A brief history of fishing in the Prince Edward Islands, South Africa, 1950–2010[1]

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Abstract

To reconstruct the catch history in the waters of the Prince Edward Islands (South Africa) from 1950 to 2010, catch data were obtained from the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) *Statistical Bulletin* (subareas 58.6 and 58.7), CCAMLR stock assessment reports, as well as South African national commercial and observer datasets. These were used to estimate removals (both landed and discarded) in each of the statistical areas 51, 58.6 and 58.7. Catches of Patagonian toothfish (*Dissostichus eleginoides*), the only target species around the islands, show a sharp increase from 1994, peaking at 22,949 tonnes in 1997, most of which (93%) was taken by vessels operating illegally in the area. These large removals during the first years of the fishery had the effect of unsustainable "mining" of the stock, and thereafter catches fell sharply. At present, a small legal fishery remains operational in the area.

Introduction

The Prince Edward Islands

Located in the south-western Indian Ocean, the Prince Edward archipelago (46°45' S, 37°45' E) comprises two volcanic islands, Marion and Prince Edward (Figure 1). Covering 270 km², Marion Island is the larger of the two, while Prince Edward, lying 22 km northeast, is 45 km² in extent. The archipelago and its 473,380 km² Exclusive Economic Zone (EEZ; www.seaaroundus.org; accessed: July, 2012) are part of the sovereign territory of South Africa, some 2,000 km to the north-west. The oceanographic position of the islands is within the main path of the eastward-flowing Antarctic Circumpolar Current. The islands are managed as a Special Nature Reserve and are not occupied permanently, although there is a scientific base on Marion Island.

Most of the Prince Edward Islands' EEZ falls within subareas 58.7 and 58.6 of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), of which South Africa is a signatory (Figure 1). A small portion of the EEZ extends into CCAMLR subarea 58.4.4 to the south. In the north, part of the EEZ lies beyond CCAMLR's jurisdiction in an area designated as the Western Indian Ocean (area 51; Figure 1) by the Food and Agriculture Organization of the United Nations (FAO).

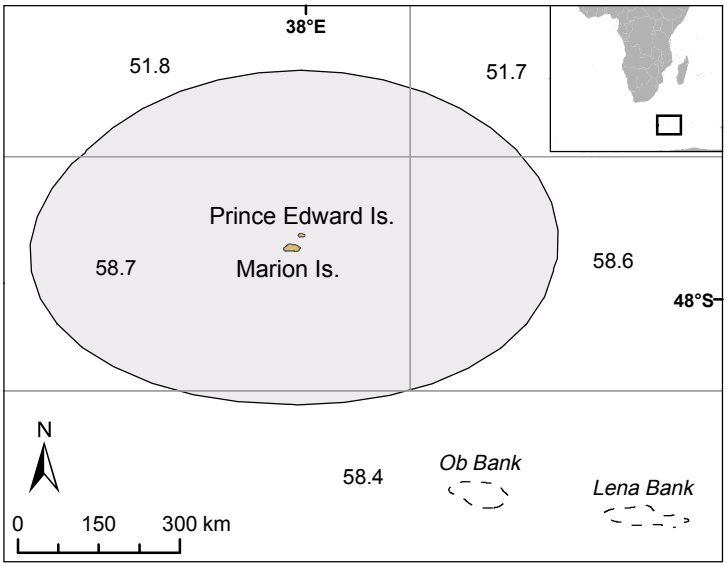

Figure 1. Map of the Prince Edward Islands, its EEZ, and the boundaries of CCAMLR statistical subareas 58.6, 58.7 and 58.4. FAO statistical area 51 lies to the north. Dashed lines, representing ~100 m isobaths, indicate the position of Ob and Lena banks.

