Chapter 12: Assessment of Shortraker and Other Slope Rockfish in the Gulf of Alaska (Executive Summary)

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Introduction

Rockfish are assessed on a biennial stock assessment schedule to coincide with new survey data. In the 2007 full stock assessment, the average of exploitable biomass from the three most recent trawl surveys was used to determine the recommended ABC for shortraker rockfish and "other slope rockfish". For Gulf of Alaska rockfish in alternate (even) years we present an executive summary to recommend harvest levels for the next (odd) year. For this off cycle year there is no new survey information for shortraker and other slope rockfish; therefore, the 2007 estimates are rolled over for this year. Please refer to last year's full stock assessment, which is available online, for further information regarding assessment calculations (Clausen 2007, www.afsc.noaa.gov/REFM/docs/2007/GOAshortraker.pdf). We will present a full stock assessment report with new estimates of exploitable biomass for shortraker and "other slope rockfish" in next year's SAFE document.

Updated ABC, OFL, and Catch

For the 2009 fishery, we recommend the maximum allowable ABC of 898 t for shortraker rockfish and 4,297 t for "other slope rockfish". A summary of these computations and corresponding reference values for shortraker and "other slope rockfish" are presented in the following table, with the recommended ABC and OFL values in bold.

Species	Tier	Exploitable Biomass	ABC *F*	ABC Yield	OFL *F*	OFL Yield
Shortraker rockfish	5	39,905	*F*(0.75M)=0.023	**898**	*F*(M)=0.030	**1,197**
Sharpchin rockfish	4	15,774	$F_{40\%}$=0.053	836	$F_{35\%}$=0.064	1,010
Redstripe rockfish	5	13,739	*F*(0.75M)=0.075	1,030	*F*(M)=0.100	1,374
Harlequin rockfish	5	13,576	*F*(0.75M)=0.045	611	*F*(M)=0.060	815
Silvergrey rockfish	5	40,517	*F*(0.75M)=0.038	1,519	*F*(M)=0.050	2,026
Redbanded rockfish	5	5,435	*F*(0.75M)=0.045	245	*F*(M)=0.060	326
Minor species	5	1,242	*F*(0.75M)=0.045	56	*F*(M)=0.060	75
Total: other slope rockfish		90,283		**4,297**		**5,624**

Updated catch data (t) for shortraker rockfish and "other slope rockfish" in the Gulf of Alaska as of October 14, 2008 (http://www.fakr.noaa.gov) are summarized in the following table.

Year	Gulf of Alaska Area Western	Central	Eastern	Gulfwide Total	Gulfwide ABC	Gulfwide TAC
			Shortraker Rockfish			
2007	194	205	250	650	843	843
2008	129	223	210	562	898	898

			"Other Slope Rockfish"			
2007	252	338	101	690	4,154	1,482
2008	289	429	75	793	4,297	1,730

Area Apportionment

The apportionment percentages are identical to last year, because there is no new survey information. The following table shows the recommended apportionment for 2009.

	Western	Central	Eastern	West Yakutat	E. Yakutat/ Southeast	Total
			Shortraker Rockfish			
Apportionment	13.37%	35.07%	51.56%			
Area ABC (t)	120	315	463			898
Area OFL (t)						1,197
			"Other Slope Rockfish"			
Apportionment	8.31%	13.24%		14.07%	64.39%	
Area ABC (t)	357	569		604	2,767	4,297
Area OFL (t)						5,624

Responses to Council, SSC, and Plan Team Comments

The SSC December 2007 minutes included the following comments concerning all rockfish:

"For all of the rockfish assessments, the SSC recognizes the efforts of the stock assessment authors to respond fully to the 2006 CIE review comments. The SSC requests that the draft response to the CIE review be finalized and made available."

