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The *New Zealand Fisheries Data Report* series continues the *Fisheries Research Division Occasional Publication: Data Series*.

Contents

Introduction

This report summarises oreo catches by foreign and domestic vessels in New Zealand waters from the earliest recorded reports in 1972 by the Soviets to catches by all nations up to the end of September 1988.

All the tables, except Table 23, have been compiled from data received and processed by the former Fisheries Statistics Unit (FSU) from commercial fishing returns. Table 23 is derived from unpublished Soviet data supplied to the Ministry of Agriculture and Fisheries (MAF) (held in MAF Fisheries Greta Point library, Wellington) by the Soviet Ambassador in September 1979.

The data contained in this report have anomalies and should, therefore, be used carefully. For example, the lengths of the fishing seasons are different because the definitions of the fishing seasons changed in 1983 (see Appendix 1). Most data are rounded from greenweights which are back-calculated from processed catch weights, but some data are rounded from whole fish weights. Tables do not always cross-check exactly because of rounding and different compilation methods. The Soviet data used in Table 23 have specific anomalies, and these are discussed below (see "Catches"). Other sources of error were discussed by King (1985).

The main species in the oreo fishery are black oreo (*Allocyttus niger*) (species code: BOE) and smooth oreo (*Pseudocyttus maculatus*) (SSO). Other oreos, including spiky oreo (*Neocyttus rhomboidalis*) (SOR) and warty oreo (*Allocyttus verrucosus*) (WOE), are caught as bycatch species in some fisheries.

Recording catch statistics

Several types of logbooks have been used for recording oreo catch data. "Deepwater logbooks" (Appendix 2) were filled out after each trawl by licensed vessels from the Soviet Union, Japan, and Korea; by foreign vessels chartered by New Zealand companies; and by the larger New Zealand freezer trawlers. New Zealand trawlers larger than 22 m which did not process and freeze their catch filled in "specified trawl" forms (Appendix 3) on a tow by tow basis. After each trip the landing information was summarised by companies, either on to "landed catch" forms (Appendix 4), or on to their own factory dockets which were transcribed by the FSU on to the landed catch forms. The smallest of the domestic trawlers recorded their catch on a "trawl" form (Appendix 5), which was a monthly log filled out on a day by day basis, and also recorded landings on landed catch forms.

A peculiarity of the oreo returns has been the continued use of the species code OEO on the landed catch form to record landings of black and smooth oreos. The code is a general term used originally for all or any black oreo, smooth oreo, and spiky oreo, but was later avoided because oreo species are readily distinguishable. Therefore, earlier returns recorded oreos mostly as OEO, whereas later returns used BOE and SSO. Generally, vessels filling out deepwater logs recorded the oreo species correctly (separately) because they were printed separately on the forms (see Appendix 6). The returns from the smaller domestic vessels are more confused, with the codes BOE and SSO printed on the specified trawl forms and OEO printed on the landed catch forms. Species codes were not printed on the trawl forms, and oreos were coded according to what was printed on the landed catch forms. Since March 1986 all landed catch forms were manually stamped with the codes BOE and SSO (and OEO was crossed out), but the trawl forms continued to record oreos as unspecified oreo.

An important feature in the monitoring of the oreo fishery has been the recording of the areas where the fish were caught. Since the declaration of the 200 n. mile Exclusive Economic Zone (EEZ) in 1978, most oreo catch statistics have been recorded according to the defined EEZ areas (Figure 1). New areas for managing fisheries were introduced in October 1985, and there were further major changes to areas in October 1986. Because of these area changes, catches in this report are given by EEZ areas A-H. The areas used to manage oreos from 1986 to 1988 are shown in Figure 2. These areas ("fishstock areas") correspond with the EEZ areas A-H as follows:

Fishstock area (1990)	EEZ equivalent (Jan 1984)
OEO1	B, F, G, and H
OEO3A	C
OEO4	D
OEO6	E
OEO10	A

Catches from the smaller domestic vessels were recorded according to the domestic areas shown in Figure 3.

Conversion factors

Several different conversion factors have been used in both published (e.g., King 1986) and unpublished sources, and the history of conversion factor use for oreo statistics is given in Table 1. The Soviets used a conversion factor of 1.62 for headed and gutted oreos from 1978, and this was apparently adopted by MAF staff in dealing with deepwater logbook data. Before October 1983 a conversion factor of 1.90 was also used for headed and gutted BOE, SSO, SOR, and WOE, but the derivation of this value is unclear.

Ministry of Agriculture and Fisheries staff on the Soviet trawler *Kalinovo* in 1981 conducted conversion factor experiments for oreos, converting headed and gutted weight to "green" or unprocessed weight. The resulting values were 2.20 for BOE and 2.10 for SSO (McMillan unpublished data). A value of 2.10 was used for deepwater data from October 1983 to March 1985 and for some domestic data (BOE and OEO) from January 1981 to December 1982. From March 1985 all deepwater vessel oreo data used 2.15 and from January 1983 this value was applied to all domestic oreo data.

The low conversion factors used for early catch statistics substantially underestimated the calculated greenweight. For this reason, and to maintain direct comparability of the data from year to year, all the catches in this report have been recalculated using the higher values. However, because of a computer software problem, early data could only be recalculated by conversion factors with one decimal place. Unless otherwise stated, all data in this report up to and including December 1982 are calculated by a conversion factor of 2.1, and from January 1983 onwards data are calculated by a conversion factor of 2.15.

Catches

All catches in this report are in tonnes (t). For the purposes of data tabulation the participants in the oreo fishery are divided into foreign licensed, joint venture and chartered, and domestic vessels. Most data are tabulated by both fishing seasons (see Appendix 1) and calendar years (1 January-31 December).

Soviet commercial catch data for 1972-77 are given in Table 23 and are assumed to have been derived by use of a conversion factor of 1.62, which would underestimate the catch. Previously these data have been quoted as "oreo dory" catch, but probably also included zeids such as lookdown dory (*Cyttus traversi*). Paul and Robertson (1978) interpreted the Soviet data as "... oreo dories, *Allocyttus* spp., and lookdown dory, *Cyttus traversi*". It is unlikely that these data contain major amounts of zeids because reported catches of these species have generally been small, i.e., 1.82 t of lookdown dory, 18.88 t of John dory (*Zeus faber*), and 140.24 t of silver dory (*Cyttus novaezelandiae*) were reported caught by foreign charter and foreign licensed vessels in the fishing year 1978-79 (source: FSU summaries of catch statistics).

The annual totals of the Soviet data in Table 23 have been rounded, which suggests that the monthly and three monthly subsets have possibly been generated. No explanation of how the data were derived was provided. Therefore, these data should be used with caution.

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References

- King, M. R. 1985: Fish and shellfish landings by domestic fishermen, 1974-82. *Fisheries Research Division Occasional Publication: Data Series No. 20*. 122 p.
- King, M. R. 1986: Catch statistics for foreign and domestic commercial fishing in New Zealand waters, January-December, 1983. *Fisheries Research Division Occasional Publication: Data Series No. 21*. 150 p.
- McMillan, P. J. 1985: Cruise report - deepwater exploratory trawling by *Kalinovo*, 1981. Fisheries Research Division Internal Report No. 23. 43 p. (Unpublished report, held in MAF Fisheries Greta Point library, Wellington.)
- Paul, L. J. and Robertson, D. A. 1978: Species composition of the demersal fish resource. In Elder, R. D. and Taylor, J. L. (Comps.), Prospects and problems for New Zealand demersal fisheries, Proceedings of the Demersal Fisheries Conference, October 1978, pp. 117-123. *Fisheries Research Division Occasional Publication No. 19*.

Abbreviations used in the tables

1. Species: BOE, black oreo; OEO, black, smooth, and spiky oreos (not specified); SSO, smooth oreo; SOR, spiky oreo; WOE, warty oreo.
2. Fishing season: see Appendix 1.
3. Fleet type: LIC, licensed vessels; JV/CH joint venture or chartered vessels; DOM, domestic vessels.
4. Other: o, zero catch; -, a catch greater than zero, but less than 0.5 t.
5. Areas: Undef, area or time cannot be defined.
6. FAO area: see Figure 4.
7. Statistical area: see Figure 3.

Table 1: Conversion factors used by the Fisheries Statistics Unit to calculate oreo greenweights from processed weights

Return type	Date used	Species code	Conversion factor	
			Headed and gutted	Fillet (skin on)
Deepwater logbook	Jan 78-Sep 83	BOE, SSO, SOR, and WOE OEO [†]	1.90	2.30
	Oct 83-Feb 85	All	1.62	2.30
	Mar 85-Sep 88	All	2.10 2.15	5.30 5.30
Domestic	Jan 81-Dec 82	BOE and OEO SSO and SOR	2.10 1.70	5.30 2.30
	Jan 83-Feb 85	All	2.15	— [‡]
	Mar 85-Sep 88	All	2.15	5.30

[†] OEO refers only to the catch that was coded as OEO.

[‡] Fish were landed whole.

Table 2a: Total oreo catch (t) by fleet by fishing season

Fishing season	LIC	JV/CH	DOM	Total
1978-79	12 231	-	0	12 231
1979-80	8 919	2 872	0	11 791
1980-81	499	25 351	0	25 851
1981-82	4 231	22 218	64	26 514
1982-83	683	11 739	1 258	13 680
1983	360	7 437	218	8 015
1983-84	718	19 343	2 050	22 111
1984-85	1 915	12 463	3 826	18 204
1985-86	21	13 246	3 552	16 820
1986-87	0	8 696	6 399	15 094
1987-88	0	7 966	11 190	19 155

Table 2b: Total oreo catch (t) by fleet by calendar year

Year	LIC	JV/CH	DOM	Total
1978	12 229	0	0	12 229
1979	7 214	205	0	7 418
1980	2 160	21 612	0	23 772
1981	3 232	28 458	29	31 717
1982	1 728	11 661	500	13 889
1983	369	16 313	1 782	18 463
1984	2 111	14 487	2 419	19 016
1985	516	17 808	4 548	22 873
1986	20	10 885	3 572	14 476
1987	0	6 689	9 955	16 646

Table 3a: Total oreo catch (t) by species by fishing season

Species code	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	9	6 290	14 264	21 440	8 279	5 388	10 743	7 665	4 285	5 442	4 158
SSO	-	5 205	2 374	4 665	5 067	2 582	11 028	10 343	12 432	9 594	14 930
OEO	12 223	8	9 032	113	332	44	340	191	93	48	37
SOR	0	288	181	295	1	-	0	5	9	10	31
WOE	0	0	0	-	0	0	0	0	0	0	0
Total	12 231	11 791	25 851	26 514	13 680	8 015	22 111	18 204	16 820	15 094	19 155

Table 3b: Total oreo catch (t) by species by calendar year

Species code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BOE	7	4 154	12 452	24 177	8 938	9 774	10 293	6 782	5 278	3 866
SSO	0	3 253	3 980	5 008	4 687	8 484	8 358	15 910	9 138	12 728
OEO	12 222	8	6 953	2 157	263	204	365	172	51	45
SOR	0	3	384	375	0	1	-	9	9	7
WOE	0	0	0	-	0	0	0	0	0	0
Total	12 229	7 418	23 772	31 717	13 889	18 463	19 016	22 873	14 476	16 646

Table 4a: Total oreo catch (t) by EEZ area by fishing season

Area	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
B	1	0	0	21	150	31	289	239	144	193	162
C	1 366	10 958	14 832	12 750	8 576	4 409	9 190	8 284	5 331	7 213	9 047
D	8 041	680	10 269	9 296	3 927	3 209	6 104	6 390	5 883	6 838	8 681
E	17	18	283	4 380	765	354	3 568	2 044	126	0	197
F	2 798	129	464	-	-	0	2 895	1 203	5 159	296	1 006
G	1	-	2	-	-	8	-	28	65	27	7
H	8	5	1	0	12	0	57	10	22	10	14
Undef	0	0	0	66	251	4	7	5	91	515	41
Total	12 231	11 791	25 851	26 514	13 680	8 015	22 111	18 204	16 820	15 094	19 155

Table 4b: Total oreo catch (t) by EEZ area by calendar year

Area	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
B	0	1	0	21	112	117	287	255	106	308
C	1 366	6 600	13 920	19 241	8 571	9 096	6 938	8 876	7 216	7 028
D	8 041	665	9 111	9 216	3 088	8 782	3 670	7 716	5 725	8 121
E	17	18	273	3 207	1 877	451	4 896	757	60	197
F	2 798	129	464	1	-	0	3 158	5 054	1 274	968
G	1	-	2	-	-	8	-	87	24	9
H	7	6	1	0	12	-	64	14	18	4
Undef	0	0	0	30	230	10	2	114	53	11
Total	12 229	7 418	23 772	31 717	13 889	18 463	19 016	22 873	14 476	16 646

