

East Northland snapper landings, 1974–83

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Fisheries Research Division
Occasional Publication: Data Series No. 22

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Published by the New Zealand Ministry of
Agriculture and Fisheries
1985

ISSN 0111-5332

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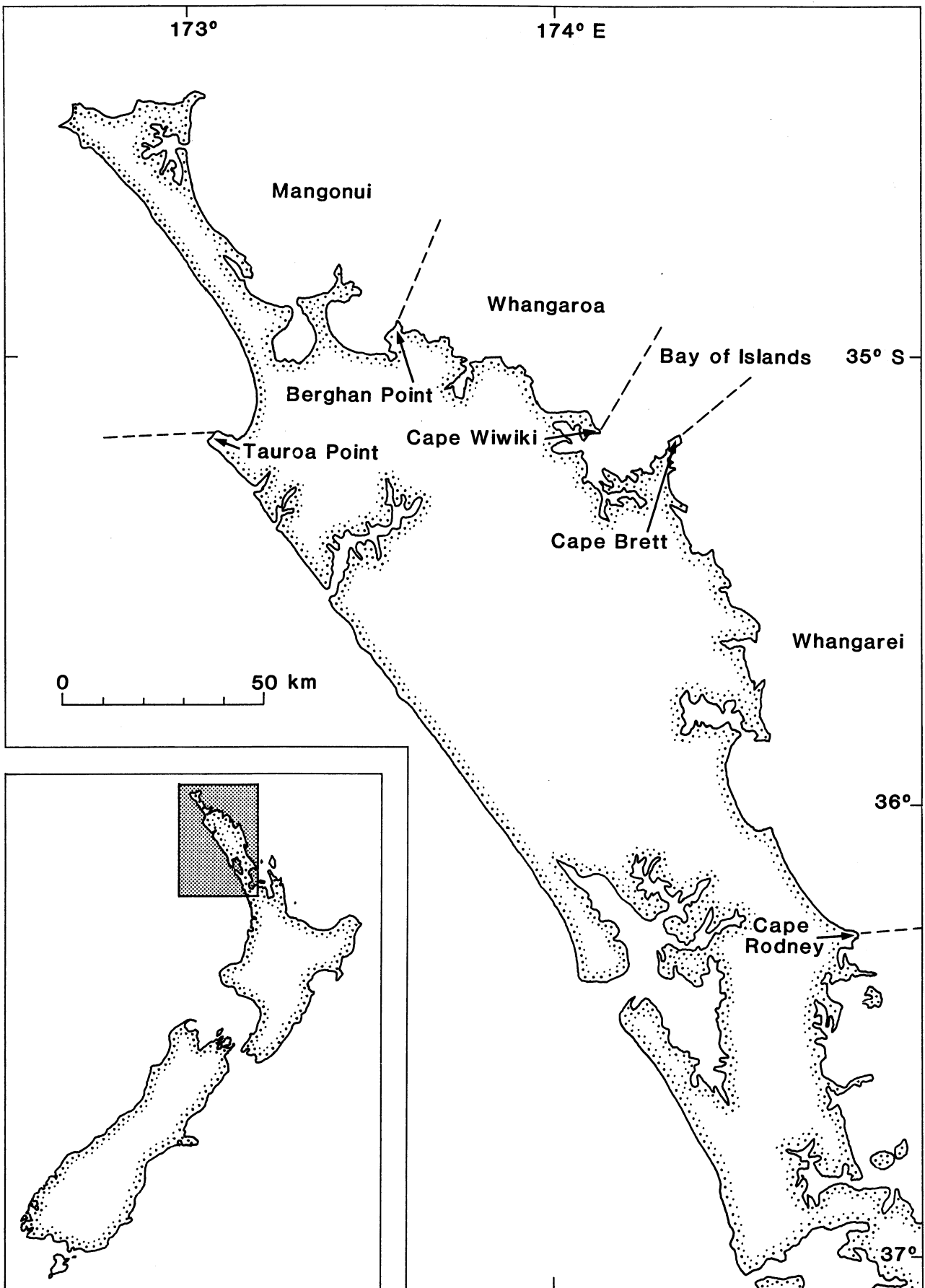


Fig. 1: East Northland regions of landing.

Introduction

Snapper is the most important fish species landed in east Northland; it constituted 38% of the wetfish catch in 1983. Snapper landings in east Northland were 17% of the total New Zealand snapper landings in 1983. However, the value of the region's snapper fishery is even more significant because most of the recent catch has been taken by longline; the fish are taken alive, killed quickly by spiking the brain, and exported to Japan as a high quality product.

Fishing effort has increased significantly during the last decade, and there is now concern that snapper may be overfished. Research is being done on the optimum yield for the fishery, and a Fisheries Management Plan is being prepared. A prerequisite for both research and management is information on annual and seasonal trends in catches and on catch by fishing method and area. This report provides that information for the east Northland region during 1974-83.

Data presentation and limitations

The data presented here are summarised from fishing returns submitted to the Ministry of Agriculture and Fisheries by domestic fishermen for the period January 1974 to June 1983. The data are reported landings rather than actual landings. Landings are believed to have been under-reported throughout this period, but the degree of under-reporting is not known. A new fishing return form was introduced in January 1983 and the level of under-reporting may have since declined; however, it must be considered when pre-1983 data are compared with 1983 data.

The data are for snapper landed in east Northland, rather than for snapper caught in the area. In 1983, 80% of the snapper reported caught in east

Northland was landed in east Northland. Before 1983, information on fishing area was not reliably reported. During the 1970s, trawlers landed large quantities of east Northland snapper in Auckland, and unknown quantities of snapper were taken from the area by foreign trawlers.

All weights have been rounded to the nearest tonne, and where necessary conversions to whole weight have been made.

Landings have been summarised by seasonal year (July to June), rather than calendar year, to reflect the strong seasonal nature of the snapper fishery.

The catch is landed at many sites along the east Northland coast. For statistical purposes the coast is divided into four regions (Fig. 1). The boundaries of the regions are as follows:

Mangonui - Tauroa Point to Berghan Point

Whangaroa - Berghan Point to Cape Wiwiki

Bay of Islands - Cape Wiwiki to Cape Brett

Whangarei - Cape Brett to Cape Rodney.

The Mangonui region includes part of the west coast, and all references to east Northland in this report include that section of west Northland.

Results

Annual landings by region and method are given in Table 1. These data are presented in Fig. 2. Percentage annual landings by region and method are given in Table 2. These data are presented in Fig. 3. Monthly landings by region and method are given in Table 3. Data from Table 3 are presented in Fig. 4.

TABLE 1: Annual landings (t) by region and method

Region	Method	Fishing year								
		74-75	75-76	76-77	77-78	78-79	79-80	80-81	81-82	82-83
Mangonui	Pair trawl	55	0	196	183	337	414	208	185	78
	Single trawl	29	0	2	7	2	0	0	0	1
	Danish seine	172	122	55	51	26	3	0	0	0
	Line	172	204	235	268	386	387	323	289	452
	Set net	14	36	25	39	58	49	58	45	42
	All methods	451	372	517	549	808	856	595	519	574
Whangaroa	Pair trawl	94	197	176	136	113	139	4	2	0
	Single trawl	19	24	21	1	69	39	12	18	7
	Danish seine	9	0	3	0	0	0	0	3	2
	Line	17	26	9	32	46	88	81	98	107
	Set net	2	0	0	4	8	0	0	8	4
	All methods	142	248	214	176	238	267	98	128	121
Bay of Islands	Pair trawl	0	0	0	19	17	4	0	0	4
	Single trawl	0	0	0	14	6	0	1	0	0
	Danish seine	11	1	10	0	0	0	1	3	9
	Line	36	44	46	130	295	274	313	306	362
	Set net	4	4	11	12	31	27	70	39	33
	All methods	51	48	69	176	349	316	392	360	407
Whangarei	Pair trawl	194	129	311	371	451	307	464	161	161
	Single trawl	3	19	6	11	7	23	26	0	0
	Danish seine	10	0	0	0	0	0	0	3	3
	Line	27	39	45	45	85	209	313	212	255
	Set net	11	3	16	35	43	29	24	12	29
	All methods	249	194	389	466	590	579	829	426	478
All regions	Pair trawl	343	326	683	709	918	864	676	348	243
	Single trawl	51	43	29	33	84	62	39	18	9
	Danish seine	202	123	68	51	26	3	1	9	13
	Line	252	313	335	475	812	958	1 030	905	1 175
	Set net	31	43	52	90	140	105	152	104	108
Total		893	862	1 189	1 367	1 985	2 018	1 914	1 433	1 582