The draft response to the 2006 CIE rockfish review is available online at the following web address: ftp://ftp.afsc.noaa.gov/afsc/public/rockfish/RWG%20response%20to%20CIE%20review.pdf

The GOA Plan Team 2007 minutes included the following comments concerning all rockfish:

"Area apportionments for rockfish ABC are a weighted average of previous years' percent exploitable biomass distributions. The Plan Team discussed the merit of exploring the difference that weighting the apportionments by biomass rather than percentages could have on the resultant apportionments. Assessment authors agreed to compare the approaches under different scenarios of biomass distribution."

Please see Appendix A of the Gulf of Alaska Pacific ocean perch SAFE for a comparison of the effects of weighting proportion or biomass by survey year for determining area apportionment. Simple scenarios assuming no survey error and how that affects bias between the two methods are first presented. This is followed by simulations exploring varying levels of survey error and results on stability.

The SSC December 2007 minutes included the following comments concerning Pacific ocean perch which we determined also concern shortraker rockfish:

"The SSC requests that the authors include plots of the spatial distribution of the catch in future assessments. The SSC also requests that the tables of commercial catch should include estimates of discard as well as retained catch."

Historical maps of shortraker observed catch (kg) for all gear types are provided from 1993 through 2007 (Figures 12.1 – 12.5). Data are available online from Fisheries Monitoring and Analysis Division (FMA, Observer program) at www.afsc.noaa.gov/FMA/spatial_data.htm. Catches are aggregated in 10 km x 10 km (100 km^2) cell blocks and cells representing less than three vessels for a given gear type and year are not provided due to confidentiality issues. Description and appropriate usage of data are available on the webpage given above. Spatial distribution of shortraker rockfish catch is generally along the continental shelf break. Large catches are sporadic in the 1990s often occurring in the Yakutat, Seward, and Amatuli gully regions and are rare following 2000.

Gulfwide discard rates (% discarded) are provided in a separate table embedded in the main text of the stock assessment (please see *Discards* of the *Fishery* section in the *Introduction* of last year's full stock assessment, www.afsc.noaa.gov/REFM/docs/2007/GOApop.pdf). We intend to also include these estimates of discard rate in the catch table for the full assessment next year.

Research Priorities

It is critically important to rockfish stock assessments that the GOA trawl surveys continue and that they extend into deeper waters (>300m) in order to cover the range of primary habitat for rockfish. There is little information on larval, post-larval, or early juvenile stages of rockfish. Habitat requirements for these stages are mostly unknown. Research on early life history parameters and essential habitat for these early life stages is vital to effective management of rockfish.

Summaries for Plan Team

Species	Year	Biomass[1]	OFL	ABC	TAC	Catch[2]
Shortraker rockfish	2007	37,461	1,124	843	843	650
	2008	39,905	1,197	898	898	562
	2009		1,197	898		
	2010		1,197	898		

Stock/ Assemblage	Area	2008 OFL	ABC	TAC	Catch[2]	2009 OFL	ABC	2010 OFL	ABC
Shortraker rockfish	W		120	120	129		120		120
	C		315	315	223		315		315
	E		463	463	210		463		463
	Total	1,197	898	898	562	1,197	898	1,197	898

Species	Year	Biomass[1]	OFL	ABC	TAC	Catch[2]
Other Slope Rockfish	2007	93,552	5,394	4,154	1,482	690
	2008	90,283	5,624	4,297	1,730	793
	2009		5,624	4,297		
	2010		5,624	4,297		

Stock/ Assemblage	Area	2008 OFL	ABC	TAC	Catch[2]	2009 OFL	ABC	2010 OFL	ABC
Other Slope Rockfish	W		357	357	289		357		357
	C		569	569	429		569		569
	WYAK		604	604	51		604		604
	SEO		2,767	200	24		2,767		2,767
	Total	5,624	4,297	1,730	793	5,624	4,297	5,624	4,297

[1]Total biomass from trawl survey estimates
[2]Current as of October 14, 2008 (http://www.fakr.noaa.gov)
Note: all values for "other slope rockfish" include northern rockfish in the eastern Gulf of Alaska.

