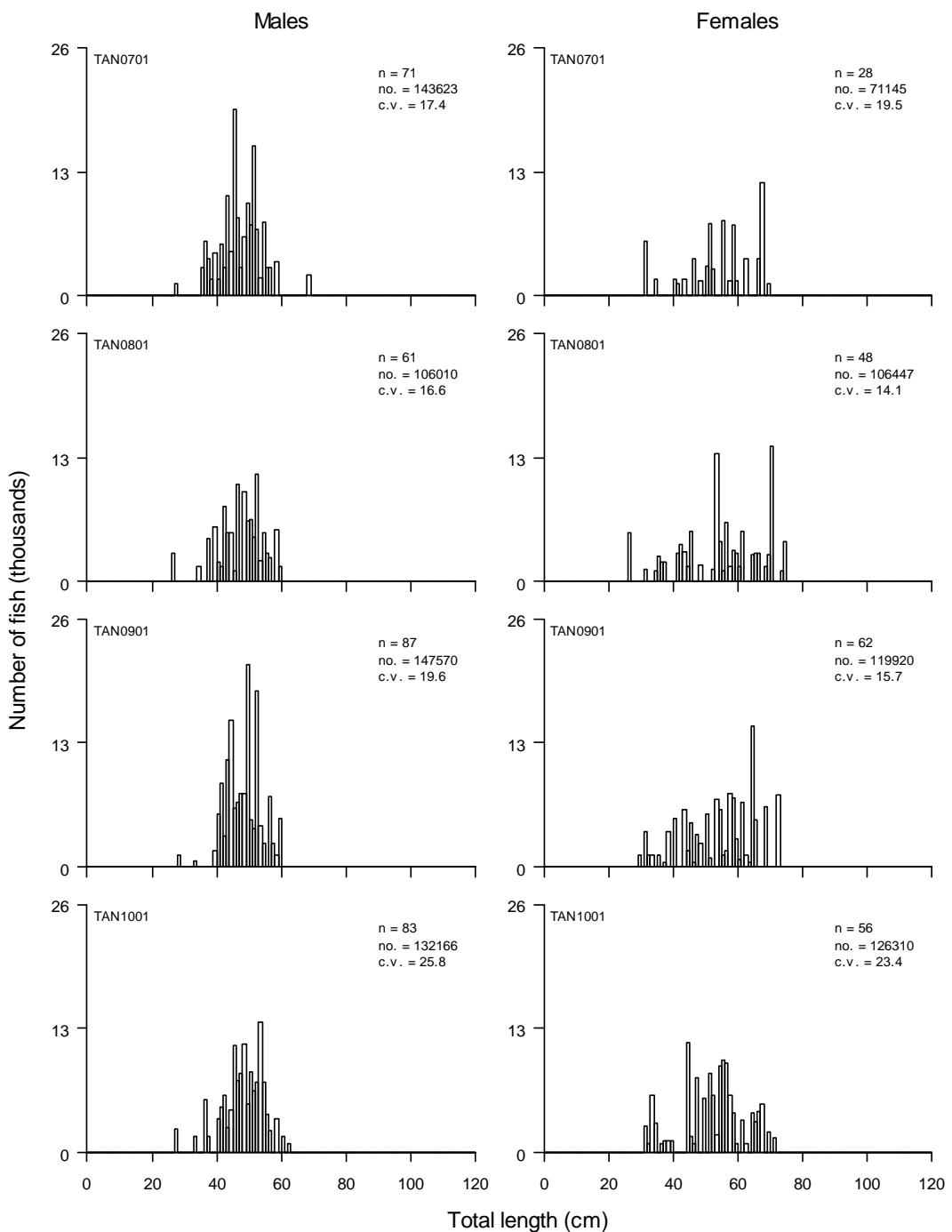


Length Frequencies









Gonad Stage Information

Males

Year	p_M1	p_M2	p_M3	p_M4	p_M5	p_M6	p_M7	n_allM
1992	NA	0						
1993	NA	0						
1994	0	1	0	0	0	0	0	2
1995	NA	0						
1996	0	1	0	0	0	0	0	5
1997	NA	0						
1998	0.18	0.82	0	0	0	0	0	11
1999	0.12	0.38	0.5	0	0	0	0	8
2000	NA	0						
2001	0.12	0.76	0.11	0	0	0	0	72
2002	0.04	0.87	0	0	0	0	0.09	23
2003	0.07	0.57	0.12	0	0	0	0.24	42
2004	0.08	0.52	0.4	0	0	0	0	25
2005	0	0.79	0.21	0	0	0	0	34
2006	0	1	0	0	0	0	0	2
2007	0	1	0	0	0	0	0	10
2008	NA	0						
2009	0	1	0	0	0	0	0	4
2010	0	1	0	0	0	0	0	32
ALL	0.07	0.76	0.13	0	0	0	0.04	270