TABLE 2: Percentage annual landings by region and method

Region	Method	Fishing year								
		74-75	75-76	76-77	77-78	78-79	79-80	80-81	81-82	82-83
Mangonui	Pair trawl	12	0	38	33	42	48	35	36	14
	Single trawl	6	0	0	1	0	0	0	0	0
	Danish seine	38	33	11	9	3	0	0	0	0
	Line	38	55	45	49	48	45	54	56	79
	Set net	3	10	5	7	7	6	10	9	7
	Other*	3	2	1	1	0	1	1	0	0
Whangaroa	Pair trawl	66	79	82	77	47	52	4	2	0
	Single trawl	13	10	10	1	29	15	12	14	6
	Danish seine	6	0	1	0	0	0	0	2	2
	Line	12	10	4	18	19	33	83	77	88
	Set net	1	0	0	2	3	0	0	6	3
	Other	2	1	3	2	2	0	1	0	1
Bay of Islands	Pair trawl	0	0	0	11	5	1	0	0	1
	Single trawl	0	0	0	8	2	0	0	0	0
	Danish seine	22	2	14	0	0	0	0	1	2
	Line	71	92	67	74	85	87	80	85	89
	Set net	8	8	16	7	9	9	18	11	8
	Other	0	0	3	0	0	3	2	3	0
Whangarei	Pair trawl	78	66	80	80	76	53	56	39	35
	Single trawl	1	10	2	2	1	4	3	0	0
	Danish seine	4	0	0	0	0	0	0	1	1
	Line	11	20	12	10	14	36	38	49	52
	Set net	4	2	4	8	7	5	3	2	6
	Other	2	0	2	0	2	2	0	9	6
All regions	Pair trawl	38	38	57	52	46	43	35	24	15
	Single trawl	6	5	2	2	4	3	2	1	1
	Danish seine	23	14	6	4	1	0	0	1	1
	Line	28	36	28	35	41	47	54	63	74
	Set net	3	5	4	7	7	5	8	7	7
	Other	2	2	3	0	1	2	1	4	2

* Mainly beach seine and drag nets.

TABLE 3: Monthly landings (t) by region and method

Year	Month	Total	All methods				All regions				
			Mangonui	Whangaroa	Bay of Islands	Whangarei	Pair trawl	Single trawl	Danish seine	Line	Set net
1974	Jan	101	28	2	7	64	8	4	56	27	2
	Feb	99	58	2	8	31	25	3	21	33	15
	Mar	89	35	21	4	29	23	2	29	29	3
	Apr	55	26	2	5	22	5	3	13	28	5
	May	56	25	2	4	25	13	4	5	26	2
	Jun	39	20	1	1	17	14	4	0	18	1
	Jul	73	57	1	3	12	19	5	22	14	4
	Aug	58	39	2	2	15	14	4	16	21	2
	Sep	95	56	2	6	31	25	4	38	22	7
	Oct	107	76	3	5	23	59	2	13	28	5
	Nov	30	21	1	7	1	0	2	3	25	1
	Dec	40	22	1	10	7	6	3	7	23	0
1975	Jan	135	58	27	0	50	66	4	35	23	6
	Feb	93	22	37	5	29	54	6	15	15	2
	Mar	83	33	23	2	25	31	13	19	20	1
	Apr	69	19	14	7	29	29	5	10	23	1
	May	63	26	22	3	12	26	1	14	20	0
	Jun	47	22	9	1	15	14	2	10	18	2
	Jul	56	24	2	4	26	23	0	17	14	0
	Aug	36	11	11	4	10	13	1	1	19	1
	Sep	39	19	5	4	11	7	0	1	25	6
	Oct	82	30	39	3	10	42	1	9	26	5
	Nov	108	44	47	5	12	43	10	13	37	3
	Dec	116	56	49	4	7	40	13	20	33	4
1976	Jan	85	44	13	3	25	27	2	25	27	3
	Feb	106	43	47	5	11	48	2	12	40	4
	Mar	45	25	2	2	16	5	9	8	20	4
	Apr	61	23	2	5	31	25	1	4	23	5
	May	65	29	5	6	25	24	1	8	28	3
	Jun	63	24	26	3	10	29	3	5	21	5
	Jul	40	20	9	2	9	13	2	4	19	2
	Aug	61	25	4	3	29	35	1	0	20	3
	Sep	71	25	17	12	17	26	1	8	32	4
	Oct	104	33	23	10	38	48	2	15	31	5
	Nov	197	100	11	8	78	122	2	29	39	4
	Dec	162	74	19	5	64	111	1	12	35	4
1977	Jan	168	103	46	5	14	119	1	0	41	3
	Feb	102	27	50	6	19	59	10	0	26	5
	Mar	111	48	10	4	49	66	6	0	29	6
	Apr	76	30	13	2	31	45	3	0	24	2
	May	52	18	6	3	25	23	0	0	22	3
	Jun	45	14	6	9	16	16	0	0	17	11
	Jul	50	15	15	5	15	23	0	0	20	5
	Aug	44	15	12	4	13	13	1	5	19	7
	Sep	63	26	6	8	23	24	0	13	20	5
	Oct	126	37	19	30	40	69	3	9	40	6
	Nov	207	74	34	19	80	103	1	23	75	5
	Dec	90	24	30	11	25	40	0	1	40	4
1978	Jan	136	54	33	18	31	61	4	0	60	10
	Feb	149	72	10	17	50	81	10	0	48	11
	Mar	172	73	4	18	77	113	8	0	38	11
	Apr	123	62	4	12	45	77	2	0	34	10
	May	125	64	5	17	39	72	3	0	41	8
	Jun	82	33	4	17	28	33	1	0	40	8
	Jul	83	22	3	15	43	39	2	0	31	10
	Aug	104	36	13	19	36	55	0	1	39	7
	Sep	163	76	10	20	57	86	7	8	55	7
	Oct	280	136	33	47	64	162	6	8	84	18
	Nov	248	115	30	59	44	87	12	3	127	18
	Dec	122	28	5	39	50	43	5	0	66	8

TABLE 3 - continued

Year	Month	Total	All methods				All regions				
			Mangonui	Whangaroa	Bay of Islands	Whangarei	Pair trawl	Single trawl	Danish seine	Line	Set net
1979	Jan	253	135	35	30	53	135	2	0	101	16
	Feb	228	98	43	39	48	129	13	0	71	16
	Mar	124	35	22	22	45	43	15	1	56	9
	Apr	140	48	15	19	58	60	8	5	58	10
	May	106	34	15	21	36	35	8	0	55	9
	Jun	134	45	14	19	56	44	6	0	69	12
	Jul	97	43	16	17	21	22	9	0	54	10
	Aug	104	47	16	21	20	30	3	0	64	7
	Sep	108	42	34	17	15	28	8	0	61	8
	Oct	226	80	47	35	64	120	5	0	92	8
	Nov	336	138	63	51	84	178	10	0	129	15
	Dec	270	113	20	34	103	120	4	3	115	15
1980	Jan	176	80	9	30	57	53	0	0	116	6
	Feb	221	117	27	17	60	137	0	0	73	9
	Mar	164	78	17	20	49	72	15	0	71	7
	Apr	136	70	6	22	38	58	8	0	64	6
	May	110	33	8	30	39	28	0	0	75	6
	Jun	70	15	4	22	29	18	0	0	44	8
	Jul	71	23	5	22	21	11	0	0	53	6
	Aug	107	53	5	19	30	37	0	0	63	7
	Sep	81	36	3	13	29	32	1	0	39	9
	Oct	177	50	10	33	84	74	4	0	85	13
	Nov	237	65	9	62	101	77	3	0	131	21
	Dec	290	85	8	57	140	92	14	1	163	17
1981	Jan	236	73	8	46	109	93	7	0	123	14
	Feb	171	59	6	27	79	87	2	0	68	12
	Mar	171	70	10	25	66	86	2	0	66	16
	Apr	170	30	16	36	88	52	3	0	98	16
	May	112	27	11	29	45	19	3	0	78	10
	Jun	91	24	7	23	37	16	0	0	63	11
	Jul	71	16	11	24	20	6	1	0	53	10
	Aug	88	45	9	21	13	31	1	0	44	10
	Sep	81	34	6	19	22	24	0	0	49	7
	Oct	137	57	10	37	33	42	1	0	78	14
	Nov	174	59	6	59	50	50	2	0	106	15
	Dec	188	64	10	49	65	37	0	0	132	12
1982	Jan	207	70	17	58	62	55	2	0	133	8
	Feb	136	68	11	18	39	58	1	1	59	6
	Mar	116	41	19	19	37	13	6	3	77	7
	Apr	111	33	14	22	42	23	4	1	72	8
	May	61	14	6	19	22	4	0	2	50	4
	Jun	63	18	9	15	21	5	0	2	52	3
	Jul	76	18	17	18	23	7	3	1	58	5
	Aug	100	31	13	17	39	7	0	0	81	11
	Sep	88	28	11	26	23	19	1	2	60	7
	Oct	125	43	8	32	42	34	0	0	82	5
	Nov	235	67	14	68	86	64	3	1	148	15
	Dec	225	94	8	64	59	23	1	1	190	7
1983	Jan	269	118	9	87	54	34	1	2	214	12
	Feb	141	51	7	44	38	19	0	1	104	11
	Mar	110	40	12	17	41	13	0	2	80	9
	Apr	83	35	7	13	27	11	0	1	58	11
	May	61	20	8	11	22	3	0	1	51	5
	Jun	69	29	7	10	24	9	0	1	49	10