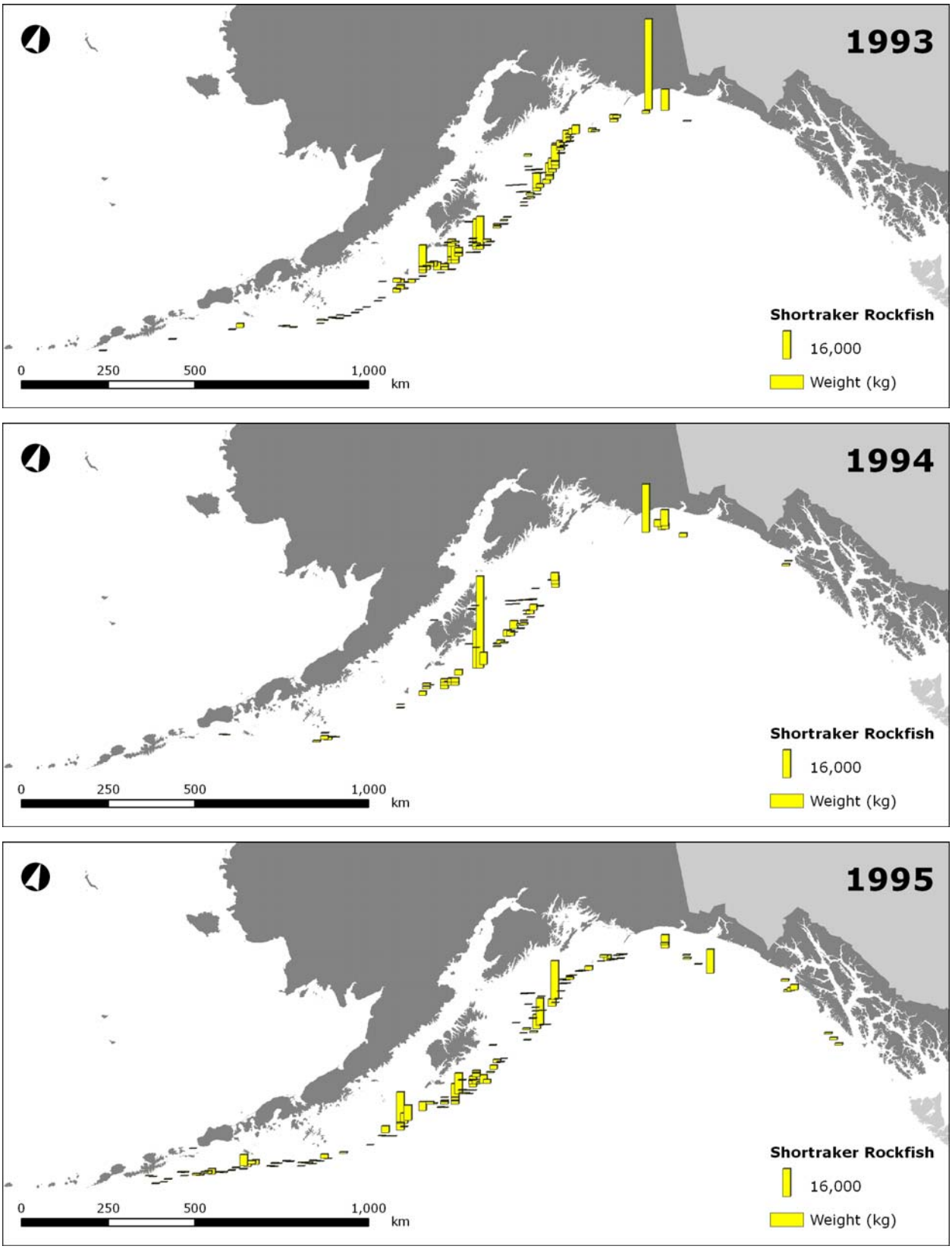

Figure 12.1: Maps of fishery catch based on observer data by 100 km^2 blocks for shortraker rockfish from 1993-1995.

