

**SUMMARY REPORT TO THE DEPARTMENT OF
ENVIRONMENT, WATER, HERITAGE AND THE ARTS ON THE
WESTERN AUSTRALIAN SALMON FISHERIES**

In accordance with the *Guidelines for the
Ecologically Sustainable Management of Fisheries*

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Department of Fisheries
Government of Western Australia



Fish for the future

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1. Description of the fishery

- *Target/permited/prohibited species* – This fishery remains a beach based Salmon fishery, with minor catches of other species.
- *Management arrangements employed in the fishery* – The management arrangements for the fishery remains under two management plans drafted under the State Fisheries Act and Regulations.
- *Fishing methods employed (gear types)* – The fishery remains a beach seine fishery.
- *Fishing area (including total area the fishery is permitted to operate in, as well as location(s) of majority of fishing effort)* – Apart from the area excluded as mentioned below, the fishery area has remained the same.
- *Allocation between sectors* – The recreational sector is reported to catch approximately 6% of the total take of salmon in WA. The extremely low catch of commercial salmon in 2007 was due to poor markets and not to a decline in fish stocks. Hence, the recreational catch may have represented a slightly higher percentage in 2007. As there have been no recreational fishing surveys since 2001 the weight taken by recreational fishers can only be based on the 2001 survey.
- *Governing legislation/fishing authority* – There has been no change in this area.
- *Status of export approval/accreditation under Environment Protection and Biodiversity Conservation Act 1999* – The fishery has Exempt status until 15 November 2009.

2. Management

- *Changes to management arrangements (if applicable)* – The only management change to this fishery has been the closure of a large section of Geographe Bay to commercial fishing. This closure was implemented in a staged approach with the closures occurring over the Easter long weekend in 2007, and expanded to weekends, public holidays and school holidays in 2008 and 2009. From 1 July 2009 salmon fishing in Geographe Bay from Cape Naturalist to the Geographe Bay Marina will be prohibited. The decision to implement such a closure was primarily to address problems relating to conflict between commercial fishers and recreational anglers in the area. The Geographe Bay area has been one of the winners with regard to development with the economic boom. It is an extremely popular location for holidays due to its proximity to a major wine region in WA and the protected waters offered in Geographe Bay. The popularity of the area has lead to an increase in the interaction between commercial and recreational fishers to the point where

the government determined it was time to act. It was not a decision based on the sustainability of salmon fishing in the area.

- *A statement of the performance of the fishery against objectives, performance indicators and performance measures* – The performance measure for the fishery is to maintain the total annual catch for the fishery between 1200 and 2800 tonnes. In 2007 the catch was only 871 tonnes which was well below the target. Anecdotal reports from fishers, processors and prospective investors indicates that the low catch was primarily due to very limited markets for the product and environmental factors that reduced catchability, rather than low stock abundance. Therefore, the Department does not believe that it is necessary to change management arrangements to maintain sustainability.
- *Compliance risks present in the fishery and actions taken to reduce these risks* – compliance risks have not changed since the original compliance risk assessment.
- *Consultation processes* – Considerable consultation occurred prior to the decision being made to close Geographe Bay. This consultation process included meetings between the Minister and community members, commercial fishers and the Department. The Department continues to hold annual meetings with fishers from the salmon industry.
- *Description of cross-jurisdictional management arrangements* – Not applicable.
- *Outcomes of review processes (if applicable)* – No reviews have been carried out.
- *Demonstration of compliance with Threat Abatement Plans's, recovery plans, etc and also relevant domestic and international agreements (where applicable)* – Not applicable

3. Research and Monitoring

- *Results of any research completed relevant to the fishery, including how results will be incorporated into management of the fishery*
Juvenile salmon recruitment levels are monitored annually by fishery-independent surveys. The catch rate of 0+ juveniles is used to predict the fishery catch rate in 3-4 years. Overall annual recruitment levels were stable from 2005 to 2008, although trends differed between the south and west coast, due to annual fluctuations in the strength of the Leeuwin Current.
- *Description of monitoring programs used to gather information on the fishery (such as validated logbook programs, observer programs, long term monitoring programs etc) and results of these*
Compulsory monthly returns submitted by fishers are the source of information on catch and effort for the fishery. The catch rates of commercial and recreational fishers, who target mature salmon during the spawning run,

can provide relative indices of breeding stock abundance. However, in recent years low targeting due to limited marketability has reduced the usefulness of catch rates as an index of abundance.

In addition, some fishers submit voluntary daily logbooks, providing data on water temperature, weather conditions and sightings of schools.