Table 5: Total oreo catch (t) by fleet by month

Month	1978			1979			1980					
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
Jan					1	0	0	1	1	707	600	0
Feb					1	-	0	1	0	556	0	2 307
Mar	294	0	0	294	0	0	0	0	0	511	0	1 556
Apr	4 903	0	0	4 903	16	0	0	16	0	511	0	1 511
May	4 934	0	0	4 934	737	0	0	737	243	2 969	0	2 969
Jun	4 934	0	0	4 934	10	-	0	10	0	523	0	1 523
Jul	2 071	0	0	2 071	13	0	0	13	0	18	0	18
Aug	8	0	0	8	4	-	0	5	0	994	0	994
Sep	0	0	0	0	3	3	0	6	0	3 222	0	3 222
Oct	-	0	0	-	2	-	0	2	0	3 818	0	3 818
Nov	16	0	0	16	2 834	9	0	2 842	2	3 987	0	3 987
Dec	3	0	0	3	3 593	193	0	3 786	208	1 922	0	2 130
Total	12 229	0	0	12 229	7 214	205	0	7 418	2 160	21 612	0	23 772
Month	1981			Total	1982			Total	1983			Total
Jan	6	1 878	0	1 884	610	169	9	788	0	145	406	551
Feb	41	3 857	0	3 898	0	0	7	7	0	102	387	489
Mar	0	673	0	673	436	-	20	456	1	-	1	2
Apr	1	2 354	0	2 354	0	1	26	27	0	25	43	68
May	1	536	0	536	6	205	43	254	4	1 552	137	693
Jun	727	822	-	1 549	515	995	58	1 568	54	1 787	19	1 859
Jul	2 004	-	0	2 004	154	355	6	515	292	699	1	991
Aug	395	6 187	2	6 583	0	2 805	0	2 805	9	1 884	-	1 893
Sep	0	3 864	0	3 864	8	751	3	761	1	1 491	19	1 511
Oct	0	3 793	0	3 793	0	1 860	89	1 949	7	3 129	97	3 234
Nov	1	2 753	0	2 754	0	2 624	27	2 651	0	2 516	232	2 748
Dec	58	1 740	25	1 823	0	1 895	213	2 108	-	2 982	441	3 424
Undef	0	0	1	1	0	0	0	0	0	0	0	0
Total	3 232	28 458	29	31 117	1 728	11 661	500	13 889	369	16 313	1 782	18 463
Month	1984			Total	1985			Total	1986			Total
Jan	-	576	500	1 076	0	361	556	917	0	40	445	485
Feb	0	266	245	511	0	121	398	518	0	1	392	393
Mar	0	182	115	298	265	145	857	1 267	5	0	366	372
Apr	68	1 279	51	1 398	0	43	274	317	0	0	94	94
May	0	1 022	63	1 085	248	214	196	658	1	152	57	209
Jun	2	1 197	35	1 234	1	1 158	105	1 263	-	618	59	677
Jul	0	1 601	-	1 601	0	717	5	722	0	146	1	146
Aug	62	1 314	0	1 376	0	1 001	154	1 155	13	145	8	166
Sep	577	3 278	271	4 126	0	4 932	143	5 075	0	3 028	269	3 296
Oct	858	1 700	259	2 817	0	4 406	857	5 263	0	3 742	973	4 715
Nov	127	1 174	603	1 904	2	3 428	794	4 224	0	1 704	609	2 313
Dec	416	899	277	1 591	-	1 283	210	1 494	0	1 309	299	1 608
Total	2 111	14 487	2 419	19 016	516	17 808	4 548	22 873	20	10 885	3 572	14 476

Table 5—continued

Month	1987			1988				
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
Jan	0	12	388	400	0	18	403	421
Feb	0	—	335	335	0	0	317	317
Mar	0	4	575	579	0	1	1 034	1 035
Apr	0	—	1 042	1 042	0	213	649	862
May	0	344	929	1 273	0	181	823	1 004
Jun	0	564	130	694	0	967	15	982
Jul	0	86	1	87	0	60	2	62
Aug	0	4	79	83	0	4	107	111
Sep	0	926	423	1 349	0	1 769	1 776	3 545
Oct	0	1 787	2 914	4 701				
Nov	0	1 942	2 596	4 538				
Dec	0	1 022	556	1 578				
Total	0	6 689	9 956	16 646				

Table 6a: Total oreo catch (t) by fleet by species by fishing season

Species	1978-79			1979-80			1980-81							
	code	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	
BOE	8	-	0	0	9	4 988	1 303	0	6 290	253	14 011	0	14 265	
SSO	-	0	0	0	-	3 648	1 557	0	5 205	245	2 129	0	2 374	
OEO	12 223	0	0	0	12 223	0	8	0	8	0	9 032	0	9 032	
SOR	0	0	0	0	0	283	5	0	288	0	181	0	181	
Total	12 231	-	0	12 231	8 919	2 872	0	11 791	499	25 351	0	25 851		
Species	1981-82			1982-83			1983			1984-85			1985-86	
	code	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	4 230	17 209	1	21 440	622	7 208	449	8 279	360	4 993	36	5 388	5	388
SSO	2	4 664	0	4 665	60	4 531	476	5 067	0	2 445	138	2 582	2	582
OEO	0	50	63	114	0	0	332	332	0	0	0	44	-	44
SOR	0	295	0	295	1	0	0	1	0	0	0	0	0	0
WOE	0	-	0	-	0	0	0	0	0	0	0	0	0	0
Total	4 231	22 218	64	26 514	683	11 739	1 258	13 680	360	7 437	218	8 015	8	015
Species	1983-84			1984-85			1985			1986			1987-88	
	code	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	532	10 113	98	10 743	1 566	5 144	954	7 665	21	3 555	709	4 285	4	285
SSO	186	9 230	1 612	11 028	349	7 319	2 675	10 343	9 691	2 741	12 432	12 432	12	432
OEO	0	0	340	340	0	0	192	192	0	0	93	93	93	93
SOR	0	0	0	0	0	0	5	5	0	0	0	9	9	9
Total	718	19 343	2 050	22 111	1 915	12 463	3 826	18 204	21	13 246	3 552	16 820	16	820
Species	1986-87			1987-88			1988-89			1989-90			1990-91	
	code	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	0	4 575	868	5 443	0	2 662	1 496	4 158	0	4 575	1 496	4 158	4	158
SSO	0	4 119	5 475	9 594	0	5 301	9 629	14 930	0	4 119	9 629	14 930	14	930
OEO	0	0	48	48	0	0	37	37	0	0	37	37	37	37
SOR	0	2	8	10	0	0	3	3	0	0	29	32	32	32
Total	0	8 696	6 399	15 094	0	7 966	11 190	19 155	0	8 696	11 190	19 155	19	155

Table 6b: Total oreo catch (t) by fleet by species by calendar year

Species code	1978			1979			1980		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	7	0	0	7	3 960	194	0	4 154	1 237
SSO	0	0	0	0	3 253	-	0	3 253	640
OEO	12 222	0	0	12 222	-	0	8	11 215	3 348
SOR	0	0	0	0	0	8	0	6 953	0
Total	12 229	0	0	12 229	7 214	205	0	7 418	2 160

Species code	1981			1982			1983		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	3 231	20 946	1	24 177	1 668	7 247	23	8 938	360
SSO	3 5 005	0	5 008	60	4 414	4 414	213	4 687	8
OEO	0	2 129	27	2 157	0	0	263	0	204
SOR	0	375	0	375	0	0	0	1	1
WOE	3 234	28 455	29	31 717	1 728	11 661	500	13 889	369
Total	3 234	28 455	29	31 717	1 728	11 661	500	13 889	16 313

Species code	1984			1985			1986		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
BOE	1 741	8 401	1 151	10 293	359	5 160	1 264	6 782	19
SSO	370	6 086	1 902	8 358	157	12 649	3 104	15 910	1
OEO	0	0	365	365	0	0	172	172	0
SOR	0	14 487	2 419	19 016	516	17 808	4 548	22 873	0
Total	2 111	14 487	2 419	19 016	516	17 808	4 548	22 873	20

Species code	1987			1988			
	LIC	JV/CH	DOM	Total	LIC	JV/CH	
BOE	0	2 554	1 312	3 866	0	4 782	5 278
SSO	0	4 135	8 593	12 728	0	6 102	9 138
OEO	0	0	45	45	0	0	51
SOR	0	0	5	5	0	0	9
Total	0	6 689	9 955	16 646	20	10 885	14 476

Table 7a: Total oreo catch (t) by fleet by EEZ area by fishing season

Area	1978-79			1979-80			1980-81		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	1	0	0	1	0	0	0	0	0
C	366	-	0	366	8	122	2	837	10
D	8	041	0	041	650	31	0	958	832
E	17	0	0	17	18	0	0	680	268
F	2	798	0	798	129	0	0	129	283
G	1	0	0	1	0	-	0	0	464
H	8	0	0	8	4	0	0	2	2
Total	12	231	-	0	12	231	8	919	25
Area	1981-82			1982-83			1983		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	21	0	21	0	22	128	150	31
C	0	12	750	12	750	537	39	576	16
D	1	9	296	9	296	1	3	927	409
E	4	230	150	4	380	682	83	765	3
F	0	-	0	-	0	0	0	0	354
G	0	0	0	0	0	-	0	0	0
H	0	0	1	64	66	0	12	0	8
Undef	0	22	218	64	26	514	683	11	0
Total	4	231	-	64	26	111	1	258	360
Area	1983-84			1984-85			1985-86		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	289	0	0	239	0	0	144
C	0	9	015	175	9	190	6	284	772
D	7	4	523	1	573	104	34	1	422
E	706	2	863	0	3	568	1	390	459
F	2	2	892	0	2	895	867	0	20
G	0	0	-	-	0	1	177	044	106
H	2	50	6	57	6	0	8	1	203
Undef	-	6	7	0	0	-	28	28	-
Total	718	19	343	2	050	22	111	1	915
Area	1986-87			1987-88			1988-89		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	5	2	191	193	0	4	0	162
C	0	339	1	874	7	213	744	4	304
D	0	3	058	3	780	6	285	2	396
E	0	0	0	0	0	0	197	0	197
F	0	296	-	296	0	0	727	279	1
G	0	0	27	27	0	0	-	8	006
H	0	1	10	10	0	0	12	1	14
Undef	0	0	515	0	9	1	41	41	91
Total	0	8	696	6	399	15	94	7	966

Table 7b: Total oreo catch (t) by fleet by EEZ area by calendar year

Area	1978			1979			1980			Total	
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
B	0	0	0	0	1	366	6	417	183	0	6 600
C	1 366	0	0	1 366	0	0	0	665	17	12 213	0
D	8 041	0	0	8 041	648	17	0	665	18	8 866	0
E	17	0	0	17	17	0	0	129	0	208	246
F	2 798	0	0	2 798	129	0	0	129	0	0	65
G	1	0	0	1	-	-	0	-	0	0	464
H	7	0	0	7	1	4	0	6	0	2	0
Total	12 229	0	0	12 229	7 214	205	0	7 418	2 161	21 611	1 0
Area	1981			Total	1982			1983			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
B	0	21	0	21	0	22	90	0	0	0	117
C	19 242	0	19 242	0	8 537	34	8 571	9 040	9 175	1 56	9 096
D	9 177	9	9 216	0	2 927	161	3 088	14	1 877	1 97	8 782
E	3 195	13	0	3 208	1 728	149	0	0	0	0	451
F	0	1	0	1	-	0	0	-	0	0	0
G	0	-	0	-	0	-	0	0	-	0	8
H	0	0	0	0	0	12	0	0	0	0	-
Undef	0	1	29	30	0	15	215	12	0	1	9
Total	3 234	28 455	29	31 717	1 728	11 661	500	13 889	369	16 313	1 782
Area	1984			Total	1985			1986			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
B	0	0	287	287	0	0	255	0	0	0	106
C	6 468	0	470	6 938	0	7 147	1 229	8 876	0	6 369	847
D	34	1 983	1 653	3 670	2	5 366	2 348	7 716	0	3 201	2 524
E	2 059	2 838	0	4 896	514	243	0	757	20	1 40	5 725
F	10	3 148	0	3 158	0	5 053	-	5 054	-	1 274	0
G	0	0	-	0	0	-	87	87	0	0	24
H	8	50	7	64	0	0	14	14	0	0	18
Undef	-	0	2	2	0	0	114	114	0	-	17
Total	2 111	14 487	2 419	19 016	516	17 808	4 548	22 873	20	10 885	3 572
Area	1987			Total	1988			1989			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
B	0	2	305	307	0	0	255	0	0	0	106
C	0	3 607	3 421	7 028	0	0	0	6 369	0	6 369	847
D	0	2 195	5 927	8 122	0	0	0	3 201	2	2 524	5 725
E	0	197	0	197	0	0	0	20	0	0	60
F	0	689	279	968	0	0	0	1 274	0	0	1 274
G	0	0	9	9	0	0	0	0	0	0	0
H	0	-	4	5	0	0	0	0	0	0	0
Undef	0	0	11	11	0	0	0	0	0	0	0
Total	0	6 691	9 955	16 646	0	0	0	10 885	3 572	14 476	14 476

Table 8a: Total oreo catch (t) by species by EEZ area by fishing season

Area	1978-79			1979-80			1980-81			1981-82			1982-83			1983		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total	
B	1	0	0	1	366	0	1	366	5	588	5	075	8	288	10	0	0	
C	-	0	0	8	041	0	8	041	5	566	5	114	-	0	5	522	4	
D	0	0	0	0	17	0	0	17	18	0	0	0	18	5	680	4	424	
E	-	0	0	2	798	0	2	798	113	16	0	0	129	6	224	7	142	
F	-	0	0	-	0	0	0	1	-	0	0	0	215	2	65	0	1	
G	1	-	0	1	0	0	8	0	5	0	0	0	63	1	400	1	283	
H	7	0	0	1	0	0	0	0	-	0	0	0	2	0	0	0	464	
Undef	0	0	0	0	12	223	0	12	231	6	290	5	205	8	288	11	791	
Total	9	-	0	12	223	0	12	231	6	290	5	205	8	14	265	2	374	
															9	032	181	
																25	851	
Area	1981-82			1982-83			1983			1984-85			1985-86			1986-87		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total	
B	0	21	0	0	12	750	6	438	2	138	0	0	8	150	3	9	22	
C	11	291	1	419	41	294	9	296	1	088	2	796	42	1	3	713	-	31
D	5	352	3	352	9	0	4	380	705	60	0	0	765	1	340	1	861	
E	4	378	2	0	0	0	0	-	0	0	0	0	-	0	0	0	3	
F	-	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	354	
G	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	
H	0	0	0	63	1	66	43	66	6	6	0	0	12	0	0	0	8	
Undef	1	0	0	665	113	295	26	514	8	279	5	067	332	1	13	680	5	
Total	21	440	4	665	113	295	26	514	8	279	5	067	332	1	13	680	5	
															3	0	4	
																8	015	
Area	1983-84			1984-85			1985-86			1986-87			1987-88			1988-89		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total	
B	0	51	238	0	9	190	3	897	4	311	76	1	239	2	184	3	93	
C	5	594	3	594	72	0	6	104	1	651	4	729	10	0	6	390	12	1
D	1	214	4	871	18	0	0	3	568	1	572	472	0	0	2	444	3	331
E	2	254	1	315	0	0	2	895	522	681	0	0	1	203	1	54	-	5
F	1	728	1	167	0	0	-	0	-	19	9	0	28	15	4	126	0	883
G	0	0	0	0	5	0	5	0	57	6	-	1	3	10	2	16	0	126
H	23	28	5	0	6	0	7	1	665	10	2	2	0	5	10	5	16	65
Undef	1	-	340	0	22	111	7	665	10	343	192	5	18	204	4	285	12	491
Total	10	743	11	028	340	0	22	111	7	665	10	343	192	5	18	204	4	93
																9	16	
																820	9	
Area	1986-87			1987-88			1988-89			1989-90			1990-91			1991-92		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total	
B	5	153	29	7	193	7	213	3	138	5	897	12	23	4	162	-	144	
C	4	180	3	026	7	-	6	838	902	7	777	0	2	8	681	-	5	
D	5	672	0	0	0	0	0	0	0	197	0	0	0	1	197	-	5	
E	0	0	0	0	0	0	0	0	0	896	0	0	0	1	006	-	5	
F	146	150	0	0	0	0	0	0	296	110	1	6	1	0	0	7	14	
G	8	19	0	0	0	0	0	0	27	10	-	12	1	-	24	1	41	
H	-	3	417	5	1	7	0	10	515	3	13	-	13	37	31	19	155	
Undef	91	417	48	10	15	094	4	158	14	930	14	930	37	-	-	-	-	
Total	5	442	9	594	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table 8b: Total oreo catch (t) by species by EEZ area by calendar year