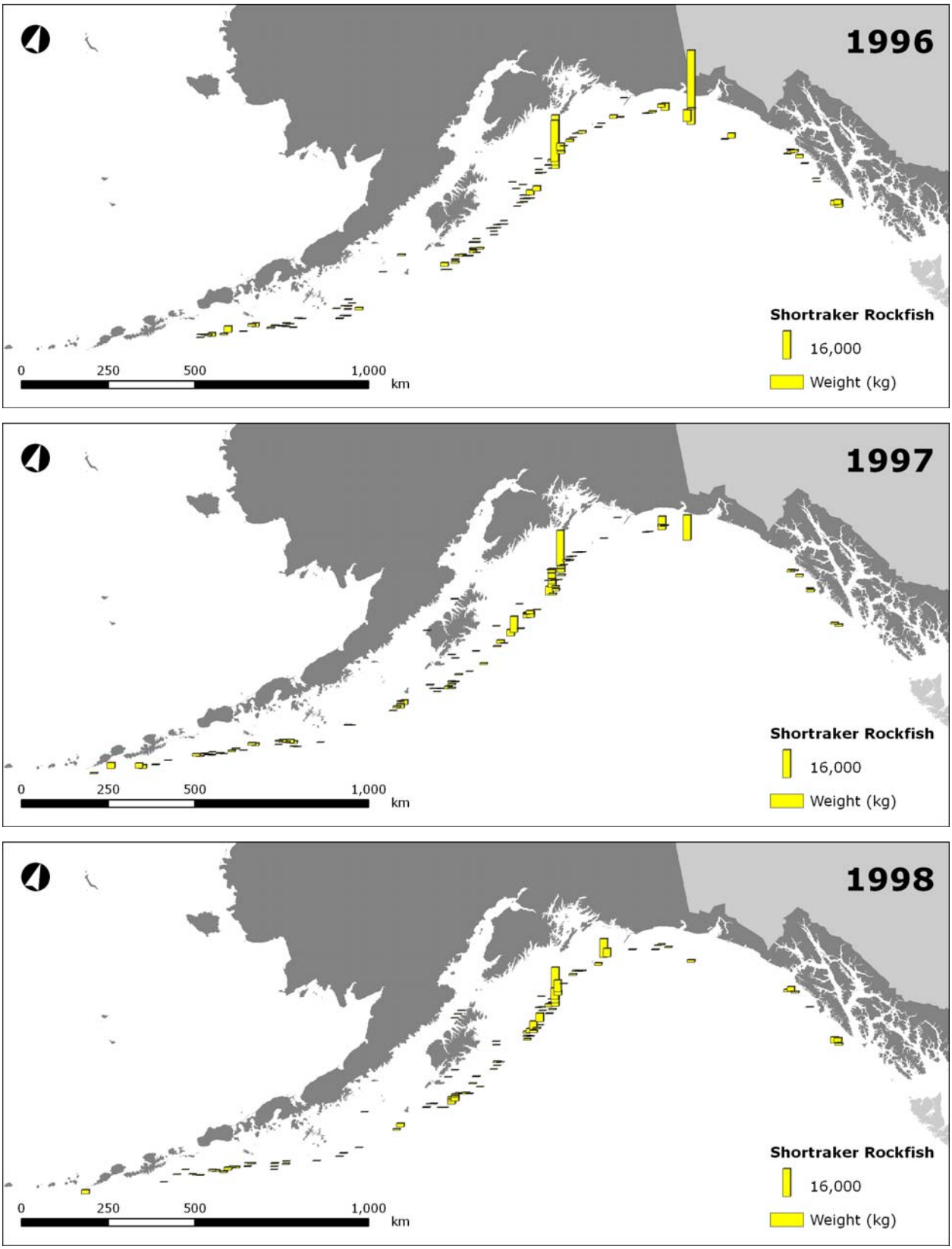

Figure 12.2: Maps of fishery catch based on observer data by 100 km^2 blocks for shortraker rockfish from 1996-1998.

