

20 US NORTH PACIFIC SABLEFISH

20.1 Introduction

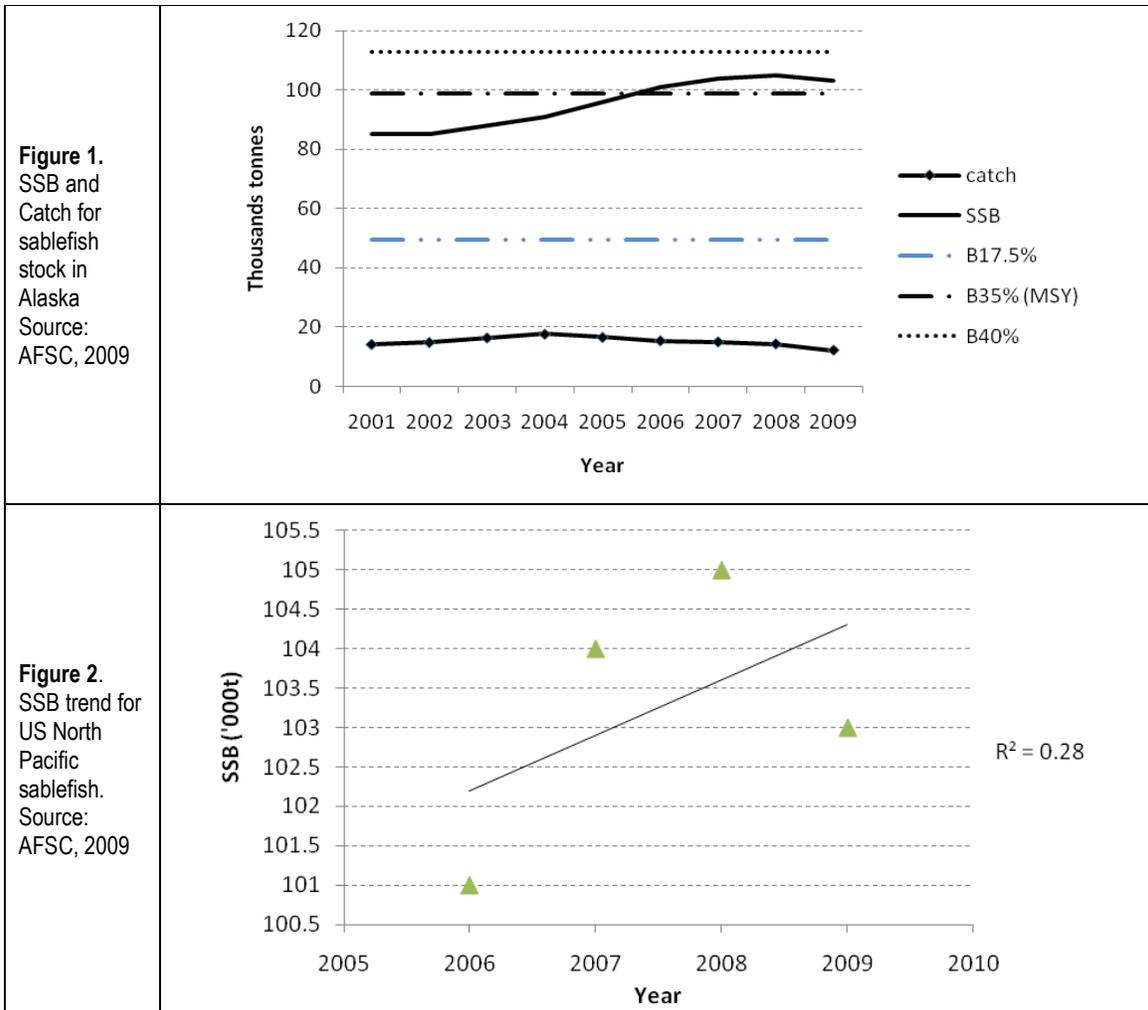
For the US North Pacific (NP) sablefish *Anoplopoma fimbria* longline fishery, the Principle 1 and 2 PIs were mapped against the following indicators within the stated reports:

FAM PI:	Assessment Report 2006	
	Performance Indicator:	
1.1.1 Stock status	1.1.6.1	The stock(s) is at or above appropriate reference levels.
1.1.2 Reference points	1.1.3.1	There are limit and target reference points that are appropriate for the stock and take ecosystem effects into account. These include limit fishing mortality rates and both limit and target stock abundance levels.
	1.1.3.2	Reference points meet acceptable international standards.
1.1.3 Stock rebuilding	1.2	Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.
2.1.1 Retained species	2.1.2.1	Information is available on the nature and extent of the bycatch (capture of non-target species).
2.2.1 Bycatch species	2.1.2.2	Information is available on the extent of discards (the proportion of the catch not landed).
2.3.1 ETP species	2.2.1.3	The level of interaction known to pose an unacceptable risk to such species [ETP] is known, and impacts are held below unacceptable levels.
2.4.1 Habitats	2.1.3.1	There is adequate knowledge of the physical impacts on the habitat due to use of gear, and impacts are kept below unacceptable levels.
	2.1.3.2	Any gear lost during fishing operations is documented, and management seeks to minimize losses.
	2.1.5.4	Fishery impacts on habitat structure are held below unacceptable levels.
2.5.1 Ecosystems	2.1.4.1	Levels of acceptable impact are determined and reviewed.
	2.1.5.2	The impacts on ecosystem structure and function from removal of target stocks are held below unacceptable levels.
	2.1.5.3	The impacts on ecosystem structure and function from removal of non-target stocks are held below unacceptable levels.
	2.1.5.5	The effects of the fishery on associated biological diversity and productivity are held below unacceptable levels.

SCS undertook the initial assessment report in 2006, and completed all four subsequent annual surveillance reports.

20.2 Principle 1

Principle 1 - FAM reference (PI)	April: Assessment report	Nov: SR1	Dec: SR2	Jul: SR3	Aug: SR4
Year	2006	2007	2008	2009	2010
1.1.1 Stock status score	1.1.6.1 80	Not overfished	Not overfished	Not overfished	Not overfished
1.1.2 Reference point score	1.1.3.1 90	-	-	-	-
	1.1.3.2 100	-	-	-	-
1.1.3 Stock rebuilding	n/a	-	-	-	-



20.2.1 Indicator trend

In the year of certification the stock of the sablefish fishery increased to above the B35%, or MSY, level (Figure 1). During the period of certification stocks have remained above this level. Catch levels have remained mostly constant, dropping slightly with advice from the stock assessments.

20.2.2 PI score correlation

The fishery scored above 80 for all of the outcome PIs that were identified from AR (2006). In all of the subsequent SRs, stocks were assessed to be at levels that were not considered to be overfished.

20.2.3 Conditions

No conditions were raised against any of the outcome PIs for P1.

20.3 Principle 2

Principle 2 - FAM reference (PI)	April: Assessment report	Nov: SR1	Dec: SR2	Jul: SR3	Aug: SR4
Year	2006	2007	2008	2009	2010
2.1.1 Retained species	2.1.2.1 80	-	-	-	-
2.2.1 Bycatch species	2.1.2.2 80	-	-	-	-
2.3.1 ETP species	2.2.1.3 85	-	-	-	-
2.4.1 Habitats	2.1.3.1 80	-	-	-	-
	2.1.3.2 80				
	2.1.5.4 80				
2.5.1 Ecosystems	2.1.4.1 85	-	-	-	-
	2.1.5.2 90				
	2.1.5.3 80				
	2.1.5.5 80				

20.3.1 Indicator trend

Retained species/Bycatch species - 2.1.1/ 2.2.1

Bycatch comprises mostly grenadier, averaging 67% of total bycatch (SR3, 2009). Of the 'sensitive' species (grenadiers, spiny dogfish and unidentified sharks), grenadiers are the only ones that are still of concern but have demonstrated a recent decline from 83% of total bycatch in 2006 to 31% of total bycatch in 2007. They are usually discarded and the mean catch is 15,934 t of the acceptable biological catch, which is 116,207 t (Clausen & Rodgveller, 2008). The recent stock assessment of sablefish states that grenadier bycatch is high, but stable, and the bycatch maybe a factor of possible concern to the grenadier stocks (AFSC, 2009). Spiny dogfish and unidentified sharks are still caught but not considered to be of concern to the stocks of those species.

Halibut are also subject to bycatch in this fishery, and under the IFQ system legal-size halibut are retained and counted against quota. The development of circle hooks to reduce the quantity of sublegal halibut caught, and the fact that under-sized individuals are returned to the sea and have a high survival rate, means that the impact on the halibut stock is slight (AR, 2006).