Area	1978			1979			1980			
	BOE	SSO	OEO	SOR	Total	BOE	SSO	OEO	SOR	Total
B	0	0	0	0	0	3 458	3 131	0	0	7 901
C	0	0	1 366	0	1 366	559	106	0	6 600	3 256
D	0	0	8 041	0	8 041	-	-	0	665	4 279
E	-	0	17	0	17	18	0	0	18	3 723
F	-	0	2 798	0	2 798	113	16	0	129	2 063
G	1	0	-	0	1	-	0	0	-	0
H	6	0	1	0	7	5	-	0	2	0
Total	7	0	12 222	0	12 229	4 154	3 253	8	3	7 418
Area	1981			1982			1983			
	BOE	SSO	OEO	SOR	Total	BOE	SSO	OEO	SOR	Total
B	0	21	0	0	21	0	22	90	0	112
C	15 628	1 500	2 040	74	19 242	6 437	2 134	0	8 571	6 586
D	5 343	3 485	89	299	9 216	668	2 420	0	3 088	2 751
E	3 204	1	0	1	3 206	1 816	61	0	1 877	436
F	-	1	0	0	-	-	0	0	-	0
G	0	-	0	0	-	0	-	0	-	0
H	0	0	0	0	-	0	-	0	-	0
Undef	0	0	29	375	31 717	8 938	4 687	263	0	13 889
Total	24 177	5 008	2 158	-	-	-	-	-	9 774	8 484
Area	1984			1985			1986			
	BOE	SSO	OEO	SOR	Total	BOE	SSO	OEO	SOR	Total
B	1	55	231	-	287	22	146	86	2	255
C	4 223	2 608	107	-	6 938	3 704	5 137	34	1	8 876
D	682	2 967	21	0	3 670	1 758	5 954	4	0	7 716
E	3 444	1 452	0	0	4 896	380	377	0	0	757
F	1 912	1 246	0	0	3 158	855	4 199	0	0	5 054
G	0	0	-	0	-	14	48	25	0	87
H	29	28	6	-	64	-	3	8	2	14
Undef	0	2	-	0	19 016	6 782	15 910	172	9	22 873
Total	10 293	8 358	365	-	-	-	-	-	5 278	9 138
Area	1987			1988			1989			
	BOE	SSO	OEO	SOR	Total	BOE	SSO	OEO	SOR	Total
B	6	268	30	4	308	-	-	-	-	-
C	2 736	4 280	13	0	7 028	-	-	-	-	-
D	1 016	7 103	0	2	8 121	-	-	-	-	-
E	0	197	0	0	197	-	-	-	-	-
F	105	863	0	0	968	-	-	-	-	-
G	2	7	1	0	9	-	-	-	-	-
H	-	3	1	0	4	-	-	-	-	-
Undef	1	7	3	1	11	-	-	-	-	-
Total	3 866	12 728	45	7	16 647	-	-	-	-	-

Table 9: Black oreo catch (t) by fleet by month

Month	1978			1979			1980						
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	
Jan	1	0	1	1	1	0	0	1	1	029	233	0	1 262
Feb	1	-	0	1	0	0	0	0	0	714	0	0	1 714
Mar	0	0	0	0	0	0	0	0	0	162	0	0	1 162
Apr	14	0	0	14	0	0	14	0	0	937	0	0	1 937
May	620	0	0	620	0	0	620	0	0	254	0	0	1 254
Jun	9	-	0	9	9	-	0	9	0	523	0	0	1 523
Jul	13	0	0	13	0	0	13	0	0	18	0	0	1 18
Aug	4	-	0	4	0	0	5	0	0	557	0	0	1 557
Sep	3	0	0	3	0	0	6	0	0	460	0	0	1 460
Oct	-	0	0	-	2	-	0	2	0	482	0	0	1 482
Nov	4	0	0	4	1 194	9	0	2	0	841	0	0	1 841
Dec	3	0	0	3	2 099	182	0	2	281	0	1 035	0	1 241
Total	7	0	0	7	3 960	194	0	4	154	1 235	11 216	0	12 451
Month	1981			Total	1982			Total	1983			Total	
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	
Jan	6	1 046	0	1 052	610	169	0	779	0	106	150	255	255
Feb	41	2 354	0	2 395	0	0	0	779	0	24	277	300	300
Mar	0	505	0	505	436	-	0	436	0	-	0	0	-
Apr	1	849	0	1 850	0	1	0	1	0	23	1	24	24
May	-	363	0	363	0	127	-	127	4	1 434	31	1 470	1 470
Jun	727	418	0	1 145	461	239	0	699	54	1 261	3	1 318	1 318
Jul	2 003	0	0	2 003	154	170	0	323	292	343	0	635	635
Aug	395	5 441	0	5 836	0	2	582	0	9	1 425	0	0	1 434
Sep	0	3 607	0	3 607	8	579	0	587	1	507	0	0	507
Oct	0	2 959	0	2 959	-	293	7	300	0	1 334	43	1 377	1 377
Nov	0	1 172	0	1 172	0	2 094	3	2 097	0	1 070	9	1 078	1 078
Dec	58	1 232	0	1 290	0	994	13	1 007	-	1 348	27	1 375	1 375
Total	3 231	20 946	0	24 177	1 668	7 247	23	8 938	360	8 874	540	9 774	9 774
Month	1984			Total	1985			Total	1986			Total	
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	
Jan	-	367	4	371	0	136	159	295	0	27	84	111	111
Feb	0	241	0	241	0	52	185	237	0	0	102	102	102
Mar	0	166	5	171	145	133	268	546	5	0	26	31	31
Apr	59	697	0	756	0	23	104	127	0	0	4	4	4
May	0	730	10	741	211	136	36	383	0	93	14	107	107
Jun	-	658	0	658	1	663	8	672	-	293	9	302	302
Jul	0	422	0	422	0	276	-	276	0	64	0	64	64
Aug	45	777	0	822	0	427	7	433	13	21	2	36	36
Sep	427	2 302	1	2 729	0	1 261	55	1 316	0	1 003	27	1 030	1 030
Oct	782	986	12	1 781	0	933	258	1 191	0	1 875	58	1 933	1 933
Nov	99	464	5	569	2	723	140	864	0	627	77	703	703
Dec	329	589	113	1 031	-	399	43	443	0	780	74	854	854
Total	1 741	8 401	151	10 293	359	5 160	1	6 782	19	4 782	477	5 278	5 278

Table 9—*continued*

Month	1987			1988			
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
Jan	0	11	27	38	0	11	83
Feb	0	—	25	26	0	0	72
Mar	0	4	72	76	0	1	85
Apr	0	0	57	57	0	132	37
May	0	213	183	395	0	38	56
Jun	0	385	18	403	0	169	1
Jul	0	68	1	69	0	3	0
Aug	0	0	20	20	—	—	3
Sep	0	613	109	722	0	0	10
Oct	0	272	252	524	1	048	349
Nov	0	620	400	1020	0	—	1397
Dec	0	369	149	518	—	—	—
Total	0	2 554	1 312	3 866	—	—	—

Table 10a: Black oreo catch (t) by fleet by EEZ area by fishing season

Area	1978-79			1979-80			1980-81		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	1	0	0	1	0	0	0	5 588	0
C	0	-	0	-	4 312	1 276	0	0	8 758
D	0	0	0	0	544	22	0	0	5 224
E	-	0	0	-	18	0	0	38 5 186	0
F	-	0	0	-	113	0	0	215 0	0
G	1	0	0	1	0	-	0	0	215 63 0
H	7	0	0	7	-	4	0	2	2
Total	8	-	0	9	4 988	1 303	0	6 290	253 14 011 0
									14 264
Area	1981-82			1982-83			1983-84		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	11 419	0	0	11 419	0	0	6 436	0
C	0	5 640	0	5 641	-	675	413	1 088	0
D	1	4 229	150	0	4 378	622	83	6 438	0
E	0	-	0	0	0	0	0	354	0
F	0	0	0	0	0	0	0	0	0
G	0	0	0	0	0	-	0	0	0
H	0	0	0	0	0	0	0	0	0
Undef	0	4 230	17 209	1	21 440	622	7 208	449	8 279
Total								360 4 993	36 0
									5 388
Area	1983-84			1984-85			1985-86		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	5 512	0	0	5 524	0	0	16 897	0
C	0	1 127	87	1 214	0	1 532	817	3 120	1 765
D	0	528	1 726	0	2 254	1 556	16	1 651	2 420
E	2	1 726	0	1 728	4	518	0	1 572	2 184
F	0	0	0	0	0	0	-	0	236 961
G	0	2	21	0	23	6	0	0	54 0
H	-	532	10 113	98	10 743	1 566	5 144	954	7 665
Undef								21 0	1 032 1 0
Total									15 15 2 24 709 4 285
Area	1986-87			1987-88			1988-89		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	3 513	513	5	5	0	0	0	0
C	0	916	249	4 026	1 165	0	2 147	992	3 3
D	0	0	0	0	0	0	430	472	3 139
E	0	146	0	146	0	0	0	0	902 0
F	0	0	0	8	8	0	85	25	110 1 1
G	0	-	0	-	0	0	0	-	-
H	0	0	0	91	5 442	0	2 662	1 496	3 4 158
Undef	0	4 575	868	5 91	0	0	-	3	
Total	0								

Table 10b: Black oreo catch (t) by fleet by EEZ area by calendar year

Area	1978			1979			1980				
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	Total
B	0	0	0	0	3	1	0	1	0	0	0
C	0	0	0	0	286	173	0	029	872	0	901
D	0	0	0	0	542	17	0	559	2	277	4 276
E	-	0	0	0	18	0	0	206	0	0	63
F	-	0	0	0	113	0	0	113	0	63	0
G	1	0	0	1	0	0	0	0	2	0	2
H	6	0	0	6	1	4	0	5	2	0	1
Total	7	0	7	3 960	194	0	4 154	1 237	11 215	0	12 452
Area	1981			Total	1982			1983			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	Total
B	0	0	0	0	0	0	0	0	0	0	1
C	0	15 628	0	15 628	0	6 436	0	6 570	0	6 586	1
D	39	5 304	0	5 343	-	648	20	2 223	522	2 751	2
E	3 192	12	0	3 204	1 668	148	0	1 816	354	82	436
F	0	-	0	-	0	0	0	0	0	0	0
G	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0	0
Undef	0	0	0	1	0	6	0	0	1	0	1
Total	3 231	20 949	1	24 177	1 668	7 247	23	8 938	360	8 874	540
Area	1984			Total	1985			1986			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	Total
B	0	4 117	1	4 223	0	0	22	0	0	5	5
C	0	639	43	682	2	646	1 058	3 704	0	3 445	272
D	1 728	1 716	0	3 444	357	1 636	120	1 758	0	677	183
E	6	1 907	0	1 912	0	23	0	380	19	27	46
F	0	0	0	0	855	0	855	-	633	0	633
G	8	21	0	29	0	0	14	14	0	0	8
H	-	0	0	0	0	0	-	0	0	0	3
Undef	1 741	8 401	151	10 293	359	5 160	1 264	6 782	19	4 782	477
Area	1987			Total	1988			1989			Total
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	Total
B	0	0	5	5	0	0	0	0	0	0	0
C	0	1 924	5	812	2 736	1 016	0	3 445	0	3 445	5
D	0	549	467	0	0	0	0	0	0	0	0
E	0	0	0	0	25	105	2	19	27	0	46
F	0	80	0	80	0	0	0	0	0	0	0
G	0	0	-	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0	0
Undef	0	0	1	1	0	0	0	0	0	0	0
Total	0	2 554	1 312	3 866	0	0	0	0	0	0	5 278

Table 11: Smooth oreo catch (t) by fleet by month

Month	1978			1979			1980			Total	
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	LIC	JV/CH	DOM	
Jan					-	0	0	-	395	373	0
Feb	0	0	0	0	0	0	0	0	843	0	843
Mar	0	0	0	0	0	0	0	0	349	0	349
Apr	0	0	0	0	1	1	1	-	1 032	0	1 032
May	0	0	0	0	117	0	0	117	243	1	244
Jun	0	0	0	0	1	1	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	301	0	-
Nov	0	0	0	0	1 640	0	0	0	315	0	316
Dec	0	0	0	0	1 494	0	0	1	135	0	135
Total	0	0	0	0	3 253	-	0	638	3 350	0	3 980
Month	1981			Total	1982			1983			Total
	LIC	JV/CH	DOM		LIC	JV/CH	DOM	LIC	JV/CH	DOM	
Jan	0	158	0	158	0	-	0	0	39	155	194
Feb	0	65	0	65	0	0	0	0	78	109	187
Mar	0	119	0	119	0	0	0	-	0	0	-
Apr	0	254	0	254	0	0	0	0	3	33	36
May	1	86	0	87	6	78	0	85	0	90	207
Jun	0	396	0	396	54	757	53	864	0	525	540
Jul	1	1	0	747	0	0	186	0	356	0	356
Aug	0	747	0	256	0	223	0	223	0	459	459
Sep	0	256	0	834	0	1 172	0	172	0	985	985
Oct	0	834	0	1 583	0	1 567	67	1 634	7	1 795	34
Nov	1	1 582	0	1 508	0	530	10	540	0	1 447	208
Dec	0	5 005	0	5 008	60	902	82	984	0	1 634	395
Total	3	5 005	0	5 008	60	4 414	213	4 414	8	7 439	1 038
Month	1984			Total	1985			1986			Total
	LIC	JV/CH	DOM		LIC	JV/CH	DOM	LIC	JV/CH	DOM	
Jan	0	209	434	643	0	224	379	603	0	13	356
Feb	0	25	212	237	0	69	180	249	0	1	284
Mar	0	16	38	54	120	12	565	697	0	0	338
Apr	8	582	18	609	0	20	152	172	0	0	82
May	0	291	25	317	37	79	155	271	1	59	36
Jun	2	540	-	541	0	495	82	578	0	325	45
Jul	0	1 178	0	1 178	0	442	2	444	0	82	82
Aug	17	536	0	554	0	575	146	720	0	124	5
Sep	150	977	247	1 374	0	3 671	87	3 758	0	2 025	238
Oct	76	713	201	991	0	3 473	557	4 029	0	1 867	910
Nov	28	710	573	1 310	0	2 705	640	3 345	0	1 07	525
Dec	87	309	154	550	0	884	160	1 044	0	529	216
Total	370	6 086	8 358	12 649	157	12 649	3 104	15 910	1	6 102	3 035