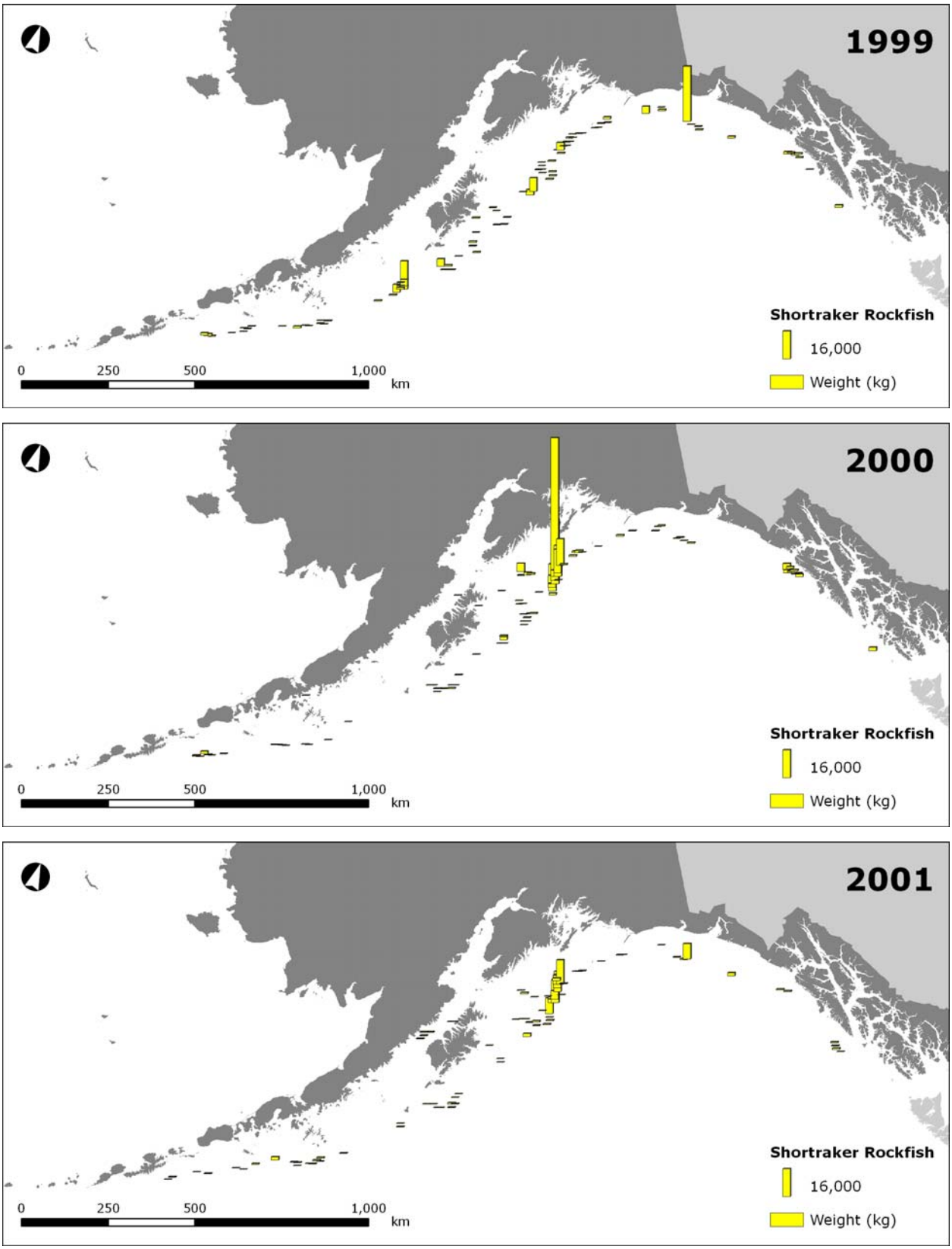

Figure 12.3: Maps of fishery catch based on observer data by 100 km^2 blocks for shortraker rockfish from 1999-2001.