Fisheries and their resource species

Kock (1992) provides a detailed description of the historical development of fishing in the Southern Ocean and is the basis for the brief outline presented here. Exploratory fishing in other parts of the southern Indian Ocean began in the late 1960s after several fish surveys by Soviet Union vessels around Kerguelen Islands between 1958 and 1961. French, Japanese, Polish and Soviet vessels investigated and exploited fish populations in the shelf waters of the region, including around the Kerguelen-Heard Ridge, Crozet Islands, and Ob and Lena Banks. Commercial fishing, however, proved largely unprofitable and was subsequently abandoned by most vessels. It is likely that similar exploratory fishing occurred in Prince Edward Islands' waters at this time (M. Purves, pers. comm., Marine Stewardship

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Council, Southern Africa Office) and there are reports of catches from exploratory Soviet Union vessels operating around the Prince Edward Islands during the 1970s and 1980s; however these catches would have been very small – no more than 5-10 tonnes per year (E. Pakhomov, pers. comm., University of British Columbia). Kock (1994) estimates that of the 924,000 tonnes of finfish that had been taken from the Indian Ocean sector of the Southern Ocean by the 1992/93 season, 94.4% was fished from around Kerguelen Islands.

Early in 1996, reports that large catches of Patagonian toothfish (*Dissostichus eleginoides*) were being taken in the vicinity of the Prince Edward Islands began surfacing, and unregulated vessels flocked to the area (Purves 1997). Motivated by declining toothfish catches around South America during the mid-1990s, vessels were moving eastward in search of new fishing grounds (Agnew 2000). From as early as 1995, and possibly 1994, there are unconfirmed reports of toothfish vessels operating around the Prince Edward Islands (Appendix R in CCAMLR 2010). In October 1996, a licensed longline fishery for Patagonian toothfish was initiated (Appendix R in CCAMLR 2010). This was the first commercially viable finfish fishery around the archipelago (Japp *et al.* 2008) and it has been the only legal target species. All fishing vessels were equipped with scientific observers, in accordance with the CCAMLR Scheme of International Scientific Observation, which requires observers on all member-countries' vessels operating in CCAMLR waters (Tilney and Purves 1999). However, South Africa lacked the capacity to manage a distant water fishery and protect the islands' resources. As a result, the legal fishery developed in parallel with high levels of illegal fishing in the EEZ, as well as unregulated fishing in the adjacent high seas (Brandão *et al.* 2002). Within three years, the Patagonian toothfish stocks had been decimated (Nel 2008). Improved enforcement of neighboring EEZs, such as those around Crozet and Keurguelen Islands (France) and Heard and McDonald Islands (Australia), exacerbated the situation for South Africa by displacing illegal activity into the unprotected waters of the Prince Edward Islands (Japp *et al.* 2008). Inter-governmental cooperation between Australia, France and South Africa has since improved and led to arrests of illegal vessels (Japp *et al.* 2008). There has been no evidence of illegal fishing for toothfish in the Prince Edward Islands since 2006 (Appendix L in CCAMLR 2011).

Catch per unit effort (CPUE) data showed a steep decline from 0.35-0.50 kg/hook in 1995/96 and 1996/97 to less than 0.1 kg/hook in the early 2000s (Appendix R in CCAMLR 2010). Stock assessment results derived from CPUE and catch-at-length data are inconsistent, however (Brandão and Butterworth 2009). Recently, toothfish catches have been lost to depredation by cetaceans, mainly killer whales (*Orcinus orca*), but also sperm whales (*Physeter catodon*). On some lines, observers have estimated losses as high as 80-90% (Kock *et al.* 2006). Pot fishing was introduced in the 2003/2004 season to alleviate the problem (Watkins 2006; Brandão and Butterworth 2007), but with limited success. The method has not been employed since April 2005 (Brandão and Butterworth 2009).

Up to seven operators have been licensed by South Africa to fish around the islands in any one year, but since the 2001/02 season, only two vessels have fished each season. One vessel has been active since the 2005/06 season, although a second vessel entered the fishery in late 2010 (Appendix R in CCAMLR 2010).

Incidental mortality in both legal and illegal toothfish fishing operations has resulted in the deaths of between 8,500 and 18,500 seabirds, mainly white-chinned petrel (*Procellaria aequinoctialis*; 6,500 to 14,000 individuals), breeding on the Prince Edward Islands during the period from 1996-2000 (Nel *et al.* 2002). In order to reduce this mortality, fishing activities have been prohibited within 12 nm of the islands since December 2004 (Lombard *et al.* 2008). South Africa has also declared its intention to establish a zoned marine protected area around the islands. The proposal is currently under review by the South African Department of Environmental Affairs (CCAMLR 2011).