Table 11—*continued*

Month	1997			1998		
	LIC	JV/CH	DOM	Total	LIC	JV/CH
Jan	0	1	359	359	0	7
Feb	0	0	305	305	0	0
Mar	0	1	494	495	0	1
Apr	0	—	980	980	0	81
May	0	131	739	868	0	143
Jun	0	179	109	289	0	765
Jul	0	18	0	18	0	12
Aug	0	4	54	58	0	57
Sep	0	313	312	625	0	4
Oct	0	1 515	2 655	4 170	721	1
Nov	0	1 322	2 185	3 514	414	2
Dec	0	653	400	1 052		
Total	0	4 135	8 593	12 728		

Table 12a: Smooth oreo catch (t) by fleet by EEZ area by fishing season

Area	1978-79			1979-80			1980-81		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	0	0	0	0	0	0	0
C	0	0	0	3 526	1 548	0	5 075	0	1 522
D	0	0	0	106	8	0	114	243	606
E	0	0	0	0	0	0	0	0	0
F	0	0	0	16	0	0	16	2	2
G	-	0	0	0	0	0	0	0	1
H	0	0	0	0	0	0	0	0	0
Total	-	0	0	3 648	1 557	0	5 205	245	2 129
Area	1981-82			1982-83			1983		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	21	0	21	0	22	0	22	0
C	0	1 291	0	1 291	0	2 101	37	2 138	9
D	0	3 352	0	3 352	-	2 396	400	2 796	9
E	2	-	0	2	60	0	0	0	1 745
F	0	0	0	0	-	0	0	0	116
G	0	-	0	0	0	-	0	0	0
H	0	0	0	0	0	-	0	0	0
Undef	0	0	0	0	0	6	0	0	0
Total	2	4 664	0	4 665	60	4 531	39	4 46	0
Area	1983-84			1984-85			1985-86		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	51	51	0	0	128	0	0
C	0	3 502	92	3 594	0	3 648	663	4 311	93
D	7	3 397	1 467	4 871	34	2 831	1 863	4 729	340
E	178	1 137	0	1 315	311	1 162	0	0	2 222
F	1	1 166	0	1 167	4	677	-	681	0
G	0	0	0	0	0	-	18	19	0
H	0	28	-	28	0	0	-	0	0
Undef	0	-	1 612	11 028	349	7 319	2 675	10 343	0
Total	186	9 230	1	11 028	0	0	2	2	1 9 691
Area	1986-87			1987-88			1987-88		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	2	151	153	0	0	0	0	0
C	0	1 826	1 354	3 180	0	2 596	3 300	5 896	132
D	0	2 141	3 531	5 672	0	1 854	5 923	7 777	0
E	0	0	0	0	0	0	1 197	0	197
F	0	150	-	150	0	642	254	896	0
G	0	0	19	19	0	0	6	6	6
H	0	1	3	4	0	12	0	0	12
Undef	0	0	417	417	0	0	13	13	0
Total	4 119	5 475	9 594	0	5 301	9 629	14 930	0	12 432

Table 12b: Smooth oreo catch (t) by fleet by EEZ area by calendar year

Area	1978			1979			1980		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
C	0	0	0	0	3	131	0	3	131
D	0	0	0	0	106	-	0	243	256
F	0	0	0	0	16	0	0	2	723
G	0	0	0	0	-	0	0	0	0
H	0	0	0	0	-	0	0	0	0
Total	0	0	0	0	3	253	-	640	980
Area	1981			1982			1983		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
B	0	21	0	21	0	22	0	0	10
C	0	1 500	0	1 500	0	2 101	33	2 134	2 493
D	0	3 484	0	3 484	0	2 278	141	2 420	5 965
E	3	0	0	3	60	-	0	61	15
F	0	1	0	1	-	0	0	0	0
G	0	-	0	-	0	-	0	0	-
H	0	0	0	0	0	6	0	0	0
Undef	0	0	0	0	0	6	0	0	0
Total	3	5 005	0	5 008	60	4 414	213	4 687	8 484
Area	1984			1985			1986		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
B	0	0	55	55	0	0	146	146	71
C	2 351	2 257	2 608	2 608	0	4 500	636	5 137	5 489
D	34	1 343	1 589	2 967	0	3 730	2 224	5 954	864
E	331	1 121	0	1 452	157	220	0	377	14
F	4	1 242	0	1 246	0	4 199	-	4 199	641
G	0	0	0	0	0	-	47	48	0
H	0	28	-	28	0	0	3	3	16
Undef	0	0	2	2	0	0	46	46	3
Total	370	6 086	1 902	8 358	157	12 649	3 104	15 910	1 102
Area	1987			1988			1989		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
B	0	2	683	2 666	2	596	4 280	268	71
C	0	1	644	5 460	7	103	0	2 925	564
D	0	1	197	0	197	0	0	2 523	3 489
E	0	0	609	254	7	103	1	341	4 864
F	0	0	0	0	0	0	0	0	0
G	0	0	-	3	3	0	0	641	641
H	0	0	0	7	7	0	0	0	16
Undef	0	4 135	8	593	7	7	0	41	41
Total	0	4 135	8	593	12	728	1	3 035	9 138

Table 13: Unspecified oreo catch (t) by fleet by month

Month	1978			1979			1980		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
Jan	0	0	0	0	0	0	0	0	-
Feb	0	0	0	0	0	0	0	0	0
Mar	294	0	4 903	0	0	0	0	0	0
Apr	4 903	0	4 934	0	0	0	0	0	0
May	4 934	0	2 071	0	0	0	0	0	237
Jun	2 071	0	8	0	0	0	0	0	-
Jul	8	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	433	0
Sep	0	0	0	0	0	0	0	1 737	0
Oct	0	0	0	0	0	0	0	1 965	0
Nov	13	0	13	0	0	0	0	1 831	0
Dec	0	0	0	0	0	0	0	1 750	0
Total	12 222	0	12 222	0	0	8	0	6 953	0

Month	1981			1982			1983		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
Jan	0	664	0	664	0	9	9	0	102
Feb	0	1 367	0	1 367	0	7	7	0	2
Mar	0	47	0	47	0	20	20	0	1
Apr	0	39	0	39	0	26	26	0	8
May	0	7	0	7	0	43	43	0	16
Jun	0	4	-	4	0	4	4	0	1
Jul	0	0	0	0	0	6	6	0	1
Aug	0	2	0	0	0	0	0	0	-
Sep	0	0	0	0	0	3	3	0	19
Oct	0	0	0	0	0	15	15	0	21
Nov	0	0	0	0	0	14	14	0	15
Dec	0	0	27	0	0	118	118	0	19
Total	0	2 128	29	2 157	0	263	263	0	204

Month	1984			1985			1986		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
Jan	0	0	62	62	0	16	16	0	3
Feb	0	0	33	33	0	31	31	0	4
Mar	0	0	73	73	0	25	25	0	2
Apr	0	0	33	33	0	18	18	0	8
May	0	0	28	28	0	5	5	0	7
Jun	0	0	35	35	0	13	13	0	4
Jul	0	0	-	0	0	2	2	0	-
Aug	0	0	0	0	0	2	2	0	1
Sep	0	0	23	23	0	-	39	0	4
Oct	0	0	45	45	0	39	39	0	5
Nov	0	0	25	25	0	15	15	0	7
Dec	0	0	10	10	0	7	7	0	7
Total	0	365	0	365	0	172	172	0	51

Table 13—*continued*

Month	1987			1988				
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
Jan	0	0	2	2	0	0	11	11
Feb	0	0	4	4	0	0	3	3
Mar	0	0	8	8	0	0	2	2
Apr	0	0	4	4	0	0	2	2
May	0	0	6	6	0	0	1	1
Jun	0	0	—	—	0	0	1	1
Jul	0	0	0	0	0	0	1	1
Aug	0	0	3	3	0	0	0	0
Sep	0	0	1	1	0	0	0	0
Oct	0	0	6	6	0	0	0	0
Nov	0	0	3	3	0	0	0	0
Dec	0	0	7	7	0	0	0	0
Total	0	0	45	45	0	0	45	45

Table 14a: Unspecified oreo catch (t) by fleet by EEZ area by fishing season

Area	1978-79			1979-80			1980-81		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
C	1 366	0	0	1 366	0	0	8	0	0
D	8 041	0	0	8 041	0	0	-	0	4 424
E	17	0	0	17	0	0	0	4 142	0
F	2 798	0	0	2 798	0	0	0	65	65
G	-	0	0	-	0	0	0	400	400
H	1	0	0	1	0	0	0	0	0
Total	12 223	0	0	12 223	0	0	8	0	9 032
							0	9 032	0
Area	1981-82			1982-83			1983		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	0	0	0	0	128	128	0
C	0	41	0	41	0	0	0	0	22
D	9	0	0	9	0	0	42	42	3
G	0	0	0	0	0	0	0	0	9
Undef	0	0	63	63	0	0	0	0	8
Total	0	50	63	113	0	0	162	162	0
							0	0	3
							332	332	44
Area	1983-84			1984-85			1985-86		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	238	238	0	0	93	93	0
C	0	0	72	72	0	0	76	76	0
D	0	0	18	18	0	0	10	10	0
G	0	0	-	-	0	0	9	9	0
H	0	0	5	5	0	0	1	1	0
Undef	0	0	6	6	0	0	2	2	0
Total	0	0	340	340	0	0	191	191	0
							0	0	93
Area	1986-87			1987-88			1987-88		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	29	29	0	0	23	23	0
C	0	0	7	7	0	0	12	12	0
G	0	0	0	0	0	0	1	1	1
H	0	0	7	7	0	0	1	1	1
Undef	0	0	5	5	0	0	-	-	-
Total	0	0	48	48	0	0	37	37	93

Table 14b: Unspecified oreo catch (t) by fleet by EEZ area by calendar year

Area	1978			1979			1980		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
C	1 366	0	0	1 366	0	8	0	8	2 425
D	8 041	0	0	8 041	0	-	0	4 063	4 063
E	17	0	0	17	0	0	0	65	65
F	2 798	0	0	2 798	0	0	0	400	400
G	-	0	0	-	0	0	0	0	0
H	1	0	0	1	0	0	0	0	0
Total	12 222	0	0	12 222	-	8	0	6 953	6 953

Area	1981			1982			1983		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
B	0	0	0	0	0	0	90	90	105
C	0	2 040	0	2 040	0	0	0	0	17
D	0	89	0	89	0	0	0	0	65
G	0	0	0	0	0	0	0	0	8
H	0	0	0	0	0	0	0	0	-
Undef	0	0	29	29	0	0	173	0	9
Total	0	2 129	29	2 157	0	0	263	0	204

Area	1984			1985			1986		
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	Total
B	0	0	231	231	0	0	86	86	26
C	0	107	107	214	0	0	34	34	11
D	0	0	21	21	0	0	4	4	-
G	0	0	-	-	0	0	25	25	-
H	0	0	6	6	0	0	8	8	7
Undef	0	0	-	-	0	0	14	14	7
Total	0	365	365	0	0	0	172	172	51

Area	1987			1988			
	LIC	JV/CH	DOM	Total	LIC	JV/CH	
B	0	0	30	30	0	0	26
C	0	0	13	13	0	0	11
G	0	0	0	0	0	0	-
H	0	0	1	1	0	0	-
Undef	0	0	3	3	0	0	-
Total	0	45	45	90	0	0	51

Table 15a: Spiky oreo catch (t) by fleet by EEZ area by fishing season

Area	1978-79			1979-80			1980-81		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
C	0	0	0	283	5	0	288	0	128
D	0	0	0	0	0	0	52	0	52
E	0	0	0	0	0	0	1	0	1
Total	0	0	0	283	5	0	288	0	181
Area	1981-82			1982-83			1983		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	0	0	0	0	0	0	-
C	0	0	0	0	-	0	0	0	0
D	0	294	0	294	1	0	1	0	0
Undef	0	1	0	1	0	0	0	0	0
Total	0	295	0	295	1	0	1	0	-
Area	1983-84			1984-85			1985-86		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	0	0	0	2	2	0	1
C	0	0	0	0	0	1	1	0	-
D	0	0	0	0	0	0	0	0	-
H	0	0	0	0	0	3	3	0	4
Undef	0	0	0	0	0	0	0	0	4
Total	0	0	0	0	0	5	5	0	9
Area	1986-87			1987-88			1987-88		
	LIC	JV/CH	DOM	LIC	JV/CH	DOM	LIC	JV/CH	DOM
B	0	0	6	0	0	0	4	0	4
C	0	0	-	0	-	0	0	0	-
D	0	2	0	2	0	2	0	0	2
H	0	0	0	0	0	-	25	0	-
Undef	0	0	2	1	0	0	25	0	25
Total	0	2	8	10	1	0	29	0	31

Table 15b. Spiky oreo catch (t) by fleet by EEZ area by calendar year

Area	1978			1979			1980					
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
C	0	0	0	0	0	3	0	3	283	55	0	338
D	0	0	0	0	0	0	0	0	283	46	0	384
Total	0	0	0	0	0	3	0	3	283	101	0	384

Area	1981			1982			1983					
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
B	0	0	0	0	0	0	0	0	0	0	0	0
C	0	74	0	74	0	0	0	0	-	0	0	-
D	0	299	0	299	0	0	0	0	1	0	0	1
Undef	0	1	0	1	0	0	0	0	0	0	0	0
Total	0	375	0	375	0	0	0	0	1	0	0	1