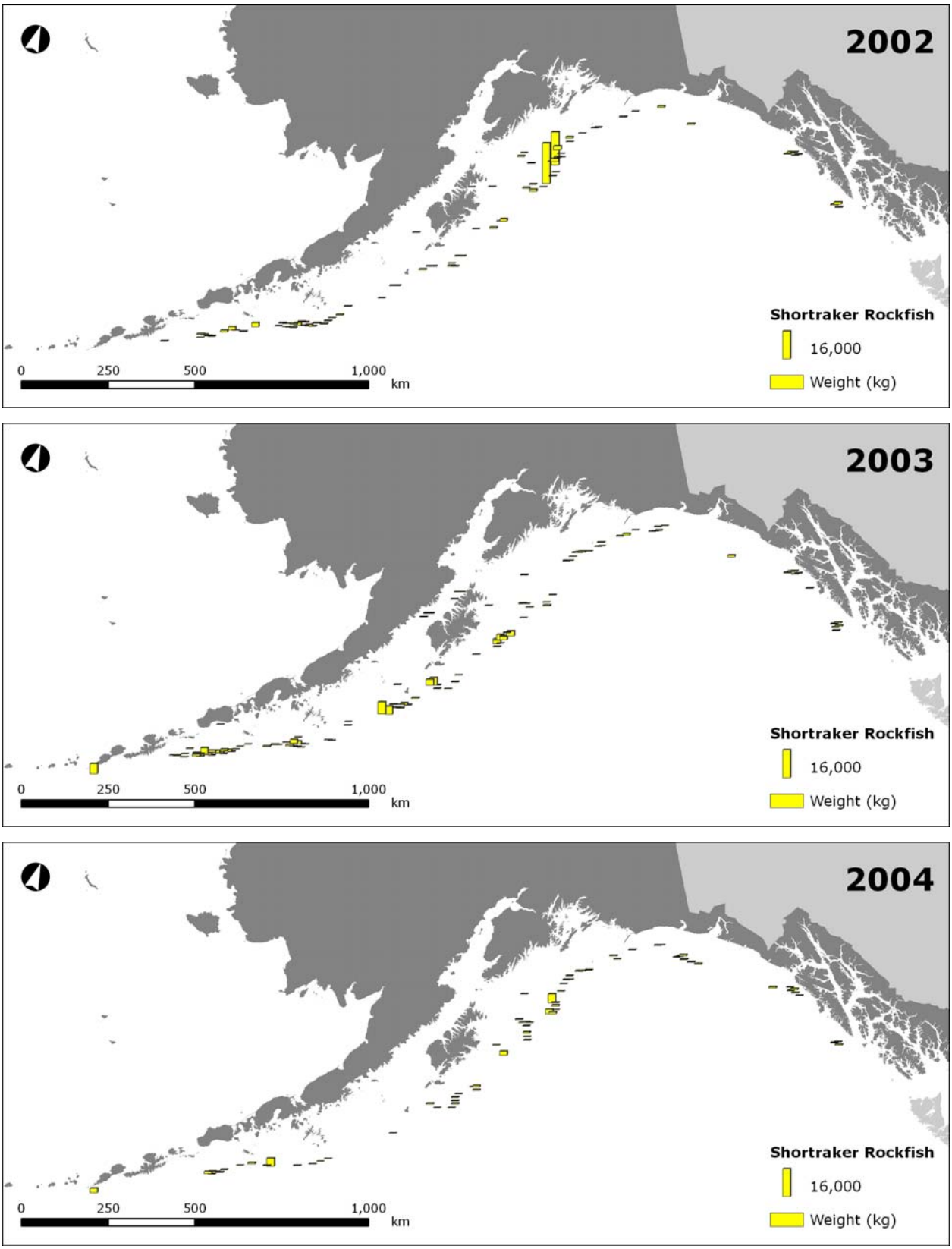

Figure 12.4: Maps of fishery catch based on observer data by 100 km^2 blocks for shortraker rockfish from 2002-2004.