Methods

CCAMLR catch statistics for statistical subareas 58.7 and 58.6 were used as the basis of this catch reconstruction. These data were extracted from the database version of the CCAMLR 2011 *Statistical Bulletin*, Vol. 23 (available at www.ccamlr.org). Comparison of CCAMLR data with national commercial data and observer data acquired from South Africa's Department of Agriculture, Forestry and Fisheries (both of which are reported to CCAMLR), revealed that the information from CCAMLR's *Statistical Bulletin* was more comprehensive. While trips are likely not all monitored by observers, and commercial reporting has tailed off over time, we assume that CCAMLR has accounted for this in its reporting of catch data in the *Statistical Bulletin*. According to Tilney and Purves (1999), observers monitored 28 of 30 fishing trips in the EEZ from October 1996 to January 1999.

Subarea 58.6 includes part of both the Prince Edward Islands EEZ and the Crozet Islands (France) EEZ. Three countries have reported catches in this area: France, South Africa and Japan. For the purposes of this reconstruction, only catches taken by South Africa were considered, as South Africa has not issued any access agreements allowing foreign vessels to fish in the Prince Edward Island EEZ specifically (R. Leslie, pers. comm., Department of Agriculture, Forestry and Fisheries, South Africa), whereas Japan has had agreements with France. The CCAMLR *Statistical Bulletin* reports catches only from South Africa in subarea 58.7, most of which (65%) lies within the Prince Edward Islands EEZ, therefore all these catches were considered as taken within the EEZ.

Catches presented by CCAMLR according to "season," which runs from December 1st of a given year to November 30th of the next year, were converted to calendar years by assigning catch entirely to the second year of the season. For example, catches in the 2002/03 season were considered as taken in 2003. This was done to facilitate catch mapping (Watson *et al.* 2004) and does not affect cumulative catches.

As part of the Prince Edward Islands EEZ lies beyond CCAMLR's jurisdiction (in FAO area 51), catches taken in this region are not reported in the *Statistical Bulletin*. However, catches of Patagonian toothfish (only) taken in the area 51 portion of the EEZ are reported in CCAMLR's Fishery Report: *Dissostichus eleginoides* Prince Edward

Islands South African EEZ (Subareas 58.6 and 58.7, CCAMLR 2011). Given the three datasets available for area 51 (CCAMLR Fishery Report and the two national datasets), we chose to amalgamate the three and work with the highest catches reported for each taxon group for a given year. Careful considerations were given to ensure there was no double counting of taxa as a result of the amalgamation. Where reported species were found not to occur at the Prince Edward Islands according to distributions on FishBase (www.fishbase.org; accessed: June, 2012) and in Fischer and Hureau (1985), the catches were included in the next highest taxon grouping. This applied generally to very small catches (1 t) and usually for a single year only.

Although a small portion of the Prince Edward Islands EEZ extends into subarea 58.4.4, the CCAMLR *Statistical Bulletin* does not report catches for South Africa in this region. This was confirmed by mapping of effort data contained in the national datasets, which revealed that no gear has been set in this part of the EEZ.

While a pot fishery was conducted from one vessel from 2003 to 2005 (Brandão and Butterworth 2009), there are no records of this gear in the CCAMLR *Statistical Bulletin*. Catches for this gear were taken from Brandão and Butterworth (2007): 73 tonnes in 2004 and 104 tonnes in 2005. To apportion the catch by statistical area, estimates of the spread of the pot fishing catch were made based on information contained in Lombard (2008). The proportions were estimated to be 80% within area 58.7, and 10% each within area 58.6 and area 51.

Illegal catches

Estimates of the illegal catch of Patagonian toothfish from 1997 to 2010 were taken from a stock assessment report of the CCAMLR Working Group on Fish Stock Assessment (Brandão and Butterworth 2007). It is assumed that vessels operating illegally were using longline gear. Linear interpolation was used to estimate catches for 1994, 1995 and 1996, as there are records of illegal vessels likely operating in the area starting from 1994. This catch was then allocated to the subareas 58.6 and 58.7, and area 51 based on the proportion of legal catch taken each year from each statistical area. Thus, we assumed proportionality between the spatial distribution of legal and illegal fishing. During the years for which there was no legal catch (1994 and 1995) the proportions as calculated for the first year of the legal fishery (1996) were applied.