TABLE 3 - continued

Year	Month	Mangonui					Whangaroa				
		Pair trawl	Single trawl	Danish seine	Line	Set net	Pair trawl	Single trawl	Danish seine	Line	Set net
1974	Jan	0	4	2	21	0	0	0	0	2	0
	Feb	25	11	18	0	0	0	0	0	2	0
	Mar	5	2	4	21	1	18	0	0	3	0
	Apr	0	3	1	20	2	0	0	0	2	0
	May	0	4	0	20	0	0	0	0	2	0
	Jun	0	3	0	16	1	0	0	0	1	0
	Jul	10	5	22	10	1	0	0	0	1	0
	Aug	1	4	16	15	1	0	0	0	2	0
	Sep	0	4	38	13	2	0	0	0	2	0
	Oct	44	2	11	19	0	0	0	0	3	0
	Nov	0	2	2	18	0	0	0	0	0	1
	Dec	0	3	0	19	0	0	0	0	0	0
1975	Jan	0	3	33	17	6	23	0	0	3	0
	Feb	0	2	10	10	0	32	2	2	0	1
	Mar	0	3	14	15	1	11	10	3	0	0
	Apr	0	1	5	12	1	6	4	3	1	0
	May	0	0	12	13	0	17	1	1	3	0
	Jun	0	0	9	11	2	5	2	0	2	0
	Jul	0	0	16	8	0	0	0	0	1	0
	Aug	0	0	1	9	1	8	0	0	3	0
	Sep	0	0	1	13	5	0	0	0	5	0
	Oct	0	0	9	18	4	37	0	0	2	0
	Nov	0	0	13	27	3	38	6	0	3	0
	Dec	0	0	20	25	4	37	12	0	0	0
1976	Jan	0	0	25	17	2	8	0	0	4	0
	Feb	0	0	12	28	3	43	0	0	4	0
	Mar	0	0	8	14	2	0	2	0	1	0
	Apr	0	0	4	14	4	0	0	0	1	0
	May	0	0	8	16	3	4	1	0	1	0
	Jun	0	0	5	15	5	22	3	0	1	0
	Jul	1	0	4	14	2	4	2	0	2	0
	Aug	9	0	0	13	3	1	1	0	1	0
	Sep	0	0	2	20	3	13	1	1	2	0
	Oct	0	0	8	19	4	19	1	2	1	0
	Nov	40	2	29	25	2	11	0	0	0	0
	Dec	35	0	12	25	3	19	0	0	0	0
1977	Jan	68	0	0	33	1	46	0	0	0	0
	Feb	8	0	0	18	1	40	9	0	0	0
	Mar	24	0	0	21	2	5	4	0	1	0
	Apr	11	0	0	18	1	8	3	0	1	0
	May	0	0	0	17	1	4	0	0	1	0
	Jun	0	0	0	12	2	6	0	0	0	0
	Jul	0	0	0	13	2	13	0	0	1	0
	Aug	0	0	5	9	1	10	0	0	2	0
	Sep	0	0	13	9	4	5	0	0	1	0
	Oct	4	0	9	22	3	16	0	0	2	0
	Nov	0	0	23	50	1	30	0	0	3	1
	Dec	0	0	1	21	1	24	0	0	5	1
1978	Jan	7	0	0	41	5	31	0	0	2	0
	Feb	35	5	0	27	5	7	0	0	3	1
	Mar	46	2	0	19	6	0	0	0	3	0
	Apr	41	0	0	17	4	0	0	0	3	1
	May	40	0	0	21	3	0	1	0	3	0
	Jun	10	0	0	19	4	0	0	0	4	0
	Jul	3	0	0	14	5	0	0	0	2	1
	Aug	14	0	1	17	4	7	0	0	4	1
	Sep	39	1	8	25	3	0	5	0	5	0
	Oct	76	0	8	42	9	19	6	0	6	1
	Nov	44	1	3	59	7	15	11	0	2	2
	Dec	4	0	0	22	2	0	3	0	1	1

TABLE 3 - continued

Year	Month	Mangonui					Whangaroa				
		Pair trawl	Single trawl	Danish seine	Line	Set net	Pair trawl	Single trawl	Danish seine	Line	Set net
1979	Jan	65	0	0	64	7	31	2	0	1	1
	Feb	66	0	0	28	5	31	9	0	3	1
	Mar	10	0	1	21	4	1	14	0	6	0
	Apr	10	0	5	30	3	4	7	0	4	0
	May	6	0	0	25	3	4	7	0	5	0
	Jun	0	0	0	39	6	1	5	0	7	0
	Jul	14	0	0	26	2	0	9	0	7	0
	Aug	19	0	0	25	3	6	3	0	7	0
	Sep	7	0	0	29	5	20	8	0	6	0
	Oct	45	0	0	31	5	33	5	0	9	0
	Nov	75	0	0	57	6	46	10	0	7	0
	Dec	49	0	3	53	7	10	4	0	5	0
1980	Jan	14	0	0	61	4	5	0	0	5	0
	Feb	83	0	0	28	5	12	0	0	15	0
	Mar	52	0	0	22	5	7	0	0	10	0
	Apr	52	0	0	16	3	0	0	0	5	0
	May	4	0	0	27	2	0	0	0	8	0
	Jun	0	0	0	12	2	0	0	0	4	0
	Jul	6	0	0	15	2	0	0	0	4	0
	Aug	23	0	0	27	3	0	0	0	5	0
	Sep	18	0	0	14	3	0	1	0	3	0
	Oct	15	0	0	29	6	0	4	0	6	0
	Nov	18	0	0	36	4	4	0	0	5	0
	Dec	14	0	0	60	11	0	0	0	7	0
1981	Jan	34	0	0	34	6	0	1	0	7	0
	Feb	36	0	0	18	4	0	0	0	6	0
	Mar	44	0	0	21	6	0	2	0	8	0
	Apr	0	0	0	25	5	0	1	0	15	0
	May	0	0	0	23	4	0	3	0	8	0
	Jun	0	0	0	21	4	0	0	0	7	0
	Jul	0	0	0	15	1	2	1	0	7	1
	Aug	30	0	0	13	2	0	1	0	5	3
	Sep	17	0	0	14	3	0	0	0	6	0
	Oct	30	0	0	22	5	0	1	0	8	1
	Nov	22	0	0	29	9	0	2	0	4	0
	Dec	7	0	0	46	9	0	0	0	9	0
1982	Jan	24	0	0	42	4	0	2	0	15	0
	Feb	45	0	0	20	4	0	1	0	10	0
	Mar	7	0	0	31	3	0	6	3	10	1
	Apr	3	0	0	27	3	0	4	0	9	2
	May	0	0	0	13	1	0	0	0	6	0
	Jun	0	0	0	17	1	0	0	0	9	0
	Jul	0	0	0	16	1	0	3	0	14	0
	Aug	0	0	0	28	2	0	0	0	13	0
	Sep	5	1	0	21	2	0	0	0	11	0
	Oct	17	0	0	26	1	0	0	0	7	0
	Nov	26	0	0	35	6	0	3	0	10	1
	Dec	6	0	0	86	2	0	1	0	7	1
1983	Jan	17	0	0	96	5	0	0	2	6	1
	Feb	7	0	0	39	5	0	0	0	7	1
	Mar	0	0	0	35	5	0	0	0	11	0
	Apr	0	0	0	28	6	0	0	0	7	0
	May	0	0	0	18	2	0	0	0	7	0
	Jun	0	0	0	24	5	0	0	0	7	0