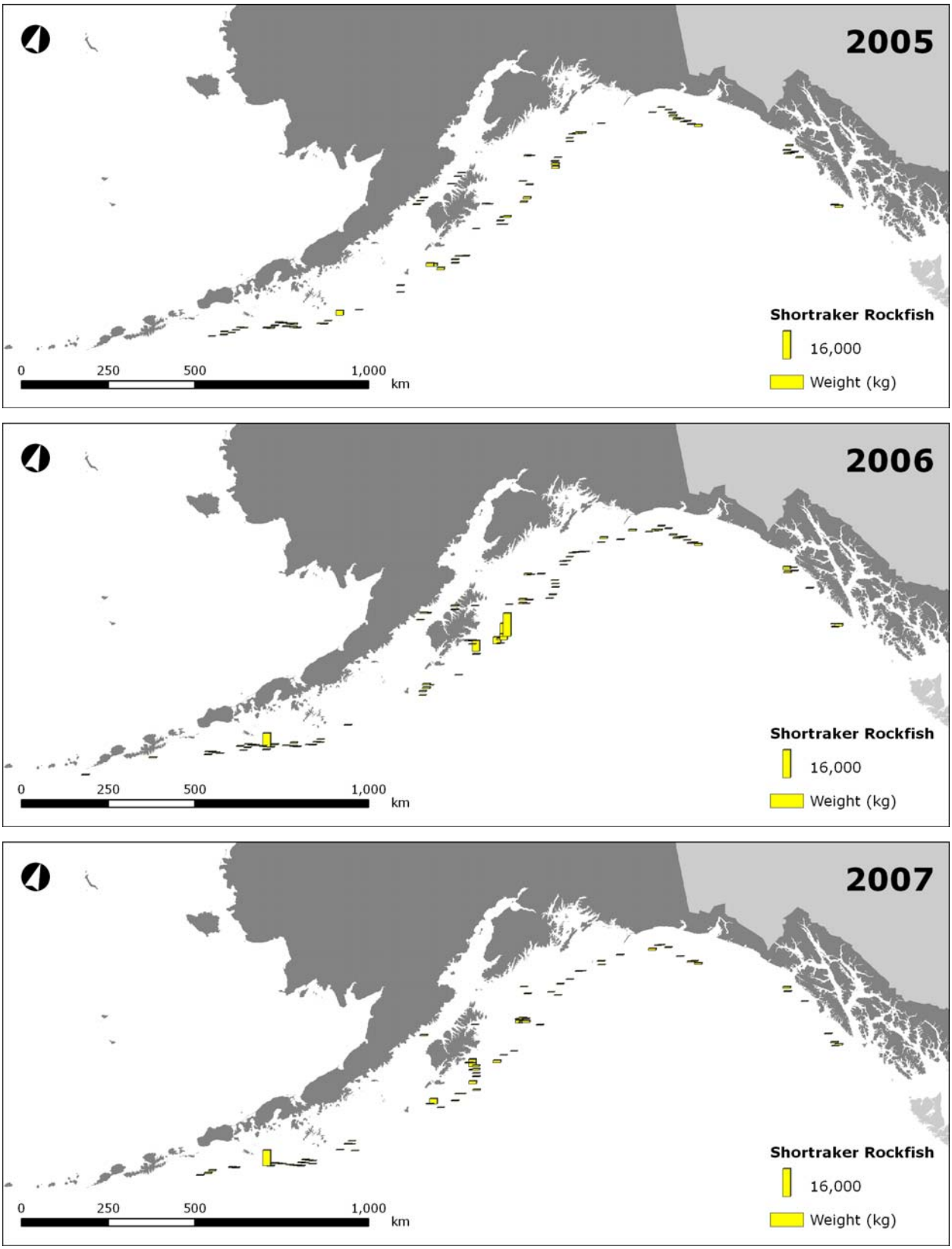

Figure 12.5: Maps of fishery catch based on observer data by 100 km^2 blocks for shortraker rockfish from 2005-2007.

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