By-catch

Catches of non-target species (anything other than Patagonian toothfish) as reported in the CCAMLR *Statistical Bulletin* were considered by-catch. By calculating the proportion of by-catch as a fraction of the total catch for each taxon per year in each area, this ratio could be applied to the illegal catch in order to estimate the likely by-catch of non-target species. Thus, it is assumed that illegal fishing resulted in similar removals of by-catch as the legal fishery. No by-catch information was available for the first years of the legal fishery (1996 in areas 51, 58.6 and 58.7, and 1997 in areas 51 and 58.6). We assume that by-catch was taken at this time, therefore by-catch (and discard, see below) ratios calculated in each statistical area for the first year for which such information is available were applied to the earlier years.

For the two years that pots were in use (2004 and 2005), it was assumed that by-catch rates were the same as those reported by Watkins (2006), which resulted from a detailed analysis of two fishing trips where by-catch constituted 19% of total catch, with crab species (family Lithodidae) accounting for 58% of this.

Discards

Discarding is monitored by observers and included in national statistics, however the CCAMLR *Statistical Bulletin* includes only aggregated catch information. Records of catches for which there was information on discarding in the two national datasets supplied by South Africa's Department of Agriculture, Forestry and Fisheries were used to calculate a discard rate for each taxon group per year in areas 51, 58.6 and 58.7. For the years in which there was no discard information, linear interpolation was employed to estimate discarding. When there was no information for a particular taxon in one area, the average discard rate calculated for the same taxon in the other area was used.

It is assumed that discarding is as prevalent (or more prevalent) in the illegal fishery as it is in the legal fishery. Therefore, to calculate conservative estimates of discarding in the illegal fishery, discard rates per taxon per year per statistical area derived from the legal fishery were applied to estimates of illegal catch.

To quantify discarding in the pot fishery, a discard rate of 60% was applied, a figure reported by Kelleher (2005) for a Chilean experimental pot fishery for toothfish.

There are no recreational or artisanal fisheries operating in the Antarctic Ocean, and unreported catches in the legal fishery are not a problem due to the high level of observer coverage (Pramod *et al.* 2008).

Results and Discussion

The results of this work are intended to provide a comprehensive reconstruction of historic catches from the Prince Edward Islands of South Africa from 1950 to 2010. This information will contribute to refining the global catch mapping procedure developed by Watson *et al.* (2004).

In the Southern Ocean, Antarctic krill (*Euphausia superba*) makes up the majority of fisheries catches with around 200,000 tonnes taken from the CCAMLR area during 2010 (CCAMLR 2010). While krill is not caught around the Prince Edward Islands, removals of Patagonian toothfish, the only legal target species in the islands, are comparatively small with catches peaking around 23,000 tonnes in 1997 (Figure 2a). These removals were dominated by illegal catches, which are estimated to have exceeded the legal catch during every year prior to 2000 – by as much as 14 times in 1996. Despite the significant levels of illegal catch presented here, it is possible that these estimates are conservative as they are based on CCAMLR estimates of illegal fishing, which reports of trade-based assessments of the illegal, unreported and unregulated (IUU) toothfish catch suggest are underestimates (Lack and Sant 2001; Lack 2008). In its 1997 Report of the Working Group on Fish Stock Assessment, CCAMLR also notes the discrepancy between illegal catches estimated using catch and effort data, and those estimated using landings (CCAMLR 1997).