Area	1984			1985			1986					
	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total	LIC	JV/CH	DOM	Total
B	0	0	-	-	0	0	2	2	0	0	5	5
C	0	0	-	-	0	0	1	1	0	0	-	-
D	0	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	2	2	0	0	4	4
Undef	0	0	0	0	0	0	4	4	0	0	0	0
Total	0	0	-	-	0	0	9	9	0	0	9	9

Area	1987		
	LIC	JV/CH	DOM
B	0	0	4
C	0	0	0
D	0	2	0
H	0	0	2
Undef	0	0	1
Total	0	2	7

Table 16a: Licensed total oreo catch (t) by nation by fishing season

Fishing season	U.S.S.R.	Japan	Korea	Total
1978-79	12 221	8	2	12 231
1979-80	8 877	42	0	8 919
1980-81	460	38	0	499
1981-82	4 230	1	0	4 231
1982-83	682	1	0	683
1983	354	6	0	360
1983-84	132	5	581	718
1984-85	410	55	1 451	1 915
1985-86	20	2	0	21
1986-87	0	0	0	0
1987-88	0	0	0	0

Table 16b: Licensed total oreo catch (t) by nation by calendar year

Year	U.S.S.R.	Japan	Korea	Total
1978	12 221	7	1	12 229
1979	7 172	41	-	7 214
1980	2 158	2	0	2 160
1981	3 193	39	0	3 232
1982	1 728	-	0	1 728
1983	354	7	7	369
1984	212	45	1 854	2 111
1985	329	16	171	516
1986	20	-	0	20
1987	0	0	0	0

Table 17a: Licensed total oreo catch (t) by species by fishing season

Species code	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	8	4 988	254	4 230	622	360	532	1 566	21	0	0
SSO	-	3 648	245	2	60	0	186	349	1	0	0
OEO	12 223	0	0	0	0	0	0	0	0	0	0
SOR	0	283	499	4 231	683	360	0	0	0	0	0
Total	12 231	8 919				718	1 915	21	0	0	0

Table 17b: Licensed total oreo catch (t) by species by calendar year

Species code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BOE	7	3 960	1 237	3 231	1 668	360	1 741	359	19	0
SSO	0	3 253	640	1	60	8	370	157	1	0
OEO	12 222	-	0	0	0	0	0	0	0	0
SOR	0	0	283	0	0	1	0	0	0	0
Total	12 229	7 214	2 160	3 232	1 728	369	2 111	516	20	

Table 18a: Licensed total oreo catch (t) by EEZ area by fishing season

Area	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
B	1	0	0	0	0	0	0	0	0	0	0
C	366	8	122	0	0	-	0	0	0	0	0
D	041	650	282	1	1	6	7	34	2	0	0
E	17	18	217	4	230	682	354	706	1	867	20
F	2 798	129	0	0	0	-	0	2	8	0	0
G	1	0	0	0	0	0	0	0	0	0	0
H	8	-	0	0	0	0	0	2	6	0	0
Undef	0	0	0	0	0	0	0	-	0	0	0
Total	12 231	8 919	4 99	4 231	683	360	718	1 915	21	0	0

Table 18b: Licensed total oreo catch (t) by EEZ area by calendar year

Area	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
B	0	1	0	0	0	0	0	0	0	0
C	366	6 417	1 705	0	0	-	0	0	0	0
D	041	648	246	39	0	14	34	2	0	0
E	17	18	208	3 193	1 728	354	2 059	514	20	0
F	2 798	129	0	0	-	0	10	0	-	0
G	1	-	0	0	0	0	0	0	0	0
H	7	1	0	0	0	0	8	0	0	0
Undef	0	0	0	0	0	-	0	0	0	0
Total	12 229	7 214	2 160	3 232	1 728	369	2 111	516	20	0

Table 19: Licensed total oreo catch (t) by nation by month

Month	1978				1979				1980				
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	
Jan					0	1	-	1	1	707	2	0	1 709
Feb					-	1	0	1	-	0	0	0	-
Mar					0	0	0	0	0	0	0	0	0
Apr	293	0	1	294	15	-	0	16	0	0	0	0	0
May	4903	0	0	4 903	718	19	0	737	243	0	0	0	243
Jun	4934	0	-	4 934	6	3	0	10	0	0	0	0	0
Jul	2071	0	0	2 071	13	0	0	13	0	0	0	0	0
Aug	8	0	0	8	0	4	0	4	0	0	0	0	0
Sep	0	0	0	0	0	3	0	3	0	0	0	0	0
Oct	0	-	0	-	1	1	0	2	0	0	0	0	0
Nov	13	4	0	16	2 831	3	0	2 334	0	0	0	0	0
Dec	0	3	0	3	3 587	6	0	3 593	206	0	0	0	206
Total	12 221	7	1 12	229	7 172	41	-	7 214	2 158	2	0	2 160	
Month	1981				1982				1983				
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	
Jan	5	0	0	5	610	0	0	610	0	0	0	0	
Feb	4	38	0	42	0	0	0	0	0	0	0	0	
Mar	0	0	0	0	436	0	0	436	0	1	0	1	
Apr	0	1	0	1	0	0	0	0	0	0	0	0	
May	1	-	0	1	6	-	0	6	0	4	0	4	
Jun	727	0	0	727	515	0	0	515	52	1	0	54	
Jul	2 004	0	0	2 004	154	0	0	154	292	0	0	292	
Aug	394	0	0	394	0	0	0	0	9	0	0	9	
Sep	0	0	0	0	8	0	0	8	1	0	0	1	
Oct	0	0	0	0	0	-	0	-	0	0	7	7	
Nov	0	0	0	0	0	0	0	0	0	0	0	0	
Dec	58	0	0	58	0	0	0	0	0	-	0	-	
Total	3 193	39	0	3 232	1 728	-	0	1 728	354	7	7	369	
Month	1984				1985				1986				
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	
Jan	0	-	0	-	0	0	0	0	0	0	0	0	
Feb	0	0	0	0	0	0	0	0	0	0	0	0	
Mar	0	0	0	0	81	14	171	265	5	0	0	5	
Apr	68	0	0	68	0	0	0	0	0	0	0	0	
May	0	0	0	0	248	0	0	248	1	0	0	1	
Jun	0	2	0	2	0	0	0	0	0	-	0	-	
Jul	0	0	0	0	0	1	0	1	0	0	0	0	
Aug	62	0	0	62	0	0	0	0	13	0	0	13	
Sep	2	2	574	577	0	0	0	0	0	0	0	0	
Oct	80	6	772	858	0	0	0	0	0	0	0	0	
Nov	0	12	115	127	0	2	0	2	0	0	0	0	
Dec	0	23	393	416	0	-	0	-	0	0	0	0	
Total	212	45	1 854	2 111	329	16	171	516	20	-	0	20	
Month	1987												
	U.S.S.R.	Japan	Korea	Total									
Jan	0	0	0	0									
Feb	0	0	0	0									
Mar	0	0	0	0									
Apr	0	0	0	0									
May	0	0	0	0									
Jun	0	0	0	0									
Jul	0	0	0	0									
Aug	0	0	0	0									
Sep	0	0	0	0									
Oct	0	0	0	0									
Nov	0	0	0	0									
Dec	0	0	0	0									
Total	0	0	0	0									

Table 20a: Licensed total oreo catch (t) by nation by EEZ area by fishing season

Area	1978-79				1979-80				1980-81			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
B	0	1	0	1	0	0	0	0	0	0	0	0
C	1 366	0	0	1 366	8 122	0	0	8 122	0	0	0	0
D	8 041	0	0	8 041	614	36	0	650	243	38	0	281
E	17	-	0	17	14	3	0	18	217	0	0	217
F	2 798	-	0	2 798	127	3	0	129	0	0	0	0
G	0	1	-	1	0	0	0	0	0	0	0	0
H	0	7	2	8	0	-	0	-	0	0	0	0
Total	12 221	8	2	12 231	8 877	42	0	8 919	460	38	0	499
Area	1981-82				1982-83				1983			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
C	0	0	0	0	0	-	0	-	0	0	0	0
D	0	1	0	1	0	1	0	1	0	6	0	6
E	4 230	-	0	4 230	682	0	0	682	354	0	0	354
F	0	0	0	0	0	-	0	-	0	0	0	0
Total	4 230	1	0	4 231	682	1	0	683	354	6	0	360
Area	1983-84				1984-85				1985-86			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
D	0	0	7	7	0	34	0	34	0	2	0	2
E	132	2	571	706	410	15	1 443	1 867	20	0	0	20
F	0	0	2	2	0	0	8	8	0	-	0	-
H	0	2	0	2	0	6	0	6	0	0	0	0
Undef	0	-	0	-	0	0	0	0	0	0	0	0
Total	132	5	581	718	410	55	1 451	1 915	20	2	0	21
Area	1986-87				1987-88							
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total				
B	0	0	0	0	0	0	0	0				
C	0	0	0	0	0	0	0	0				
D	0	0	0	0	0	0	0	0				
E	0	0	0	0	0	0	0	0				
F	0	0	0	0	0	0	0	0				
G	0	0	0	0	0	0	0	0				
H	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	0				

Table 20b: Licensed total oreo catch (t) by nation by EEZ area by calendar year

Area	1978				1979				1980			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
B	0	0	0	0	0	1	0	1	0	0	0	0
C	1 366	0	0	1 366	6 417	0	0	6 417	1 705	0	0	1 705
D	8 041	0	0	8 041	614	34	0	648	243	2	0	246
E	17	-	0	17	15	3	0	18	208	0	0	208
F	2 798	-	0	2 798	127	3	0	129	0	0	0	0
G	0	1	-	1	0	0	-	-	0	0	0	0
H	0	6	1	7	0	1	-	1	0	0	0	0
Total	12 221	7	1	12 229	7 172	41	-	7 214	2 158	2	0	2 160

Area	1981				1982				1983			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
C	0	0	0	0	0	0	0	0	0	-	0	-
D	0	38	0	38	0	-	0	-	0	7	7	14
E	3 193	0	0	3 193	1 728	0	0	1 728	354	0	0	354
F	0	0	0	0	0	-	0	-	0	0	0	0
Undef	0	0	0	0	0	-	0	0	0	-	0	0
Total	3 193	39	0	3 232	1 728	-	0	1 728	354	7	7	369

Area	1984				1985				1986			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
D	0	34	0	34	0	2	0	2	0	0	0	0
E	212	2	1 844	2 059	329	15	171	514	20	0	0	20
F	0	0	10	10	0	0	0	0	0	-	0	-
H	0	8	-	8	0	0	0	0	0	0	0	0
Undef	0	-	0	-	0	0	0	0	0	0	0	0
Total	212	45	1 854	2 111	329	16	171	516	20	-	0	20

Area	1987			
	U.S.S.R.	Japan	Korea	Total
D	0	0	0	0
E	0	0	0	0
F	0	0	0	0
H	0	0	0	0
Undef	0	0	0	0
Total	0	0	0	0

Table 21: Licensed black oreo catch (t) by nation by month

Month	1978				1979				1980			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan					0	1	-	1	1 029	2	0	1 031
Feb					0	1	0	1	0	0	0	0
Mar					0	0	0	0	0	0	0	0
Apr	0	0	0	0	14	-	0	14	0	0	0	0
May	0	0	0	0	601	19	0	620	0	0	0	0
Jun	0	0	0	0	5	3	0	9	0	0	0	0
Jul	0	0	0	0	13	0	0	13	0	0	0	0
Aug	0	0	0	0	0	4	0	4	0	0	0	0
Sep	0	0	0	0	0	3	0	3	0	0	0	0
Oct	0	-	0	-	1	1	0	2	0	0	0	0
Nov	0	4	0	4	1 194	0	0	1 194	0	0	0	0
Dec	0	3	0	3	2 093	6	0	2 099	206	0	0	206
Total	0	7	0	7	3 921	39	-	3 960	1 235	2	0	1 237
Month	1981				1982				1983			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan	5	0	0	5	610	0	0	610	0	0	0	0
Feb	4	38	0	42	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	436	0	0	0	0	0
Apr	0	1	0	1	0	0	0	0	0	0	0	0
May	0	-	0	-	0	0	0	0	0	4	0	4
Jun	727	0	0	727	461	0	0	461	52	1	0	54
Jul	2 003	0	0	2 003	154	0	0	154	292	0	0	292
Aug	394	0	0	394	0	0	0	0	9	0	0	9
Sep	0	0	0	0	8	0	0	8	1	0	0	1
Oct	0	0	0	0	0	-	0	-	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0	0
Dec	58	0	0	58	0	0	0	0	0	-	0	-
Total	3 191	39	0	3 230	1 668	-	0	1 668	354	6	0	360
Month	1984				1985				1986			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan	0	-	0	-	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	70	3	73	145	5	0	0	5
Apr	59	0	0	59	0	0	0	0	0	0	0	0
May	0	0	0	0	211	0	0	211	0	0	0	0
Jun	0	-	0	-	0	0	0	0	0	-	0	-
Jul	0	0	0	0	0	1	0	1	0	0	0	0
Aug	45	0	0	45	0	0	0	0	13	0	0	13
Sep	2	2	423	427	0	0	0	0	0	0	0	0
Oct	80	6	696	782	0	0	0	0	0	0	0	0
Nov	0	0	99	99	0	2	0	2	0	0	0	0
Dec	0	0	329	329	0	-	0	-	0	0	0	0
Total	186	8	1 547	1 741	280	5	73	359	19	-	0	19
Month	1987											
	U.S.S.R.	Japan	Korea	Total								
Jan	0	0	0	0								
Feb	0	0	0	0								
Mar	0	0	0	0								
Apr	0	0	0	0								
May	0	0	0	0								
Jun	0	0	0	0								
Jul	0	0	0	0								
Aug	0	0	0	0								
Sep	0	0	0	0								
Oct	0	0	0	0								
Nov	0	0	0	0								
Dec	0	0	0	0								