TABLE 3 - continued

Year	Month	Bay of Islands					Whangarei				
		Pair trawl	Single trawl	Danish seine	Line	Set net	Pair trawl	Single trawl	Danish seine	Line	Set net
1974	Jan	0	0	2	2	2	8	0	52	2	0
	Feb	0	0	2	3	2	0	0	8	10	13
	Mar	0	0	0	3	1	0	0	25	2	1
	Apr	0	0	1	2	2	5	0	11	4	1
	May	0	0	0	2	2	13	0	5	2	0
	Jun	0	0	0	1	0	14	1	0	0	0
	Jul	0	0	0	2	1	9	0	0	1	2
	Aug	0	0	0	2	1	13	0	0	2	0
	Sep	0	0	0	5	1	25	0	0	2	4
	Oct	0	0	0	4	1	15	0	2	2	4
	Nov	0	0	0	6	0	0	0	1	1	0
	Dec	0	0	7	3	0	6	0	0	1	0
1975	Jan	0	0	0	0	0	43	1	2	3	0
	Feb	0	0	3	2	0	22	2	0	3	1
	Mar	0	0	0	2	0	20	0	2	3	0
	Apr	0	0	0	7	0	23	0	2	3	0
	May	0	0	1	2	0	9	0	0	2	0
	Jun	0	0	0	1	0	9	0	1	4	0
	Jul	0	0	1	3	0	23	0	0	2	0
	Aug	0	0	0	4	0	5	1	0	3	0
	Sep	0	0	0	4	0	7	0	0	3	1
	Oct	0	0	0	3	1	5	1	0	3	0
	Nov	0	0	0	4	0	5	4	0	3	0
	Dec	0	0	0	4	0	3	1	0	4	0
1976	Jan	0	0	0	2	1	19	2	0	4	0
	Feb	0	0	0	5	0	5	2	0	3	1
	Mar	0	0	0	2	1	5	7	0	3	1
	Apr	0	0	0	4	1	25	1	0	4	0
	May	0	0	0	6	0	20	0	0	5	0
	Jun	0	0	0	3	0	7	0	0	2	0
	Jul	0	0	0	2	0	8	0	0	1	0
	Aug	0	0	0	3	0	25	0	0	3	0
	Sep	0	0	5	7	0	13	0	0	3	1
	Oct	0	0	5	5	0	29	1	0	6	1
	Nov	0	0	0	7	1	71	0	0	7	1
	Dec	0	0	0	5	0	57	1	0	5	1
1977	Jan	0	0	0	4	0	5	1	0	4	2
	Feb	0	0	0	5	2	11	1	0	3	2
	Mar	0	0	0	3	1	37	2	0	4	3
	Apr	0	0	0	2	0	26	0	0	3	1
	May	0	0	0	2	0	19	0	0	2	2
	Jun	0	0	0	1	7	10	0	0	4	2
	Jul	0	0	0	3	1	10	0	0	3	2
	Aug	0	0	0	4	0	3	1	0	4	6
	Sep	1	0	0	7	0	18	0	0	3	1
	Oct	18	0	0	11	2	31	3	0	5	1
	Nov	0	0	0	18	1	73	1	0	4	2
	Dec	0	0	0	10	1	16	0	0	4	1
1978	Jan	0	2	0	15	1	23	2	0	2	4
	Feb	0	3	0	13	1	39	2	0	5	4
	Mar	0	5	0	11	1	67	1	0	5	4
	Apr	0	1	0	11	0	36	1	0	3	5
	May	0	2	0	13	2	32	0	0	4	3
	Jun	0	1	0	14	2	23	0	0	3	2
	Jul	0	0	0	13	2	36	2	0	2	2
	Aug	4	0	0	14	1	30	0	0	4	1
	Sep	0	1	0	17	2	47	0	0	8	2
	Oct	13	0	0	29	5	54	0	0	7	3
	Nov	0	0	0	56	3	28	0	0	10	6
	Dec	0	2	0	36	2	39	0	0	7	3

TABLE 3 - continued

Year	Month	Bay of Islands					Whangarei				
		Pair trawl	Single trawl	Danish seine	Line	Set net	Pair trawl	Single trawl	Danish seine	Line	Set net
1979	Jan	0	0	0	28	1	39	0	0	8	7
	Feb	0	1	0	33	5	32	3	0	7	5
	Mar	0	1	0	19	2	32	0	0	10	3
	Apr	0	1	0	16	3	46	0	0	8	4
	May	0	0	0	18	3	25	1	0	7	3
	Jun	0	0	0	16	2	43	1	0	7	4
	Jul	0	0	0	15	2	8	0	0	6	6
	Aug	0	0	0	19	1	5	0	0	13	3
	Sep	0	0	0	15	1	1	0	0	11	2
	Oct	0	0	0	34	0	42	0	0	18	3
	Nov	0	0	0	43	7	57	0	0	22	2
	Dec	0	0	0	28	2	61	0	0	29	6
1980	Jan	0	0	0	28	1	34	0	0	22	1
	Feb	0	0	0	14	2	42	0	0	16	2
	Mar	0	0	0	19	1	13	15	0	20	1
	Apr	0	0	0	20	2	6	8	0	23	1
	May	4	0	0	22	3	20	0	0	18	1
	Jun	0	0	0	17	5	18	0	0	11	1
	Jul	0	0	0	18	4	5	0	0	16	0
	Aug	0	0	0	16	3	14	0	0	15	1
	Sep	0	0	0	8	5	14	0	0	14	1
	Oct	0	0	0	27	5	59	0	0	23	2
	Nov	0	0	0	49	14	55	3	0	41	3
	Dec	0	0	1	52	2	78	14	0	44	4
1981	Jan	0	0	0	41	5	59	6	0	41	3
	Feb	0	0	0	20	6	51	2	0	24	2
	Mar	0	0	0	18	7	42	0	0	19	3
	Apr	0	1	0	26	8	52	1	0	32	3
	May	0	0	0	22	5	19	0	0	25	1
	Jun	0	0	0	16	6	16	0	0	19	1
	Jul	0	0	0	16	8	4	0	0	15	0
	Aug	0	0	0	14	5	1	0	0	12	0
	Sep	0	0	0	15	4	7	0	0	14	0
	Oct	0	0	0	29	6	12	0	0	19	2
	Nov	0	0	0	53	4	28	0	0	20	2
	Dec	0	0	0	45	1	30	0	0	32	2
1982	Jan	0	0	0	54	3	31	0	0	22	1
	Feb	0	0	1	16	1	13	0	0	13	1
	Mar	0	0	0	17	2	6	0	0	19	1
	Apr	0	0	1	18	2	20	0	0	18	1
	May	0	0	1	16	2	4	0	1	15	1
	Jun	0	0	0	13	1	5	0	2	13	1
	Jul	0	0	1	14	3	7	0	0	14	1
	Aug	0	0	0	14	3	7	0	0	26	6
	Sep	4	0	2	17	3	10	0	0	11	2
	Oct	0	0	0	29	3	17	0	0	20	1
	Nov	0	0	0	63	5	38	0	1	40	3
	Dec	0	0	0	62	2	17	0	1	35	2
1983	Jan	0	0	0	84	3	17	0	0	28	3
	Feb	0	0	1	40	3	12	0	0	18	3
	Mar	0	0	2	13	2	13	0	1	21	2
	Apr	0	0	1	10	3	11	0	0	14	1
	May	0	0	1	9	1	3	0	0	16	2
	Jun	0	0	1	7	2	9	0	0	12	3