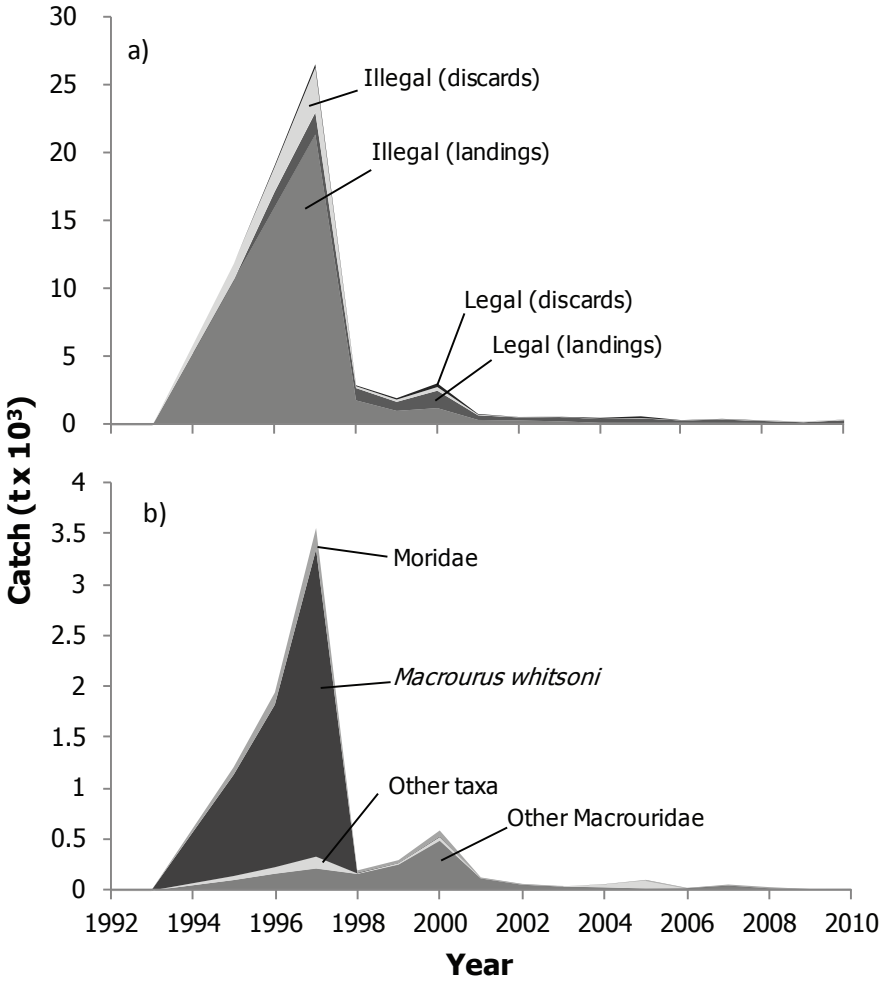

Figure 2. Fisheries catches (in metric tonnes) for the Prince Edward Islands (South Africa) drawn from the CCAMLR 2011 Statistical Bulletin, Vol. 23 (subareas 58.6 and 58.7), supplemented with information from the South African Department of Agriculture, Forestry and Fisheries, and SC-CCAMLR (2011), as well as illegal catch information acquired from Brandão and Butterworth (2007) presented for (a) total catch disaggregated according to catch type and (b) by-catch species only.

Catches of Patagonian toothfish – a long-lived, unproductive species with low fecundity – declined sharply after 1997 as a result of the unsustainable illegal catch taken during the preceding years, which had the effect of "mining" the species (Agnew 2000). The decrease in CPUE resulted in most illegal vessels abandoning the area (Agnew 2000) as well as an expansion of legal fishing effort from an initial concentration around the islands' shelf area and the closest seamounts to dispersed exploitation of the plateau and all seamounts in the northern portion of the EEZ (Lombard *et al.* 2008). A small legal fishery remains operational in the area despite the depleted state of the Patagonian toothfish stock.

CCAMLR was the first international convention to adopt an ecosystem approach to fisheries management (Constable *et al.* 2000; Miller 2011), an approach that aims to take into account the relationship between species and oceanographic processes that together form the marine Antarctic ecosystem (Miller 2011). Information on fishery activity and catches, including by-catch and discards, are reported to CCAMLR by both observers and member countries. This information is then aggregated and reported in the CCAMLR *Statistical Bulletins*. Therefore, although information on by-catch and discarding are collected and included in catch statistics, these removals are not identified as such.