Table 22: Licensed smooth oreo catch (t) by nation by month

Month	1978				1979				1980			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan					0	0	-	-	395	0	0	395
Feb					0	0	0	0	-	0	0	-
Mar					0	0	0	0	0	0	0	0
Apr	0	0	0	0	1	0	0	1	0	0	0	0
May	0	0	0	0	117	0	0	117	243	0	0	243
Jun	0	0	0	0	1	0	0	1	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	1 637	3	0	1 640	1	0	0	1
Dec	0	0	0	0	1 494	0	0	1 494	0	0	0	0
Total	0	0	0	0	3 251	3	-	3 253	640	0	0	640
Month	1981				1982				1983			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	-	0	-
Apr	0	0	0	0	0	0	0	0	0	0	0	0
May	1	0	0	1	6	-	0	6	0	0	0	0
Jun	0	0	0	0	54	0	0	54	0	0	0	0
Jul	1	0	0	1	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0
Sep	0	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0	7	7
Nov	-	0	0	-	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	60	-	0	60	0	-	7	8
Month	1984				1985				1986			
	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total	U.S.S.R.	Japan	Korea	Total
Jan	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	12	11	98	120	0	0	0	0
Apr	8	0	0	8	0	0	0	0	0	0	0	0
May	0	0	0	0	37	0	0	37	1	0	0	1
Jun	0	2	0	2	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0	0
Aug	17	0	0	17	0	0	0	0	0	0	0	0
Sep	0	0	150	150	0	0	0	0	0	0	0	0
Oct	0	0	76	76	0	0	0	0	0	0	0	0
Nov	0	12	16	28	0	0	0	0	0	0	0	0
Dec	0	23	64	87	0	0	0	0	0	0	0	0
Total	26	37	307	370	49	11	98	157	1	0	0	1
Month	1987											
	U.S.S.R.	Japan	Korea	Total								
Jan	0	0	0	0								
Mar	0	0	0	0								
Apr	0	0	0	0								
May	0	0	0	0								
Jun	0	0	0	0								
Jul	0	0	0	0								
Aug	0	0	0	0								
Sep	0	0	0	0								
Oct	0	0	0	0								
Nov	0	0	0	0								
Dec	0	0	0	0								
Total	0	0	0	0								

Table 23: U.S.S.R. oreo-catch (t) for calendar years 1972–77 by FAO area

Month	1972			1973			1974		
	FAO area 81.4	81.5	Total	FAO area 81.4	81.5	Total	FAO area 81.4	81.5	Total
Jan-Mar	0	0	0	0	0	0	0	9 093	9 093
Apr-Jun	0	3 090	3 090	0	0	0	0	1 107	1 107
Jul-Sep	121	3 541	3 662	0	4 009	4 009	0	0	0
Oct-Dec	0	248	248	0	3 591	3 591	0	0	0
Total	121	6 879	7 000	0	7 600	7 600	0	10 200	10 200
Month	1975			1976			1977		
	FAO area 81.4	81.5	Total	FAO area 81.4	81.5	Total	FAO area 81.4	81.5	Total
Jan	0	0	0	0	605	605	0	1 519	1 519
Feb	0	0	0	0	688	688	0	1 267	1 267
Mar	0	0	0	0	652	652	0	969	969
Apr	0	0	0	0	709	709	0	969	969
May	0	116	116	0	632	632	0	838	838
Jun	0	0	0	0	610	610	0	752	752
Jul	0	0	0	0	719	719	0	1 175	1 175
Aug	0	71	71	0	489	489	0	1 203	1 203
Sep	0	367	367	0	579	579	0	1 122	1 122
Oct	0	610	610	0	713	713	0	966	966
Nov	87	801	888	0	709	709	0	354	354
Dec	0	548	548	242	653	895	0	366	366
Total	87	2 513	2 600	242	7 758	8 000	0	11 500	11 500

Table 24a: U.S.S.R. oreo catch (t) by species by fishing season

Species code	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	0	4 948	215	4 228	622	354	106	361	19	0	0
SSO	0	3 646	245	2	60	0	26	49	1	0	0
OEO	12 221	0	0	0	0	0	0	0	0	0	0
SOR	0	283	0	0	0	0	0	0	0	0	0
Total	12 221	8 877	460	4 230	682	354	132	410	20	0	0

Table 24b: U.S.S.R. oreo catch (t) by species by calendar year

Species code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BOE	0	3 921	1 235	3 191	1 668	354	186	280	19	0
SSO	0	3 251	640	2	60	0	26	49	1	0
OEO	12 221	-	0	0	0	0	0	0	0	0
SOR	0	0	283	0	0	0	0	0	0	0
Total	12 221	7 172	2 158	3 193	1 728	354	212	329	20	0

Table 25a: U.S.S.R. oreo catch (t) by EEZ area by fishing season

Area	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
C	1 366	8 122	0	0	0	0	0	0	0	0	0
D	8 041	614	243	0	0	0	0	0	0	0	0
E	17	14	217	4 230	682	354	132	410	20	0	0
F	2 798	127	0	0	0	0	0	0	0	0	0
Total	12 221	8 877	460	4 230	682	354	132	410	20	0	0

Table 25b: U.S.S.R. oreo catch (t) by EEZ area by calendar year

Area	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
C	1 366	6 417	1 705	0	0	0	0	0	0	0
D	8 041	614	245	0	0	0	0	0	0	0
E	17	15	208	3 193	1 728	354	212	329	20	0
F	2 798	127	0	0	0	0	0	0	0	0
Total	12 221	7 172	2 158	3 193	1 728	354	212	329	20	0

Table 26a: Japanese oreo catch (t) by species by fishing season

Species code	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	8	40	38	1	-	6	3	10	2	0	0
SSO	0	3	0	0	-	0	2	45	0	0	0
SOR	0	0	0	0	1	0	0	0	0	0	0
Total	8	42	38	1	1	6	5	55	2	0	0

Table 26b: Japanese oreo catch (t) by species by calendar year

Species code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BOE	7	39	2	39	-	6	8	5	-	0
SSO	0	3	0	0	-	-	37	11	0	0
SOR	0	0	0	0	0	1	0	0	0	0
Total	7	41	2	39	-	7	45	16	-	0

Table 27a: Japanese oreo catch (t) by EEZ area by fishing season

Area	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
B	1	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	-	0	0	0	0	0	0
D	0	36	38	1	1	6	0	0	0	0	0
E	0	3	0	0	0	0	0	2	15	0	0
F	-	3	0	0	-	0	0	0	0	0	0
G	1	0	0	0	0	0	0	0	0	0	0
H	7	-	0	0	0	0	2	6	0	0	0
Undef	0	0	38	1	1	6	5	55	2	0	0
Total	9	42									

Table 27b: Japanese oreo catch (t) by EEZ area by calendar year

Area	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
B	0	1	0	0	0	0	0	0	0	0
C	0	0	0	0	0	-	0	0	0	0
D	0	34	2	38	-	7	34	2	0	0
E	-	3	0	0	-	0	0	15	0	0
F	1	0	0	0	0	0	0	0	0	0
G	6	1	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0
Undef	7	41	2					7	44	-
Total										

Table 28a: Korean oreo catch (t) by species by fishing season

Species code	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	-	0	0	0	0	0	0	423	1 196	0	0
SSO	-	0	0	0	0	0	0	158	255	0	0
OEO	1	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	581	1 451	0	0

Table 29b: Korean oreo catch (t) by species by calendar year

Species code	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BOE	0	-	0	0	0	0	1 547	73	0	0
SSO	0	-	0	0	0	7	307	98	0	0
OEO	1	0	0	0	0	0	0	0	0	0
Total	1	-	0	0	0	7	1 854	171	0	0

Table 29a: Korean oreo catch (t) by EEZ area by fishing season

Area	1978-79	1979-80	1980-81	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
D	0	0	0	0	0	0	0	7	0	0	0
E	0	0	0	0	0	0	0	571	1 443	0	0
F	0	0	0	0	0	0	0	2	8	0	0
G	-	0	0	0	0	0	0	0	0	0	0
H	2	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	581	1 451	0	0

Table 29b: Korean oreo catch (t) by EEZ area by calendar year

Area	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
D	0	0	0	0	0	0	7	0	0	0
E	0	0	0	0	0	0	1 844	171	0	0
F	0	0	0	0	0	0	10	0	0	0
G	-	0	0	0	0	0	0	0	0	0
H	1	-	0	0	0	0	0	7	1 854	171
Total	1	-	0	0	0	0	0	581	1 451	0

Table 30a: Domestic oreo catch (t) by species by fishing season

Species	1981-82	1982-83	1983	1983-84	1984-85	1985-86	1986-87	1987-88
BOE	1	449	36	98	954	709	868	1 496
SSO	0	476	138	1 612	2 675	2 741	5 475	9 629
OEO	63	332	44	340	191	93	48	37
SOR	0	0	-	-	5	9	8	29
Total	64	1 258	218	2 050	3 826	3 552	6 399	11 190

Table 30b: Domestic oreo catch (t) by species by calendar year

Species	1981	1982	1983	1984	1985	1986	1987
BOE	1	23	540	151	1 264	477	1 312
SSO	0	213	1 038	1 902	3 104	3 035	8 593
OEO	27	263	204	365	172	51	45
SOR	0	0	-	-	9	9	5
Total	29	500	1 782	2 419	4 548	3 572	9 955

Table 31: Domestic oreo catch (t) by species by month

Month	1981			1982			1983		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total
Jan	0	0	0	0	0	0	9	0	9
Feb	0	0	0	0	0	0	7	0	277
Mar	0	0	0	0	0	0	20	0	0
Apr	0	0	0	0	0	0	26	1	33
May	0	0	0	0	-	0	43	0	43
Jun	0	0	-	0	53	4	0	58	31
Jul	0	0	0	0	0	0	6	0	150
Aug	1	0	-	0	2	0	0	0	102
Sep	0	0	0	0	0	0	3	0	0
Oct	0	0	0	0	7	67	15	0	0
Nov	0	0	0	0	0	0	89	43	16
Dec	0	0	0	0	3	10	14	0	90
Undef	0	0	0	0	25	13	82	27	31
Total	1	0	1	0	27	0	0	0	277
					29	23	213	27	395
					29	23	263	0	500
					29	23	0	0	540
					29	23	0	0	204
					29	23	0	0	1782
Month	1984			1985			1986		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total
Jan	4	434	62	0	500	159	379	16	556
Feb	0	212	33	0	245	185	31	1	398
Mar	5	38	73	0	115	268	565	25	84
Apr	0	18	33	0	51	104	152	0	102
May	10	25	28	0	63	36	155	18	284
Jun	0	-	35	0	35	8	82	0	338
Jul	0	0	-	0	-	-	13	1	26
Aug	0	0	0	0	0	7	146	2	196
Sep	1	247	23	0	271	55	87	-	104
Oct	12	201	45	-	259	258	557	39	196
Nov	5	573	25	-	603	140	640	15	957
Dec	113	154	10	0	277	43	160	7	145
Total	151	1	902	365	-	2 419	1	172	9
					365	1	264	3	104
					365	1	264	3	104
					365	1	264	3	104
Month	1987			1988			1989		
	BOE	SSO	OEO	SOR	BOE	SSO	OEO	SOR	Total
Jan	27	359	2	1	389	83	308	11	1
Feb	25	305	4	0	334	72	242	3	403
Mar	72	494	8	1	575	85	946	2	317
Apr	57	980	4	1	1 042	37	609	2	1 034
May	83	739	6	-	929	56	765	1	649
Jun	18	109	-	-	130	1	12	1	823
Jul	1	0	-	-	1	0	-	1	15
Aug	20	54	3	1	79	10	86	1	107
Sep	109	312	1	1	423	349	1 414	0	1 776
Oct	252	2	655	6	-	2 914	13	1	1
Nov	400	2	185	3	1	2 596	10	10	456
Dec	149	400	7	0	556	5	9 955	0	0
Total	1 312	8	593	45	-	3 035	51	9	5 572

Table 32a: Domestic oreo catch (t) by small trawlers by statistical area by fishing season

Statistical area	1983	1983-84	1984-85	1985-86	1986-87
08	0	0	-	-	0
09	0	0	0	-	0
10	0	0	-	-	-
11	0	0	-	0	-
12	0	0	0	-	1
13	0	0	7	25	27
14	0	2	6	21	39
15	31	287	224	85	109
16	0	-	-	10	6
17	0	-	0	0	2
18	4	88	1392	568	176
19	0	8	15	18	46
20	-	1	3	129	10
21	2	10	-	-	0
22	0	5	34	33	447
23	0	1	-	0	74
24	0	0	0	-	0
30	0	0	-	0	0
32	0	0	0	-	0
33	8	-	19	59	14
34	0	0	2	3	14
35	0	-	3	0	-
37	0	-	-	4	0
38	0	-	-	-	0
39	0	-	0	0	0
49	0	1	0	0	0
51	0	0	0	-	263
52	0	12	117	71	282
Undef	20	87	127	102	766
Total	65	501	1 950	1 128	2 277

Table 32b: Domestic oreo catch (t) by small trawlers by statistical area by calendar year

Statistical area	1983	1984	1985	1986	1987
08	0	0	-	-	0
09	0	0	0	-	0
10	0	-	0	-	0
11	0	0	-	0	-
12	0	0	0	1	1
13	0	0	10	26	25
14	0	3	6	25	36
15	75	284	224	55	114
16	0	-	9	7	0
17	0	-	0	0	2
18	13	362	1 490	282	178
19	0	10	12	23	42
20	1	2	74	61	11
21	7	4	-	0	0
22	2	19	48	15	1 016
23	11	1	-	74	57
24	0	0	0	-	0
26	0	0	0	0	73
30	0	0	-	0	0
32	0	0	0	-	0
33	8	-	74	9	9
34	0	0	5	14	-
35	0	-	3	0	-
37	0	-	0	4	0
38	-	-	0	-	0
39	0	-	0	0	0
49	0	1	0	0	0
51	0	0	0	-	670
52	0	51	128	24	334
Undef	60	99	659	907	333
Total	178	836	2 743	1 527	2 902