The 2009 SR3 reported that birds were 20%¹⁰ of the total bycatch, whereas the 2008 SR2 reported that bird bycatch was down to 10% and decreasing. AFSC (2009) stated that the catch of seabirds in the sablefish fishery averages 17% of the total catch and that the trend in seabird catch is variable but appears to be decreasing, presumably due to widespread use of measures to reduce seabird catch. SR1 (2007) stated that seabird avoidance devices had been deployed and several studies had been completed providing descriptions of the interactions with seabirds on fishing grounds and the effectiveness of the deployed seabird mitigation devices. The implementation of seabird bycatch mitigation devices is anticipated to reduce seabird bycatch very substantially relative to that which would occur without such regulations (Melvin et al. 2001, 2004a,b; Rivera, 2004 cited in AR, 2006).

SR2 (2008) states that bycatch of benthic species is low but that is to be expected as longline gear is "not an adequate way to hold onto benthic species that may be affected during fishing".

¹⁰ According to AR (2006), monitoring data exists for bird numbers from observers.

ETP species - 2.3.1

The ETP species associated with this fishery are the short-tailed albatross (listed as 'Endangered' on the US List of Endangered and Threatened Wildlife and 'Vulnerable' on the IUCN Red List of Threatened Species) and the unidentified shark category of bycatch. AR (2006) stated that although the short tailed albatross is listed as 'Endangered' in the US, its numbers have been increasing steadily, albeit from extremely low levels, indicating that this population should recover without any reduction of interaction with the fishery. AR (2006) also emphasises that the fishery has not been in any way responsible for contributing to the 'Endangered' status of the short tailed albatross. The recent stock assessment states that the level of unidentified shark bycatch catch is low (AFSC, 2009).

Habitats - 2.4.1

AR (2006) assessed that the fishery avoids having major impacts on habitat in the area because it is entirely a longline fishery, and the frequency of corals taken on sablefish longlines is low. SR4 (2010) states that areas of high coral density (coral gardens) were mapped and that fishing operations avoid these areas (R. Alverson, personal communication in SR4). A decrease in habitat degradation could be attributed to the reduction in hooks deployed (see next paragraph for more details).

Ecosystem - 2.5.1

With regards to ecosystem impacts, AR (2006) concluded the following:

- That there was no evidence to suggest that removal of sablefish at the 2006 fishing rate has had an adverse impact on ecosystem structure or function. Ecosim and Ecopath models supported the view that the current levels of harvesting of sablefish were not having an adverse affect on the ecosystem.
- Reported levels of gear loss were low and showed little trend across years since the fishery became IFQ. Evidence suggested that loss is less under the IFQ system than it had been in the days of 'derby' fishing.
- Given the reduction in the number of hooks deployed it was reasonable to assume that one result would be a decrease in habitat loss/degradation due to fishing gear effects on benthic habitat as well as reduction on bycatch.

20.3.2 PI score correlation

All outcome PIs for this fishery were scored between 80 and 90.

20.3.3 Conditions

No conditions were raised against the PI outcome indicators.

20.4 References

AFSC (2009) Chapter 3: Assessment of the Sablefish stock in Alaska. Available from:

<http://www.afsc.noaa.gov/refm/docs/2009/BSAIsablefish.pdf> (Accessed 25/11/2010)

Clausen, D.M. and Rodgveller, C.J. (2008) *Assessment of Grenadiers in the Gulf of Alaska, Eastern Bering Sea, and Aleutian Islands*. Available from:

<http://www.afsc.noaa.gov/REFM/docs/2008/grenadier.pdf> (Accessed 26/12/2010).

The following documents from the MSC website were used as reference material in this case study:

Assessment Report (AR) (2006)	http://www.msc.org/track-a-fishery/certified/pacific/us-north-pacific-sablefish/assessment-downloads-1/BCod_PubCertRpt_May06.pdf
SR1 (2007)	http://www.msc.org/track-a-fishery/certified/pacific/us-north-pacific-sablefish/assessment-downloads-1/Surveillance_Report_2007.pdf
SR2 (2008)	http://www.msc.org/track-a-fishery/certified/pacific/us-north-pacific-sablefish/assessment-downloads-1/2009-05-08-US-Sablefish-2nd-Annual-Surveillance.pdf

SR3 (2009)	http://www.msc.org/track-a-fishery/certified/pacific/us-north-pacific-sablefish/assessment-downloads-1/06.07.2009-Sablefish%20Annual%20Surv%20Rpt.pdf
SR4 (2010)	http://www.msc.org/track-a-fishery/certified/pacific/us-north-pacific-sablefish/assessment-downloads-1/10.08.2010-us-sablefish-4th-suveillance-report.pdf