Using information on catches of non-target species and averaging the yearly proportions, by-catch was calculated to account for 11% of the total catch. Rattails (family Macrouridae), mostly Whitson's grenadier (*Macrourus whitsoni*), made up the largest part of the by-catch (79%), with the morid cod family (Moridae) making up the second highest proportion (11%; Figure 2b). These proportions are in line with those reported by Tilney and Purves (1999): macrourids contributing 86% of the by-catch and morids 9%. However, our results show that by-catch contributed a larger proportion of the total catch (11% rather than 5.3%).

While most of the by-catch is discarded (85%, yearly average), the absolute volume of discards in the Antarctic generally (Pramod *et al.* 2008), and around the Prince Edward Islands specifically, is small, with an estimated maximum of 270 tonnes discarded during 2000 by the legal fishery (17% of the total legal catch for that year). When one considers discarding by vessels operating illegally around the islands, this maximum jumps to 3,238 tonnes in 1997. This equates to 9.4% (yearly average) of the total catch of both fisheries. Only small proportions of Patagonian toothfish were discarded, with an average yearly discard rate of 3% since the illegal fishery commenced in 1994.

Although we acknowledge that there are uncertainties associated with this approach for estimating catch histories (for example, using linear interpolation to approximate illegal catches and discard rates) and that the results are

not statistically rigorous, they offer a more useful estimation than the alternative – that a lack of data should be interpreted as zero catch (Pauly 1998; Zeller *et al.* 2007).

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References

Agnew DJ (2000) The illegal and unregulated fishery for toothfish in the Southern Ocean, and the CCAMLR catch documentation scheme. Marine Policy 24: 361-374.

Brandão A and Butterworth DS (2007) 2007 assessment of the toothfish (*Dissostichus eleginoides*) resource in the Prince Edward Islands vicinity. CCAMLR WG-FSA. 25 p.

Brandão A and Butterworth DS (2009) A proposed management procedure for the toothfish (*Dissostichus eleginoides*) resource in the Prince Edward Islands vicinity. CCAMLR Science 16: 33–69.

Brandão A, Butterworth DS, Watkins BP and Miller DGM (2002) A first attempt at an assessment of the Patagonian toothfish (*Dissostichus eleginoides*) resource in the Prince Edward Islands EEZ. CCAMLR Science 9: 11-32.

CCAMLR (1997) Report of the sixteenth meeting of the Scientific Committee. SC-CAMLR-XVI, CCAMLR, Hobart. 442 p.

CCAMLR (2010) Report of the twenty-ninth meeting of the Scientific Committee. SC-CAMLR-XXIX, CCAMLR, Hobart. 420 p.

CCAMLR (2011) Report of the thirtieth meeting of the Scientific Committee. SC-CAMLR-XXX, CCAMLR, Hobart. 454 p.

Constable AJ, de la Mare WK, Agnew DJ, Everson I and Miller D (2000) Managing fisheries to conserve the Antarctic marine ecosystem: practical implementation of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). ICES Journal of Marine Science 57: 778–791.

Fischer W and Hureau JC, editors (1985) FAO species identification sheets for fishery purposes: Southern Ocean. Food and Agriculture Organization of the United Nations, Rome. 470 p.

Japp D, Purves M and Nel DC (2008) Draft management plan for the Prince Edward Islands marine protected area. pp. 101-136 *In* Nel D and Omardien A (eds.), Towards the development of a marine protected area at the Prince Edwards Islands. WWF-South Africa.

Kelleher K (2005) Discards in the world's marine fisheries. Food and Agriculture Organization of the United Nations, Rome. 131 p.

Kock K-H (1992) Antarctic fish and fisheries. Cambridge University Press, Cambridge. 359 p.

Kock K-H (1994) Fishing and conservation in southern waters. Polar Record 30(172): 3-22.

Kock K-H, Purves MG and Duhamel G (2006) Interactions between cetacean and fisheries in the Southern Ocean. Polar Biology 29: 379–388.

Lack M (2008) Continuing CCAMLR's fight against IUU fishing for toothfish. WWF-Australia, TRAFFIC International. 50 p.

Lack M and Sant G (2001) Patagonian toothfish: are conservation and trade measures working? TRAFFIC Bulletin 19(1): 15-32.