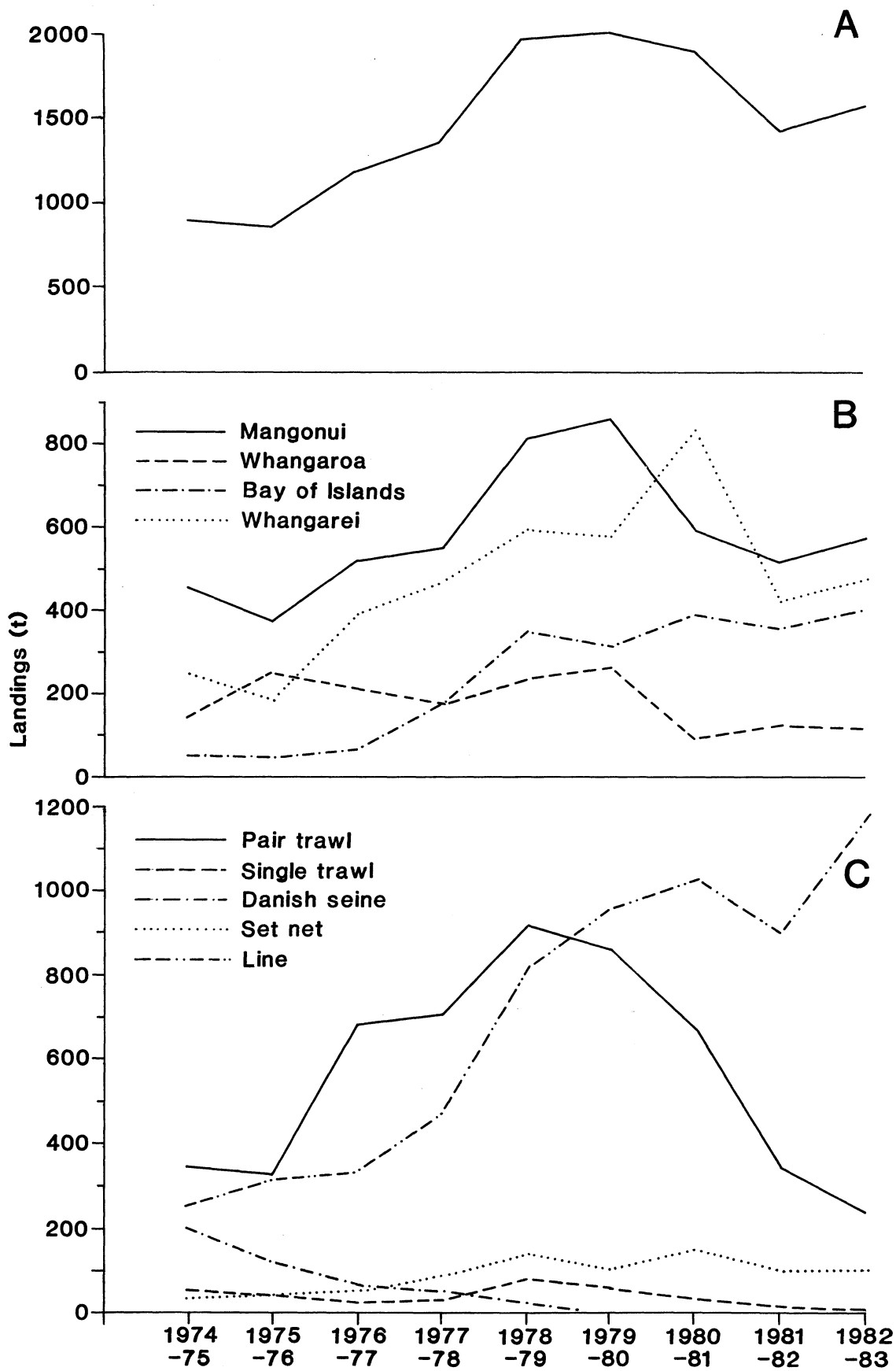


Fig. 2: Annual landings — A, all regions; B, landings by region; C, landings by method.

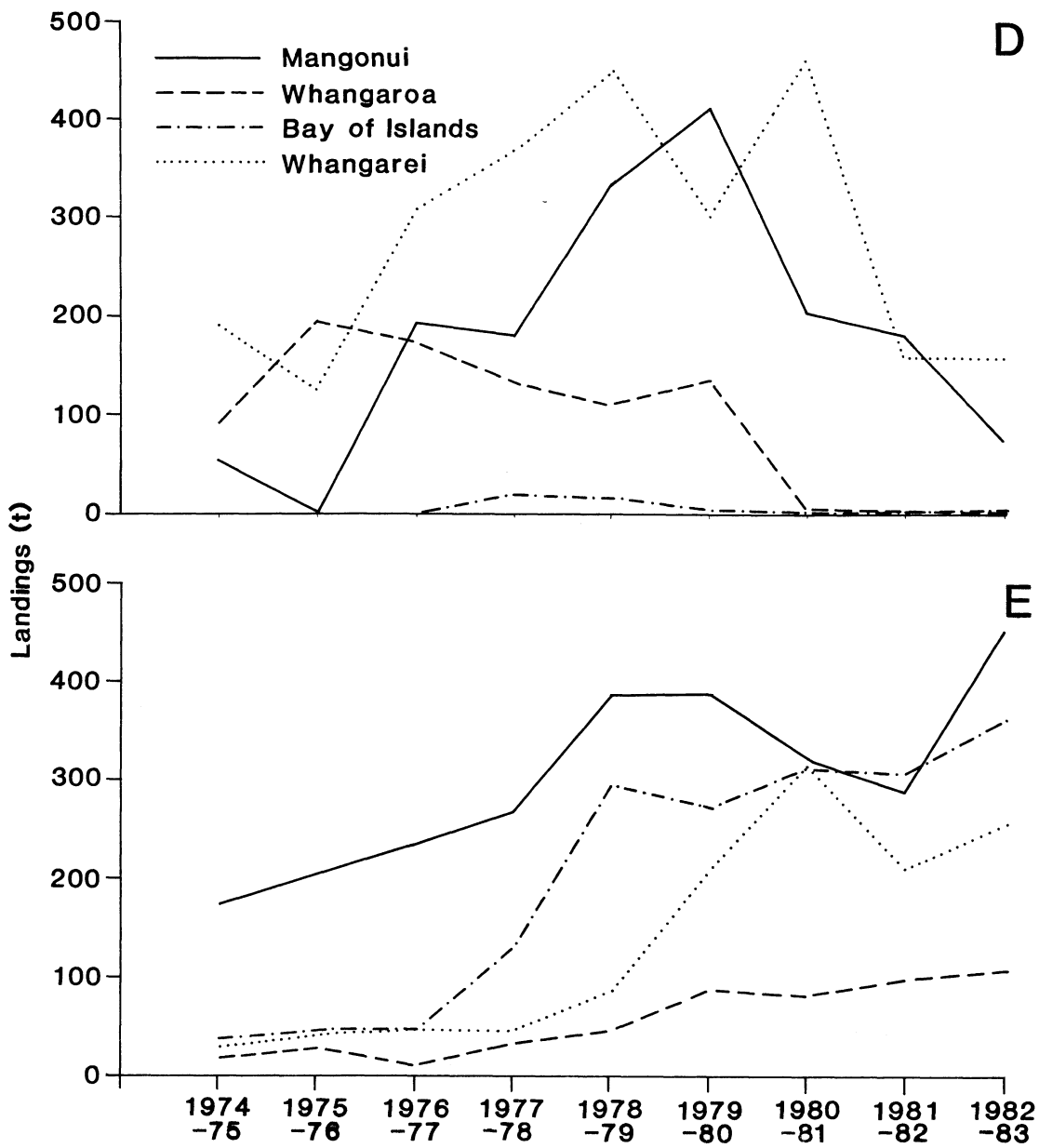


Fig. 2—continued. D, pair trawl landings by region; E, line landings by region.