Females

Year	p_F1	p_F2	p_F3	p_F4	p_F5	p_F6	p_F7	n_allF
1992	NA	0						
1993	NA	0						
1994	0	1	0	0	0	0	0	4
1995	NA	0						
1996	0.06	0.44	0	0	0	0	0.5	16
1997	NA	0						
1998	0.03	0.52	0	0	0	0	0.45	29
1999	0.14	0.86	0	0	0	0	0	7
2000	NA	0						
2001	0.07	0.74	0	0	0	0	0.19	42
2002	0	0.64	0	0	0	0	0.36	11
2003	0.09	0.36	0.09	0	0	0	0.45	11
2004	0.09	0.82	0	0	0	0.06	0.03	33
2005	0.19	0.78	0	0	0	0	0.03	36
2006	0	1	0	0	0	0	0	3
2007	0	1	0	0	0	0	0	3
2008	NA	0						
2009	0.08	0.75	0	0	0	0	0.17	12
2010	0.23	0.73	0	0	0	0	0.03	30
ALL	0.11	0.7	0	0	0	0.01	0.18	237

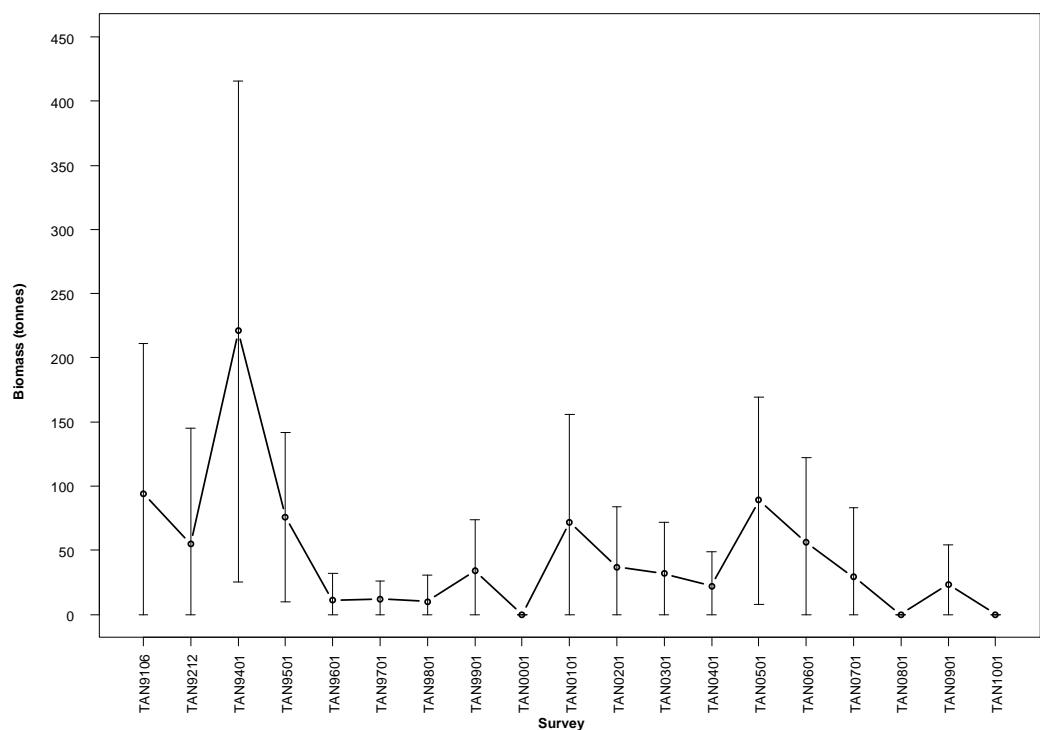


Number of surveys caught 1992–2010 (out of 19):	16
Total catch weight (kg):	773.4
Number measured	45
Length range (mean) (cm, PL)	46–79 (63.1)
Number weighed	43
Length-weight parameters a, b (r^2)	—