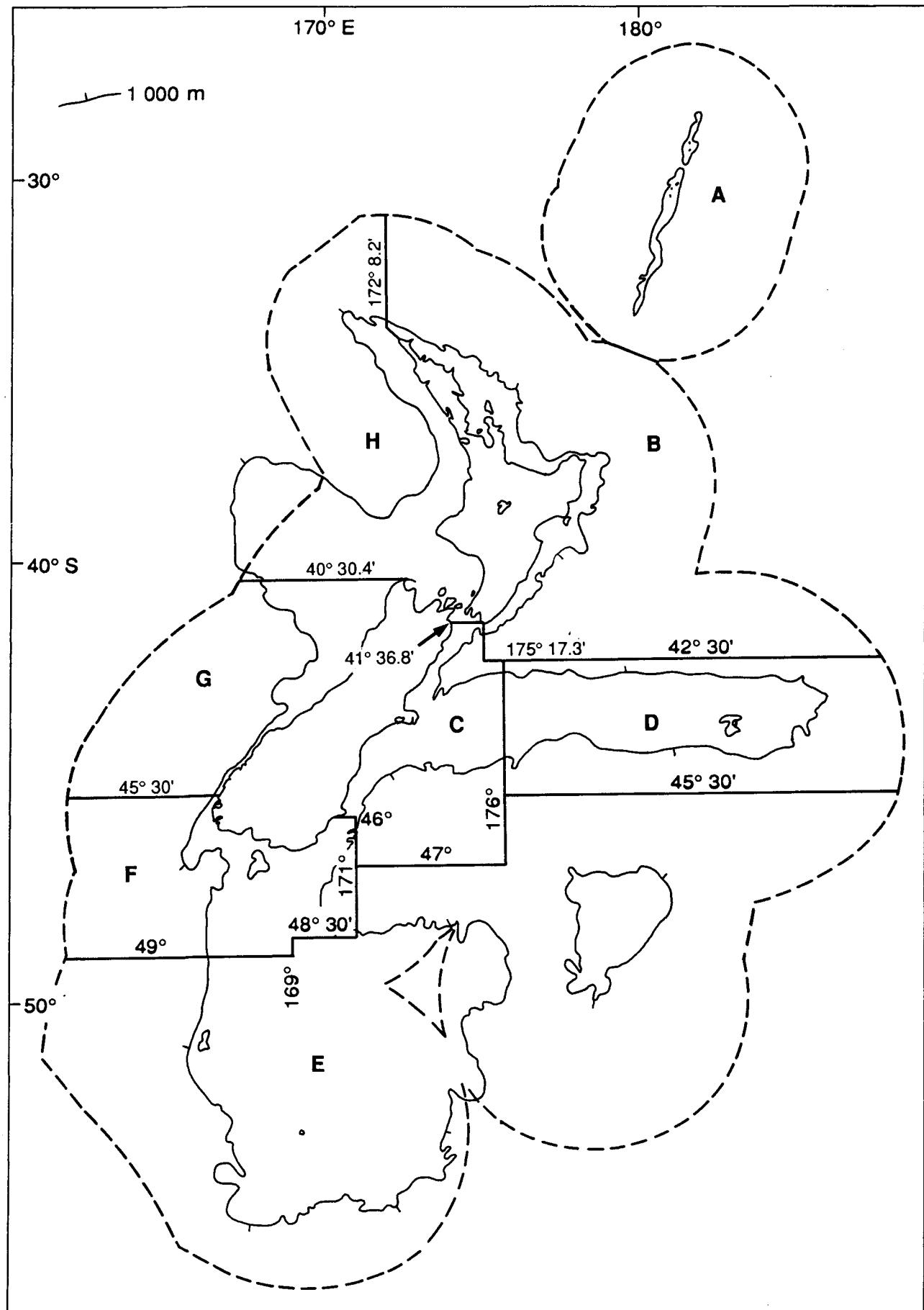


Figure 1: The New Zealand Exclusive Economic Zone fisheries management areas A-H (January 1984).

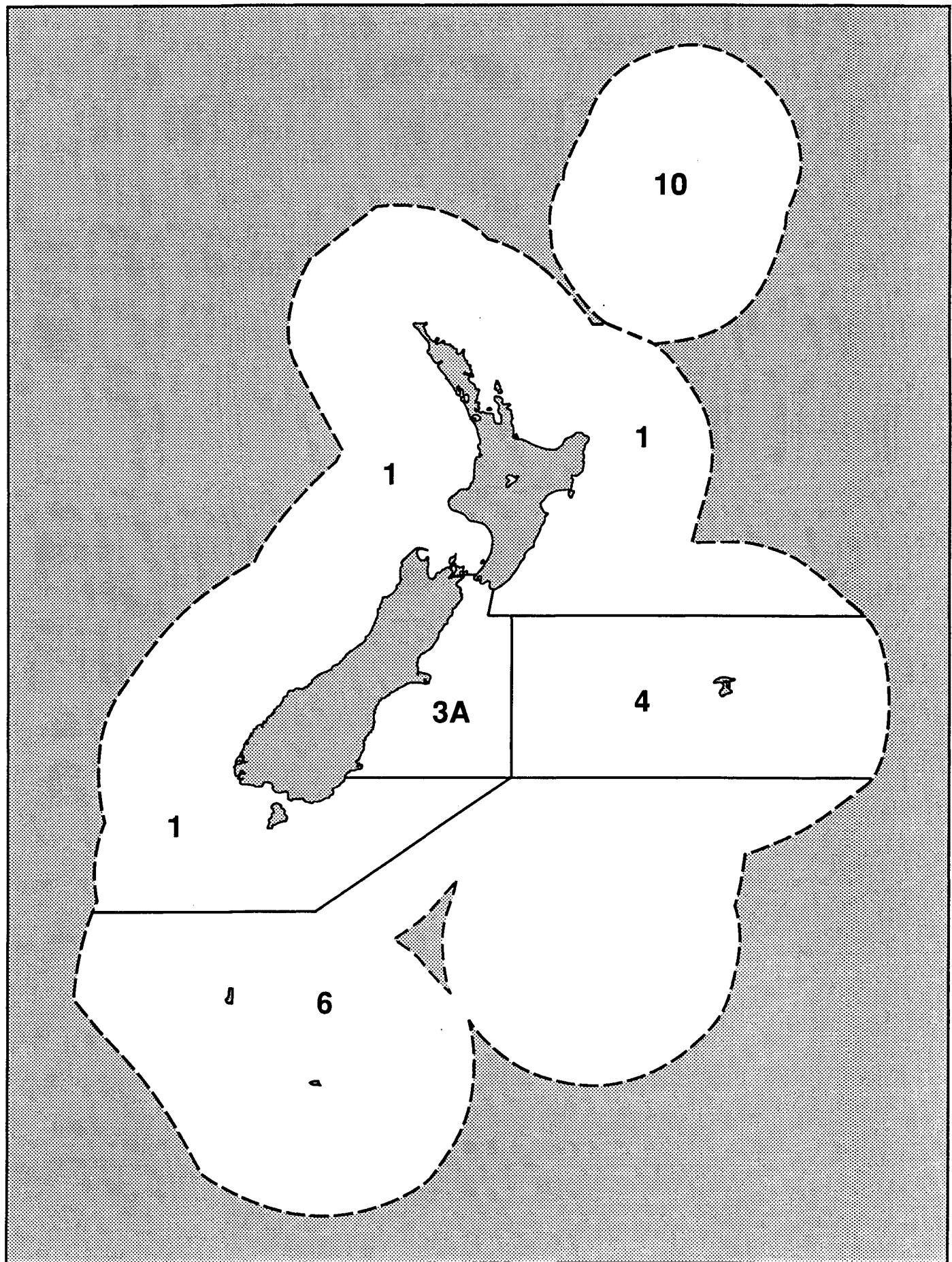


Figure 2: Fishstock areas used to manage catches of oreos from October 1986.

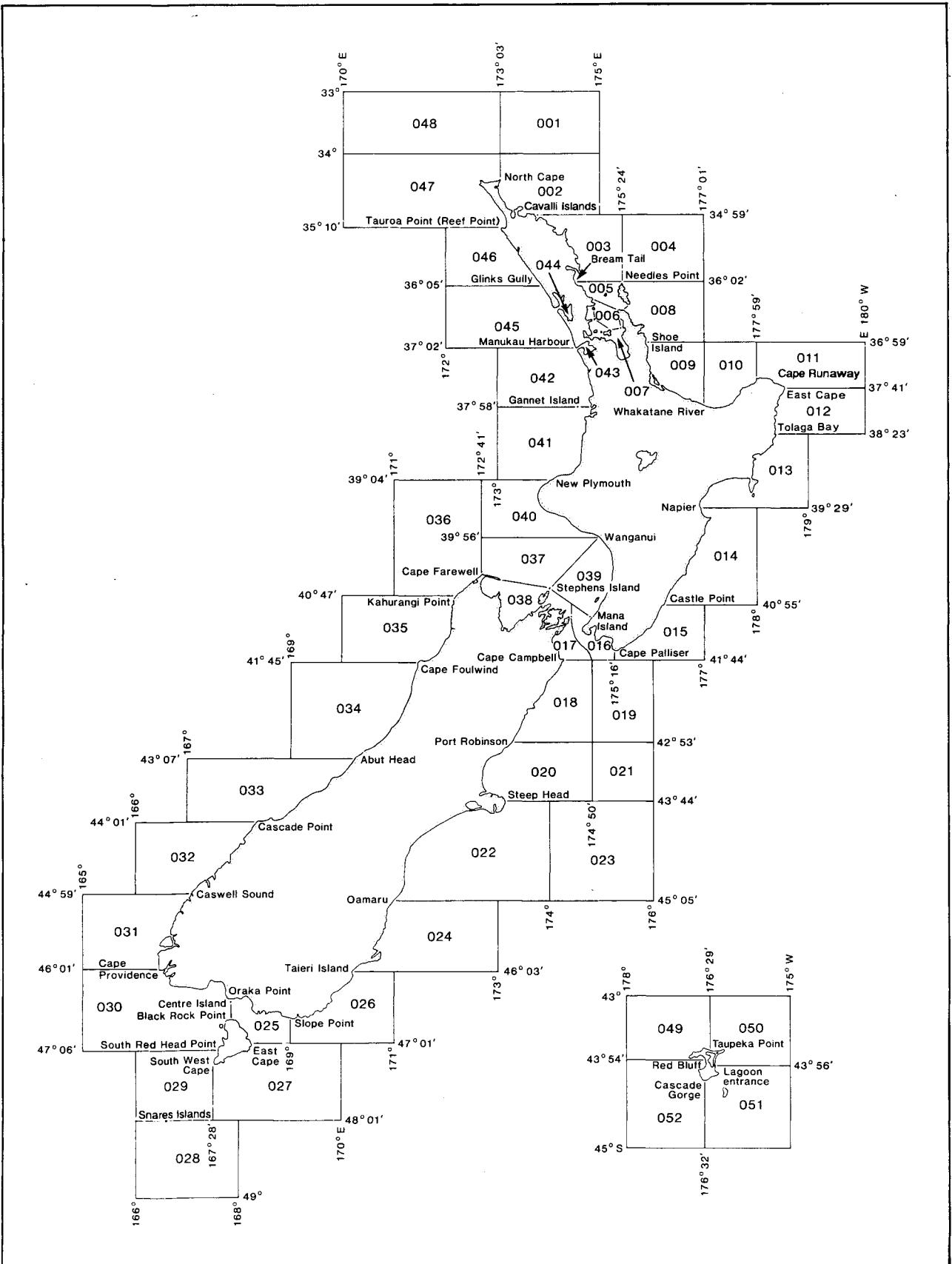


Figure 3: Domestic fishing statistical areas 001–052 used for reporting oreo catches by small trawlers.

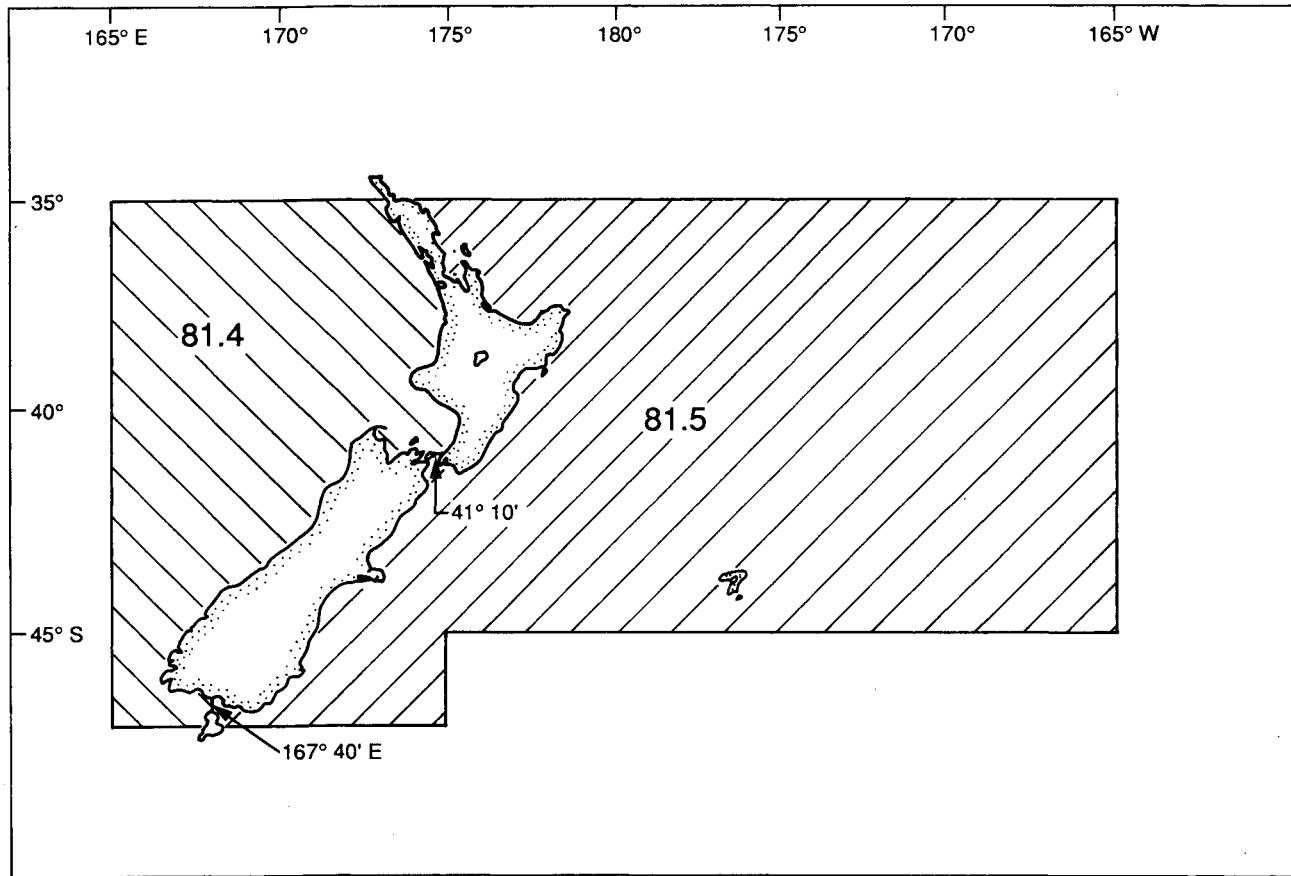


Figure 4: FAO fishing areas for statistical purposes for the New Zealand region (see Table 24).