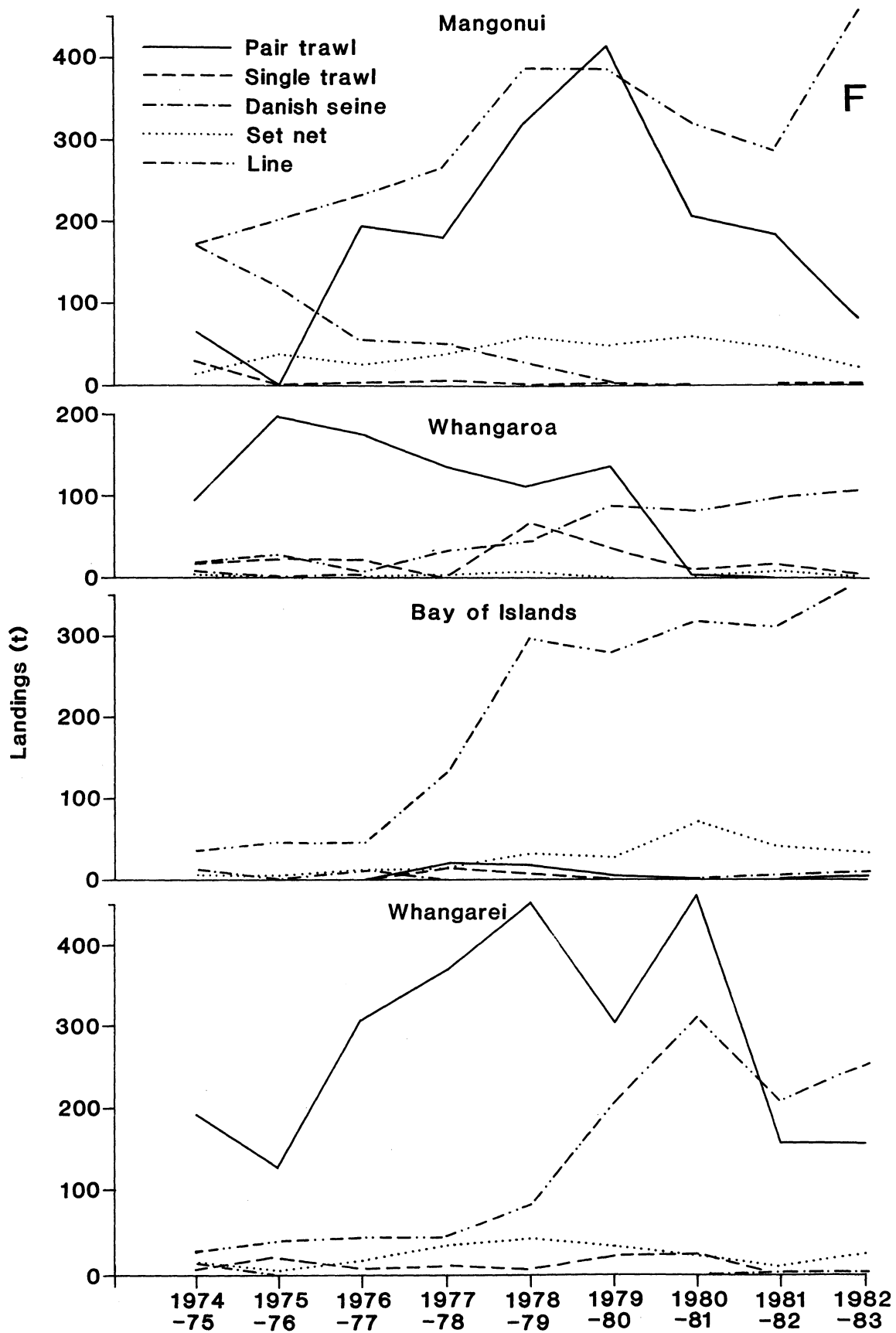


Fig. 2—continued. F, landings by method and region.

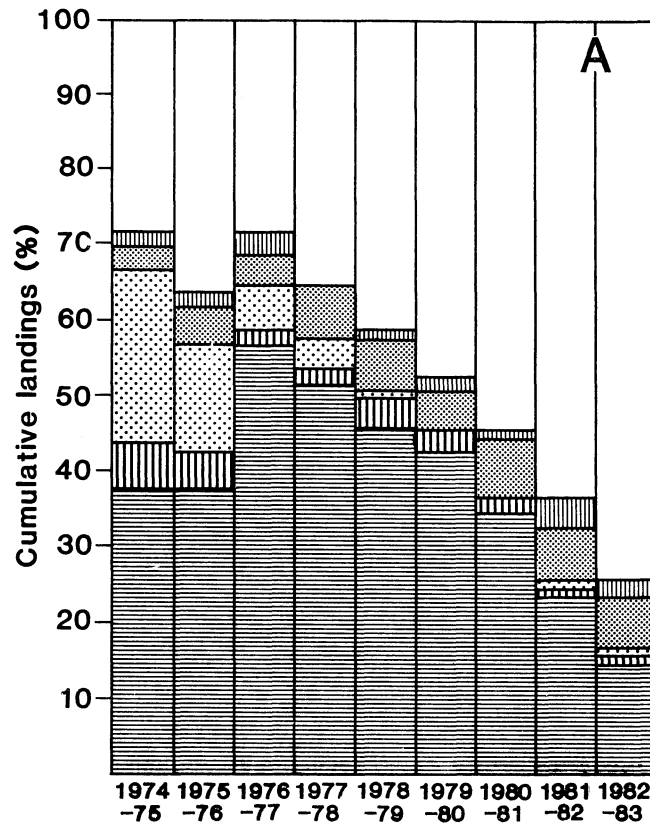


Fig. 3: Percentage annual landings by region and method — A, all regions.

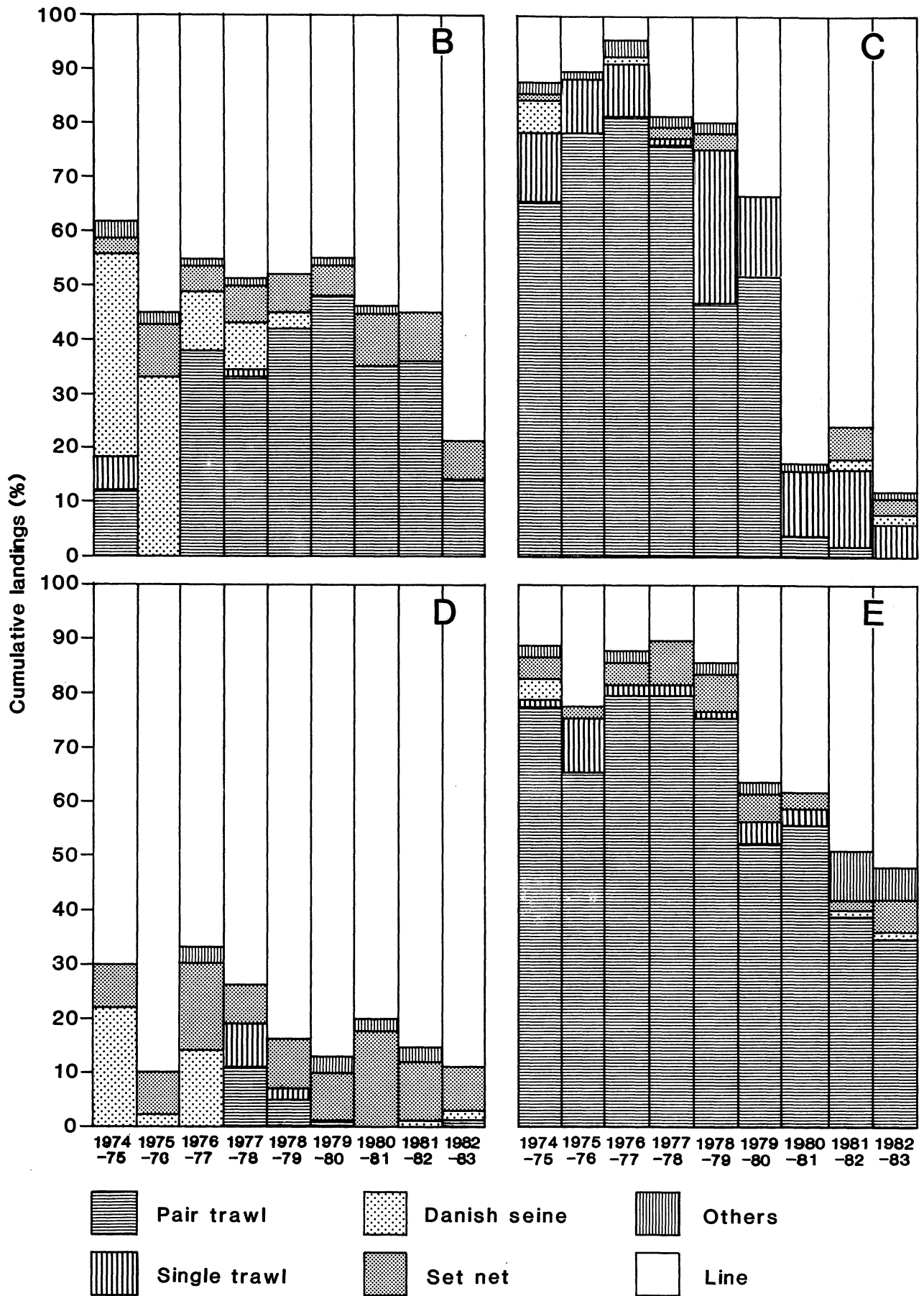


Fig. 3—continued. B, Mangonui; C, Whangaroa; D, Bay of Islands; E, Whangarei.