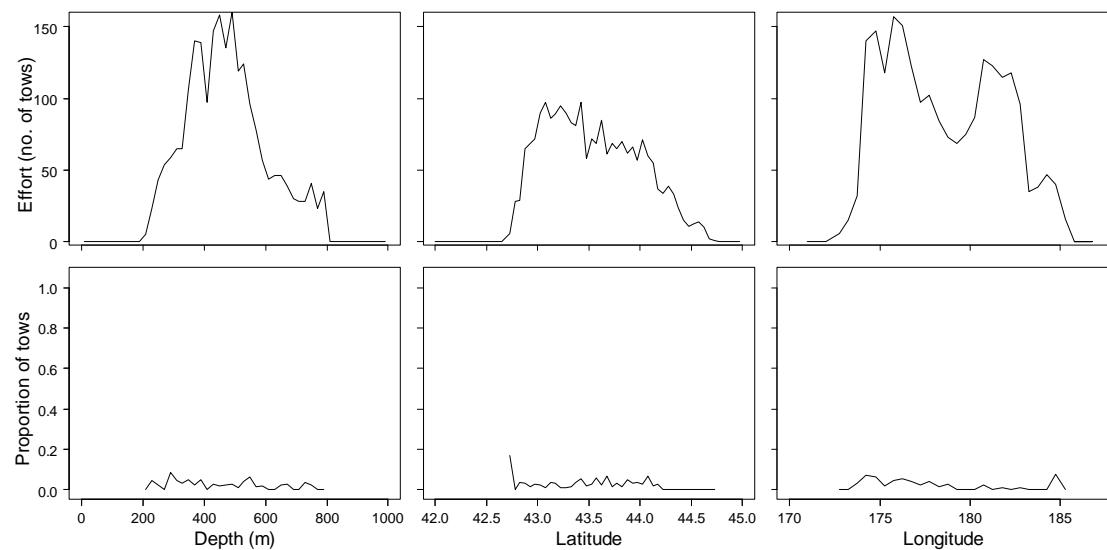
The core survey area and depth range is appropriate for this species. Biomass of this species is **poorly** estimated in the core survey area. Biomass **shows no clear trend** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	94	63
1993	55	83
1994	221	44
1995	76	43
1996	11	100
1997	12	58
1998	10	100
1999	34	60
2000	0	-
2001	72	58
2002	37	64
2003	32	64
2004	22	60
2005	89	45
2006	56	59
2007	29	95
2008	0	-
2009	23	67
2010	0	-



Distribution



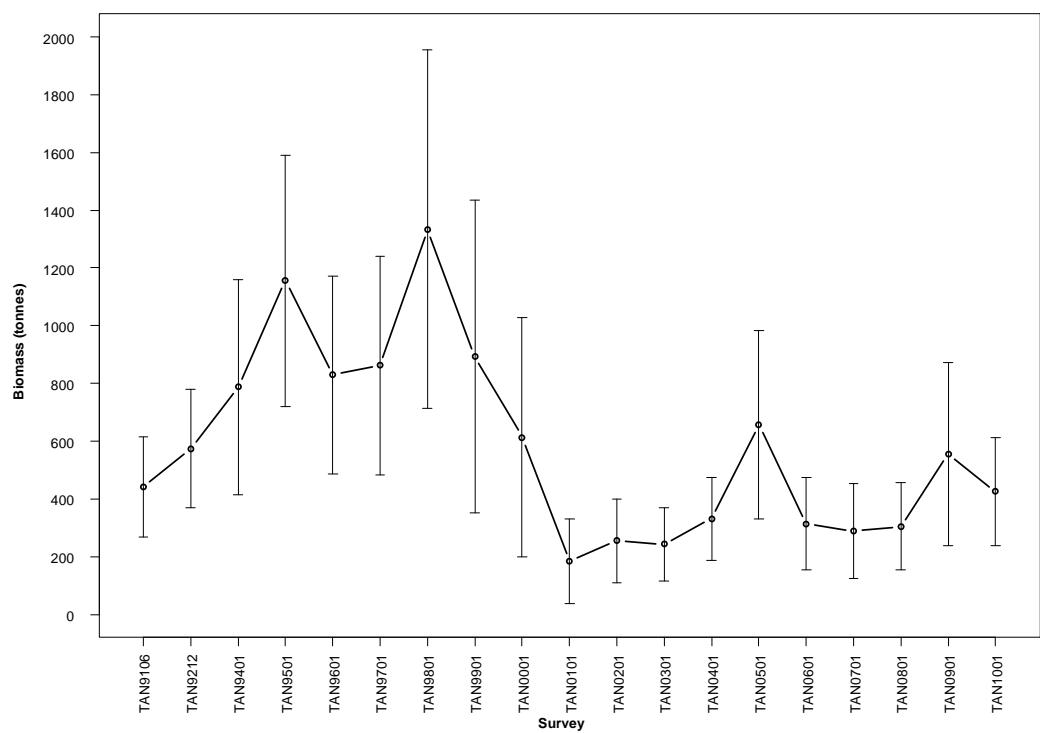


Number of surveys caught 1992–2010 (out of 19):	19
Total catch weight (kg):	5 450.5
Number measured	103
Length range (mean) (cm, FL)	57–97 (71.8)
Number weighed	27
Length-weight parameters a, b (r^2)	—

The core survey area and depth range **is** appropriate for this species. Biomass of this species is **well** estimated in the core survey area. Biomass has **decreased** since the start of the time series.

Relative biomass estimates

Year	Biomass (t)	cv (%)
1992	441	20
1993	574	18
1994	788	24
1995	1 155	19
1996	830	21
1997	862	22
1998	1 334	23
1999	894	30
2000	613	34
2001	185	40
2002	255	28
2003	243	26
2004	332	22
2005	657	25
2006	314	26
2007	289	28
2008	304	25
2009	555	29
2010	425	22



Distribution