Appendix 1: Definition of the fishing seasons used in this report

Fishing season	Definition of fishing season
1978–79	1 April 1978 to 31 March 1979
1979–80	1 April 1979 to 31 March 1980
1980–81	1 April 1980 to 31 March 1981
1981–82	1 April 1981 to 31 March 1982
1982–83	1 April 1982 to 31 March 1983
1983	1 April 1983 to 30 September 1983
1983–84	1 October 1983 to 30 September 1984
1984–85	1 October 1984 to 30 September 1985
1985–86	1 October 1985 to 30 September 1986
1986–87	1 October 1986 to 30 September 1987
1987–88	1 October 1987 to 30 September 1988

Appendix 2: Example of deepwater logbook return form

START NEW SHEET FOR EACH TOW

DATE
 Day Month Year

TARGET SPECIES CODE

GEAR CODE

HEADLINE HEIGHT (m)
 ↓

START OF TOW

TIME NZST	LATITUDE DEG	MIN		LONGITUDE DEG	MIN	E/W	DEPTH (m) NET	BOTTOM
			◆	S				

END OF TOW

TEMPERATURE °C
 SURFACE BOTTOM
 ↓ ↓

TIME
NZST FISHING SPEED
 KNOTS
 ↓

PAGE
 NO 1

ESTIMATED CATCH BEFORE PROCESSING

TOTAL WEIGHT
KILOGRAMS

IF NO CATCH FOR TOW
PLACE NIL HERE

FILL IN WEIGHTS OF MAIN SPECIES

MAIN SPECIES CODE	WEIGHT KILOGRAMS
SOUD	SOU
TARAKIHI	TAR
GEMFISH	SKI
RED COD	RCO
SILVER WAREHOU	SWA
WHITE WAREHOU	WWA
SPINY DOGFISH	SPD
HOST SHARK	GSH
GROPERS	HAP
MONKFISH or STARGAZER	STA
SEA PERCH	SPE
SILVER DORY	SDO
FROSTFISH	FRO
RED GURNARD	GUR
ORANGE ROUGHY	ORH
BLACK OREO	BOE
LOCKDOWN DORY	LDO
RIG	SPO
SCHOOL SHARK	SCH

MAIN SPECIES CODE	WEIGHT KILOGRAMS
BARRACOUTA	BAR
HOKI	HOK
JACK MACKEREL	JMA
LING	LIN
COMMON WAREHOU	WAR
SOUTHERN BLUE WHITING	SBW
OTHER SHARKS & DOGFISH	OSD
SMOOTH SKATE	SSK
HAKE	HAK
SNAPPER	SNA
SMOOTH OREO	SSO
JOHN DORY	JDO
SILVERSIDE	SSI
RATTAILS	RAT
MIX or OTHERS	MIX

Appendix 2—continued

PROCESSED CATCH WEIGHTS (Kilograms)

Total meal produced (kg)	Total oil produced (litres)	Main species discarded				Calculated total weight whole fish used for meal
		Species	Code	Species	Code	

COMMENTS	

Appendix 3: Example of domestic specified trawl form

16	START NEW SHEET FOR EACH TOW																																																																																																																															
Vessel Name																																																																																																																																
<input type="text"/> If pair fishing give pair vessel name <input type="text"/>																																																																																																																																
Date <input type="text"/> / <input type="text"/> / <input type="text"/>		Target Species <input type="text"/>	Code <input type="text"/>																																																																																																																													
Day Month Year																																																																																																																																
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">MAIN SPECIES</th> <th style="width: 10%;">Code</th> <th style="width: 40%;">No. Cases/ Baskets</th> </tr> </thead> <tbody> <tr><td>Orange roughy</td><td>ORH</td><td></td></tr> <tr><td>Hoki</td><td>HOK</td><td></td></tr> <tr><td>Barracouta</td><td>BAR</td><td></td></tr> <tr><td>Ling</td><td>LIN</td><td></td></tr> <tr><td>Hake</td><td>HAK</td><td></td></tr> <tr><td>Red cod</td><td>RCO</td><td></td></tr> <tr><td>Squid</td><td>SQU</td><td></td></tr> <tr><td>Gemfish (Sth. Kingfish)</td><td>SKI</td><td></td></tr> <tr><td>Gurnard</td><td>GUR</td><td></td></tr> <tr><td>Tarakihi</td><td>TAR</td><td></td></tr> <tr><td>Snapper</td><td>SNA</td><td></td></tr> <tr><td>Hapuku</td><td>HAP</td><td></td></tr> <tr><td>School shark</td><td>SCH</td><td></td></tr> <tr><td>Rig</td><td>SPO</td><td></td></tr> <tr><td>Spiky dogfish</td><td>SPD</td><td></td></tr> <tr><td>Ghost shark</td><td>GSH</td><td></td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		MAIN SPECIES	Code	No. Cases/ Baskets	Orange roughy	ORH		Hoki	HOK		Barracouta	BAR		Ling	LIN		Hake	HAK		Red cod	RCO		Squid	SQU		Gemfish (Sth. Kingfish)	SKI		Gurnard	GUR		Tarakihi	TAR		Snapper	SNA		Hapuku	HAP		School shark	SCH		Rig	SPO		Spiky dogfish	SPD		Ghost shark	GSH														<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">MAIN SPECIES</th> <th style="width: 10%;">Code</th> <th style="width: 40%;">No. Cases/ Baskets</th> </tr> </thead> <tbody> <tr><td>Jack mackerel</td><td>JMA</td><td></td></tr> <tr><td>Common warehou</td><td>WAR</td><td></td></tr> <tr><td>Silver warehou</td><td>SWA</td><td></td></tr> <tr><td>White warehou</td><td>WWA</td><td></td></tr> <tr><td>Black oreo dory</td><td>BOE</td><td></td></tr> <tr><td>Smooth oreo dory</td><td>SSO</td><td></td></tr> <tr><td>John dory</td><td>JDO</td><td></td></tr> <tr><td>Lookdown dory</td><td>LDO</td><td></td></tr> <tr><td>Mirror dory</td><td>MDO</td><td></td></tr> <tr><td>Alfonsino</td><td>BYX</td><td></td></tr> <tr><td>Stargazers (Monkfish)</td><td>STA</td><td></td></tr> <tr><td>Sea perch</td><td>SPE</td><td></td></tr> <tr><td>Rattails</td><td>RAT</td><td></td></tr> <tr><td>Silverside</td><td>SSI</td><td></td></tr> <tr><td>Southern blue whiting</td><td>SBW</td><td></td></tr> <tr><td>Skate</td><td>SKA</td><td></td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	MAIN SPECIES	Code	No. Cases/ Baskets	Jack mackerel	JMA		Common warehou	WAR		Silver warehou	SWA		White warehou	WWA		Black oreo dory	BOE		Smooth oreo dory	SSO		John dory	JDO		Lookdown dory	LDO		Mirror dory	MDO		Alfonsino	BYX		Stargazers (Monkfish)	STA		Sea perch	SPE		Rattails	RAT		Silverside	SSI		Southern blue whiting	SBW		Skate	SKA													
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Tarakihi	TAR																																																																																																																															
Snapper	SNA																																																																																																																															
Hapuku	HAP																																																																																																																															
School shark	SCH																																																																																																																															
Rig	SPO																																																																																																																															
Spiky dogfish	SPD																																																																																																																															
Ghost shark	GSH																																																																																																																															
MAIN SPECIES	Code	No. Cases/ Baskets																																																																																																																														
Jack mackerel	JMA																																																																																																																															
Common warehou	WAR																																																																																																																															
Silver warehou	SWA																																																																																																																															
White warehou	WWA																																																																																																																															
Black oreo dory	BOE																																																																																																																															
Smooth oreo dory	SSO																																																																																																																															
John dory	JDO																																																																																																																															
Lookdown dory	LDO																																																																																																																															
Mirror dory	MDO																																																																																																																															
Alfonsino	BYX																																																																																																																															
Stargazers (Monkfish)	STA																																																																																																																															
Sea perch	SPE																																																																																																																															
Rattails	RAT																																																																																																																															
Silverside	SSI																																																																																																																															
Southern blue whiting	SBW																																																																																																																															
Skate	SKA																																																																																																																															

Appendix 4: Example of domestic landed catch form

15		LANDED CATCH FORM																																																																																																																																																																																																																																																															
Registered No.		Vessel name		For Trawl, Danish Seine and Purse Seine fishermen only.																																																																																																																																																																																																																																																													
If pair fishing give pair vessel Registered No.		Name		Port of landing																																																																																																																																																																																																																																																													
Factory name		Code		First day fished		Last day fished																																																																																																																																																																																																																																																											
				Day	Month	Year	Day	Month	Year																																																																																																																																																																																																																																																								
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<table border="1"> <thead> <tr> <th>Species</th> <th>Code</th> <th>State</th> <th>Weight (kg)</th> <th>Species</th> <th>Code</th> <th>State</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr><td>Barracouta</td><td>BAR</td><td></td><td></td><td>Snapper - ordinary</td><td>SNA</td><td></td><td></td></tr> <tr><td>Blue cod</td><td>BCO</td><td></td><td></td><td>Snapper - premium</td><td>SNP</td><td></td><td></td></tr> <tr><td>Blue nose (Bonita)</td><td>BNS</td><td></td><td></td><td>N.Z. sole</td><td>ESO</td><td></td><td></td></tr> <tr><td>Elephant fish</td><td>BLE</td><td></td><td></td><td>Lemon sole</td><td>LSO</td><td></td><td></td></tr> <tr><td>Sand flounder (Dabs)</td><td>GFL</td><td></td><td></td><td>Sole - mixed</td><td>SOL</td><td></td><td></td></tr> <tr><td>Y. belly flounder</td><td>YBF</td><td></td><td></td><td>Squid</td><td>SOU</td><td></td><td></td></tr> <tr><td>Flounder - mixed</td><td>FLO</td><td></td><td></td><td>Stargazer (Monkfish)</td><td>STA</td><td></td><td></td></tr> <tr><td>Gemfish (S. kingfish)</td><td>SKI</td><td></td><td></td><td>Tarakiri</td><td>TAR</td><td></td><td></td></tr> <tr><td>Gurnard</td><td>GUR</td><td></td><td></td><td>Trevally</td><td>TRE</td><td></td><td></td></tr> <tr><td>Hake (English)</td><td>HAK</td><td></td><td></td><td>Common warehou</td><td>WAR</td><td></td><td></td></tr> <tr><td>Hapuku</td><td>HAP</td><td></td><td></td><td>Silver warehou</td><td>SWA</td><td></td><td></td></tr> <tr><td>Hoki</td><td>HOK</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>John dory</td><td>JDO</td><td></td><td></td><td>Albacore</td><td>ALB</td><td></td><td></td></tr> <tr><td>Kahawai</td><td>KAH</td><td></td><td></td><td>Skipjack</td><td>SKJ</td><td></td><td></td></tr> <tr><td>Kingfish (Yellowtail)</td><td>KIN</td><td></td><td></td><td>Sth bluefin tuna</td><td>STN</td><td></td><td></td></tr> <tr><td>Leatherjackets</td><td>LEA</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Ling</td><td>LIN</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Jack mackerel</td><td>JMA</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Blue mackerel</td><td>EMA</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Moki</td><td>MOK</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Octopus</td><td>OCT</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Orange roughy</td><td>ORH</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Oreo dory</td><td>OEO</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Lookdown dory</td><td>LDO</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Red cod</td><td>RCO</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Red cod</td><td>RCO</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Rig (Spot'd dogfish)</td><td>SPO</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>School shark</td><td>SCH</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Ghost shark</td><td>GSH</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Skate</td><td>SKA</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>										Species	Code	State	Weight (kg)	Species	Code	State	Weight (kg)	Barracouta	BAR			Snapper - ordinary	SNA			Blue cod	BCO			Snapper - premium	SNP			Blue nose (Bonita)	BNS			N.Z. sole	ESO			Elephant fish	BLE			Lemon sole	LSO			Sand flounder (Dabs)	GFL			Sole - mixed	SOL			Y. belly flounder	YBF			Squid	SOU			Flounder - mixed	FLO			Stargazer (Monkfish)	STA			Gemfish (S. kingfish)	SKI			Tarakiri	TAR			Gurnard	GUR			Trevally	TRE			Hake (English)	HAK			Common warehou	WAR			Hapuku	HAP			Silver warehou	SWA			Hoki	HOK							John dory	JDO			Albacore	ALB			Kahawai	KAH			Skipjack	SKJ			Kingfish (Yellowtail)	KIN			Sth bluefin tuna	STN			Leatherjackets	LEA							Ling	LIN							Jack mackerel	JMA							Blue mackerel	EMA							Moki	MOK							Octopus	OCT							Orange roughy	ORH							Oreo dory	OEO							Lookdown dory	LDO							Red cod	RCO							Red cod	RCO							Rig (Spot'd dogfish)	SPO							School shark	SCH							Ghost shark	GSH							Skate	SKA						
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Gutted	GUT	Headed, gutted and skinned		HGS																																																																																																																																																																																																																																																													
Headed and gutted	HGU	Filleted		FIL																																																																																																																																																																																																																																																													
Gilled and gutted	GGU	Trimmed fillets		TRF																																																																																																																																																																																																																																																													

SIGNATURE

TRAWL FISHING RETURN

01

Registered no.

Name of vessel

Name of vessel

Port of London

Year
Month

Table 3. Example of Committee Summary

Complete one line for each tow, or one line for each days fishing, whichever suits you best

SIGNATURE

Appendix 6: Types of logbooks used by deepwater vessels

Years used	Logbook type	Preprinted oreo codes
1978–81	cream/yellow	BOE/SSO
1980–81	red	not on form
Apr 1981–83	blue	BOE/SSO
1982–89	orange/yellow	BOE/SSO

Logbook title:

Cream/yellow: New Zealand foreign fishing craft catch effort record. Trawl.

Red: New Zealand foreign fishing craft catch effort record. Trawl.

Blue: New Zealand foreign fishing craft catch effort record. Trawl.

Orange/yellow: New Zealand catch effort logbook. Trawl. For: foreign licensed vessels, joint venture vessels, (or foreign chartered vessels), specified New Zealand vessels.