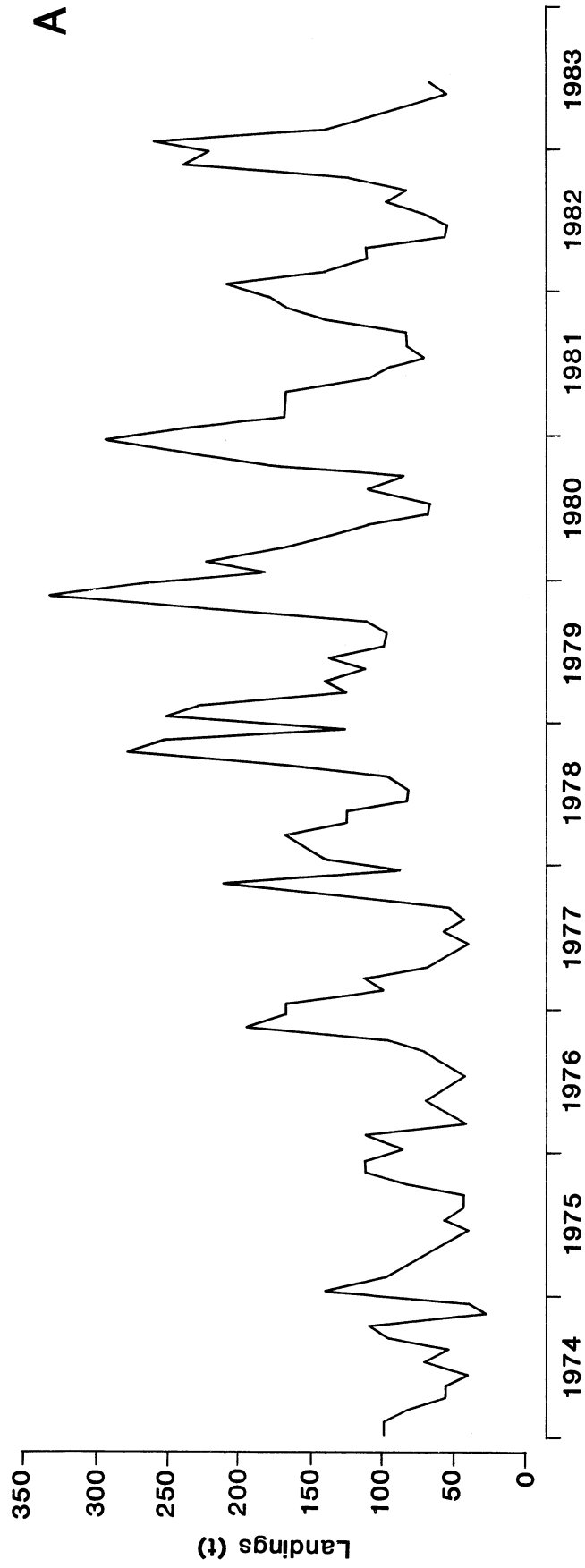


Fig. 4: Monthly landings by region and method — A, regions and methods combined.

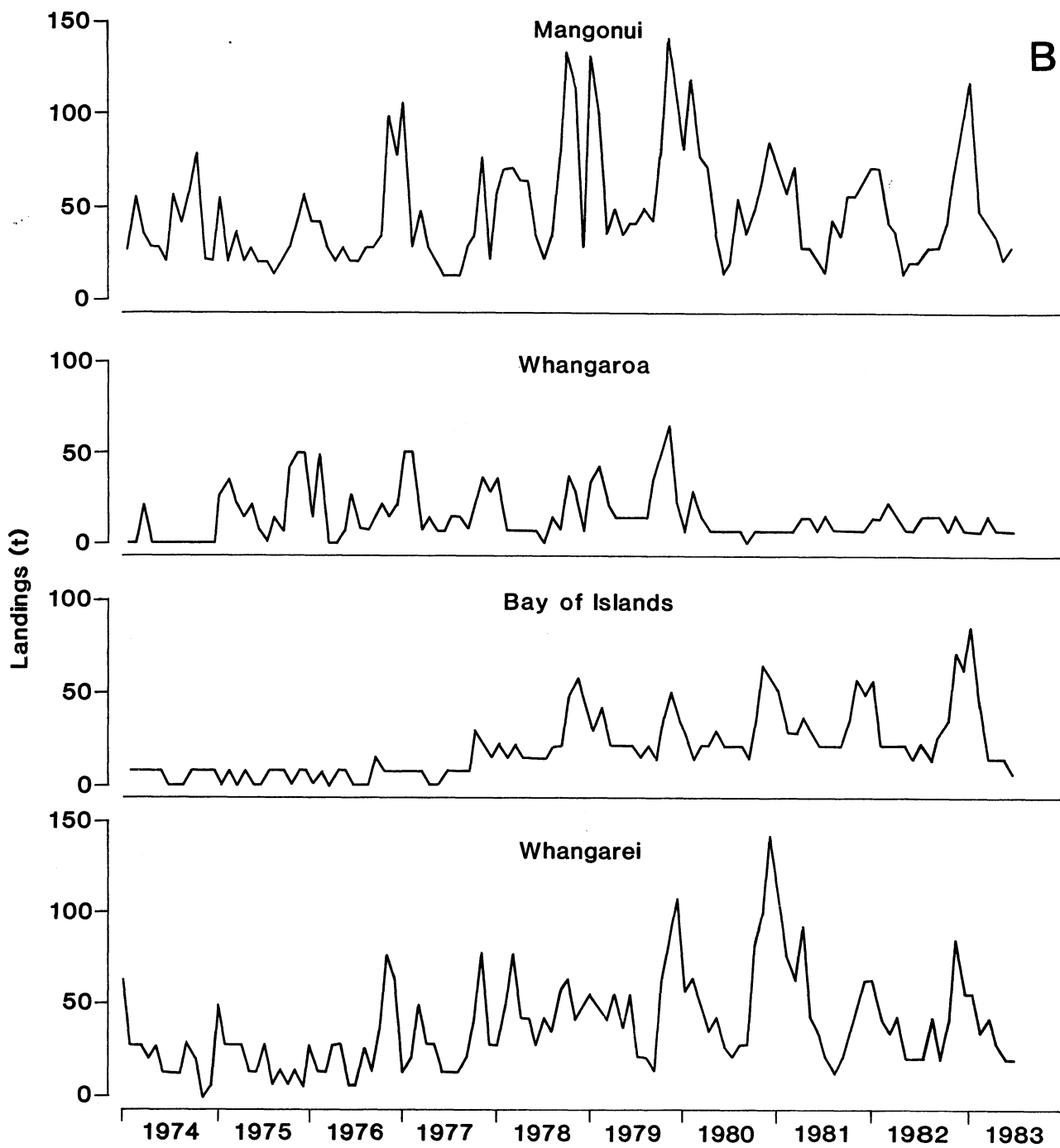


Fig. 4—continued. B, landings by region.

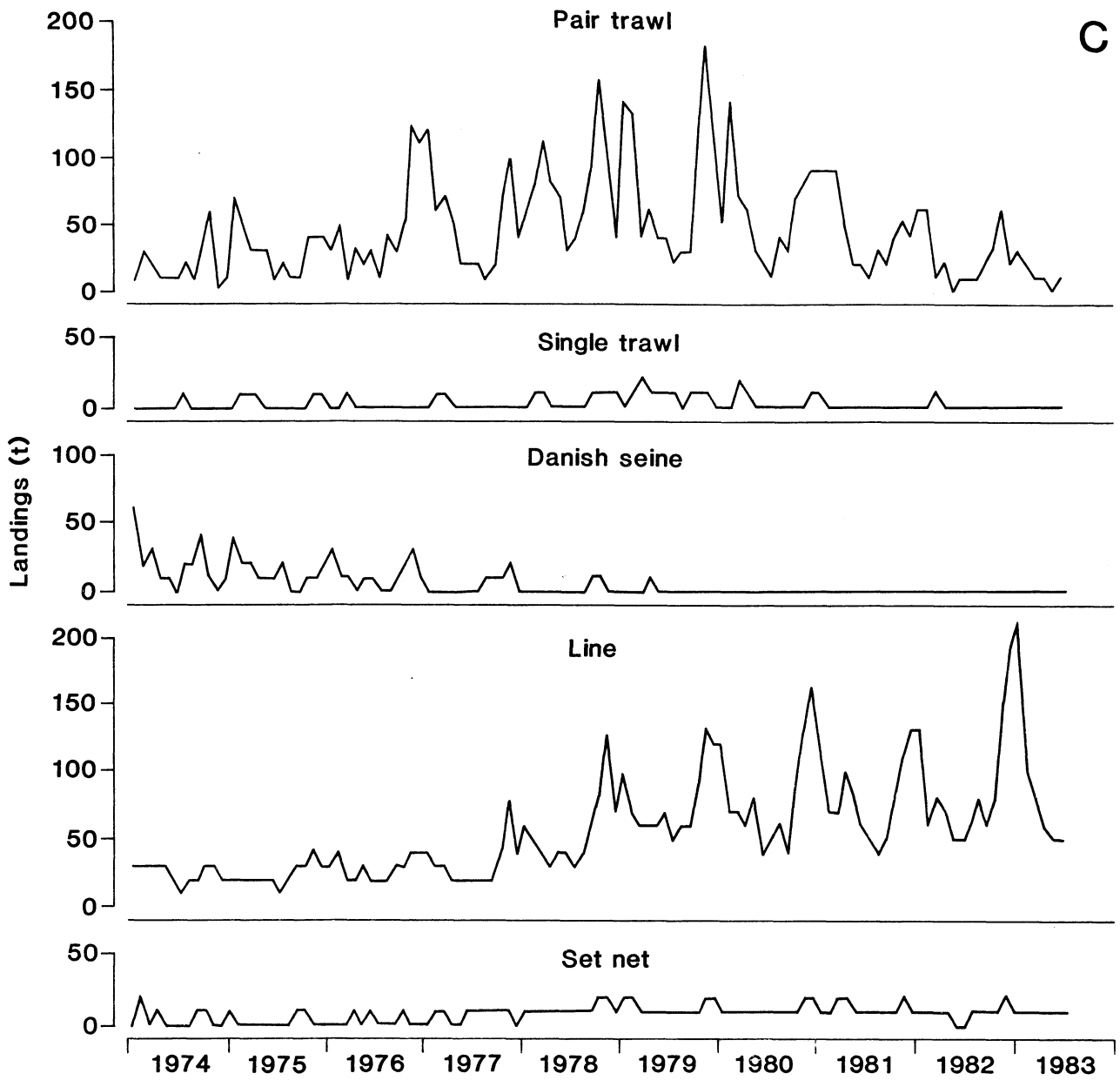


Fig. 4—continued. C, landings by method.