Lombard A, Reyers B, Schonegevel L, Cooper J, Smith-Adao L, Nel D, Froneman W, Ansorge I, Bester M, Tosh CA, Strauss T, Akkers T, Gon O, Leslie RW and Chown SL (2008) Conserving pattern and process in the Southern Ocean: designing a marine protected area for the Prince Edward Islands. pp. 1-35 *In* Nel D and Omardien A (eds.), Towards the development of a marine protected area at the Prince Edwards Islands. WWF-South Africa.

Lombard AT (2008) Updated maps and statistics of the legal patagonian toothfish (*Dissostichus eleginoides*) fishery in South Africa's exclusive economic zone at the Prince Edward Islands. pp. 36-49 *In* Nel D and Omardien A (eds.), Towards the development of a marine protected area at the Prince Edwards Islands. WWF-South Africa.

Miller DGM (2011) Sustainable management in the Southern Ocean: CCAMLR science. Science diplomacy: Antarctica, science, and the governance of international spaces, Smithsonian Institute Washington. 103-121 p.

Nel D (2008) South Africa's proposed marine protected area at the Prince Edward Islands: an analysis of legal obligations, options and opportunities. pp. 50-100 *In* Nel D and Omardien A (eds.), Towards the development of a marine protected area at the Prince Edwards Islands. WWF-South Africa.

Nel DC, Ryan PG and Watkins BP (2002) Seabird mortality in the Patagonian toothfish longline fishery around the Prince Edward Islands, 1996-2000. Antarctic Science 14(2): 151-161.

Pauly D (1998) Rationale for reconstructing catch time series. EC Fisheries Cooperation Bulletin 11(2): 4-7.

Pramod G, Pitcher TJ, Pearce J and Agnew D (2008) CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources): Antarctic (high seas and areas under national jurisdiction). pp. 6-7 *In* Sources of information supporting estimates of unreported fishery catches (IUU) for 59 countries and the high seas. Fisheries Centre Research Reports 16(4). Fisheries Centre, University of British Columbia, Vancouver.

Purves MG (1997) Catch rates and length composition data of the longline fishery for *Dissostichus eleginoides* at the Prince Edward Islands: 1996/97. SC-CCAMLR-XVI/BG/28. 20 p.

Tilney R and Purves MG (1999) The status of integrated fisheries monitoring in South Africa. pp. 343-356 *In* Nolan CP (ed.) Proceedings of the International Conference on Integrated Fisheries Monitoring. Sydney, Australia, 1-5 February 1999. FAO, Rome.

Watkins BP (2006) No seabird mortality with pot fishing. Fishing Industry News South Africa August: 18-20.

Watson R, Kitchingman A, Gelchu A and Pauly D (2004) Mapping global fisheries: sharpening our focus. Fish and Fisheries 5: 168-177.

Zeller D, Booth S, Davis G and Pauly D (2007) Re-estimation of small-scale fishery catches for U.S. flag-associated island areas in the western Pacific: the last 50 years. Fishery Bulletin 105(2): 266-277.

Appendix Table A1. Prince Edward Islands' (South Africa) fisheries catch statistics (in tonnes) by catch type, drawn from the CCAMLR 2011 *Statistical Bulletin*, Vol. 23 (subareas 58.6 and 58.7), supplemented with information from the South African Department of Agriculture, Forestry and Fisheries, and SC-CCAMLR (2011), as well as illegal catch information acquired from Brandão and Butterworth (2007). (See text and Figure 2a.)

Year	Legal		Illegal	
	Discards	Landings	Discards	Landings
1992	-	-	-	-
1993	-	-	-	-
1994	-	-	588	5,355
1995	-	-	1,176	10,709
1996	122	1,121	1,764	16,064
1997	241	1,605	3,238	21,420
1998	66	907	132	1,808
1999	103	665	161	1,035
2000	270	1,284	261	1,239
2001	48	341	52	367
2002	11	227	16	329
2003	11	316	10	265
2004	74	276	16	158
2005	122	325	30	156
2006	14	172	12	156
2007	28	239	26	154
2008	17	144	26	148
2009	4	73	42	124
2010	9	224	41	122