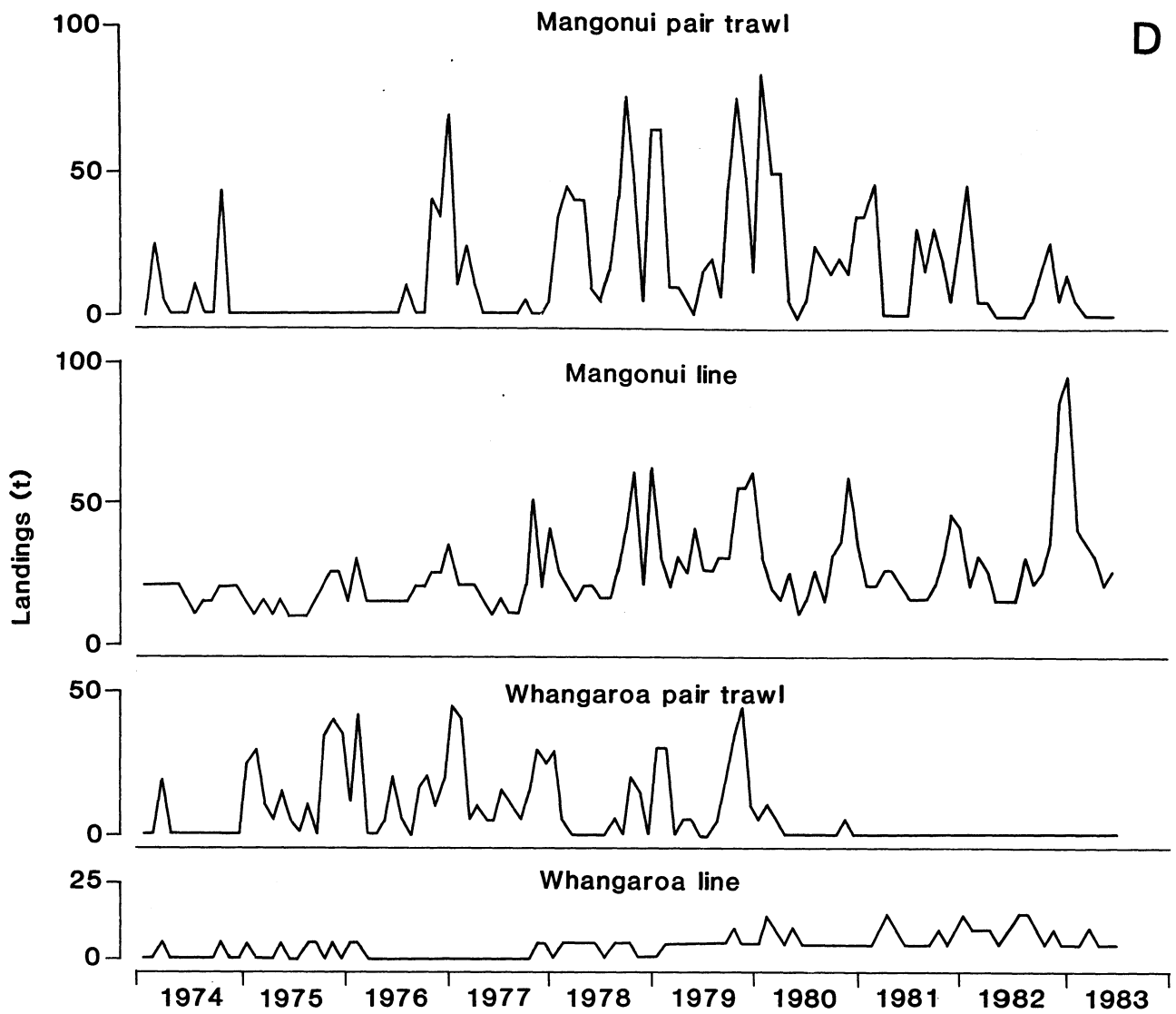


Fig. 4—continued. D, pair trawl and line landings by region (Mangonui and Whangaroa).

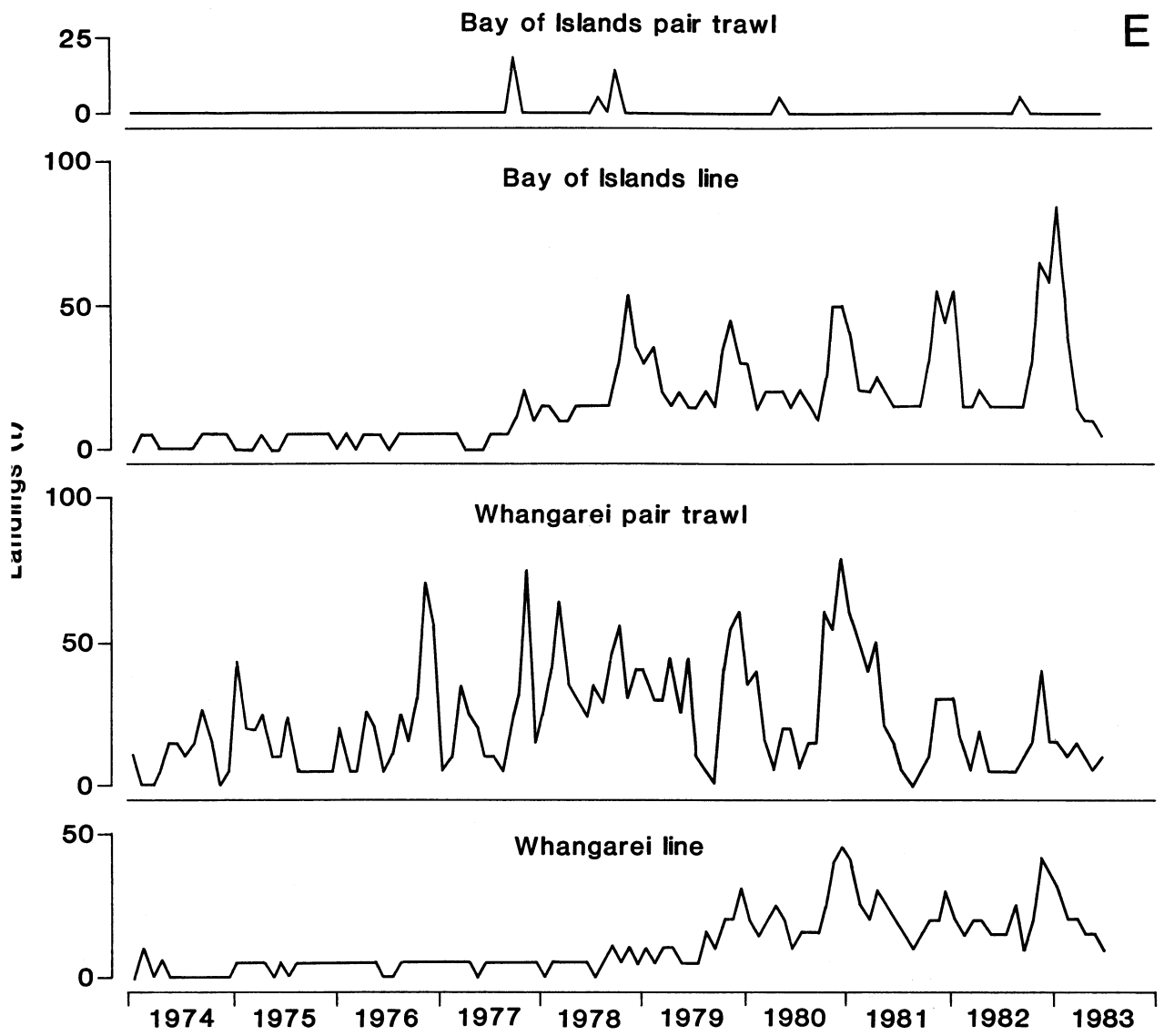


Fig. 4—continued. E, pair trawl and line landings by region (Bay of Islands and Whangarei).