An observer diary was implemented in 2006, however, due to very low catch levels the value of this diary has not been to the level expected. The very inconsistent nature of fishing means the opportunities to observe salmon being caught have been very limited. Observer diaries reported that whilst fishers are participating in the Australian salmon fishery they will target herring, which can be taken under the wetline licence, they also hold. In 2006, salmon was the only species captured and retained, while 500 g of blowfish was the only discarded catch observed. No interactions with protected species were recorded, although 1 seal and 42 dolphins were observed offshore. In 2008, no captures of salmon were observed. Herring was captured during one observer day, when a negligible (<5 kg) quantity of byproduct, consisting of sand whiting and southern blue-spot flathead, was also taken. In 2008, no discarded catches or interactions with protected species were observed.

- *Results of any collaborative research undertaken for the fishery undertaken during 2004-2009.* – None

4. Catch data

(data is for the period 2003-2007)

- *Total catch of target species (including retained and any discarded catch)* – The total annual catch of salmon ranged from 871 t to 2492 t during the period 2003-2007 (Table 1, Figure 1).
- *Total catch of target species taken in other fisheries (if applicable)* - The recreational sector was estimated to take approximately 6% of the total catch of salmon in 2001. More recent estimates are not available due to the absence of relevant recreational surveys since 2001.
- *Catch of byproduct species (reported by species)* – The catch of byproduct is difficult to determine from monthly returns. Many licence holders are also licensees in other netting fisheries that use similar methods, operate within the same block location and capture the same species as those taken as byproduct by the Salmon Fishery. Specific catches cannot always be clearly assigned to particular fisheries from data reported on monthly catch summaries. Estimates of catches of byproduct species are provided in Table 2. In the period 2003-2007, herring, sea garfish and sea mullet comprised 98% by weight of byproduct.
- *Total catch of bycatch species (reported by species if possible)* – negligible.
- *Harvest by each sector (ie commercial, recreational, indigenous and illegal – estimates if necessary)* – The most recent estimates available are for 2001, when the commercial share was 94% and the recreational share was 6%.

- *Effort data including information on any trends* - In 2007, there were 18 south coast and 9 west coast commercial fishing teams, plus 3 licensees with restricted access. The number of west coast fishery teams was reduced from 12 in 2005 to 9 in 2006 through a voluntary Fisheries Adjustment Scheme. In 2007, only 5 of the 18 south coast licensees reported any salmon catch, while 7 of 9 licensees on the west coast reported catches.
- *Spatial issues/trends* - The south coast catch rate has been declining since the mid-1990s, whereas the west coast catch rate has been increasing since 2000. From 2005 to 2008, annual recruitment was relatively high on the west coast but relatively low on the south coast.

The catch decline on the south coast in recent years is mainly attributed to a lack of market demand in this region. However, contrasting catch trends and recruitment trends within each region probably also reflect the differing influence of the Leeuwin Current – a year of weak current tends to be followed by high west coast and low south coast recruitment, while a strong current is associated with low west coast and high south coast recruitment. Connectivity between south and west coast regions (movement of adults, dispersal of larvae, recruitment sources, etc), especially in relation to the influence of the Leeuwin Current, are poorly understood. Recent variations in current strength and catches have highlighted a need for more research to quantify the influence of the Leeuwin Current.

5. Status of target stock

- *Resource concerns* – the low catch in this fishery over the past few years has been mainly due to lack of markets and environmental factors, rather than a lower abundance. There are no concerns over stock levels.
- *Results of any stock assessments* – None carried out
- *Results of any stock recovery strategies (if applicable)* – Not Applicable

6. Interactions with protected species

- *Frequency and nature of interactions* – As this remains a beach based fishery interactions with protected species remains negligible.
- *Management action taken to reduce interactions and results of such action* – Due to the low level of interaction no action has been taken.

7. Impacts of the fishery on the ecosystem in which it operates

- *Results of any Ecological Risk Assessments* – No assessment completed.
- *Nature of impacts on the ecosystem including impacts on any key conservation values* – Not applicable.

- *Management action taken to reduce impacts and results of such action* – In 2005 industry members developed a Code of Practice. The Code describes ways in which fishermen can improve practices to minimize the impact of their fishing operations on the environment.

8. Consolidated detailed information outlining progress in implementing recommendations resulting from the Department of the Environment and Water Resource's previous accreditation of the fishery

- 1. DFWA to advise of any material change to the fisheries' legislated management plans and/or management arrangements that could affect the criteria on which EPBC decisions are based, within 3 months of the change being made.**

Whilst there has been a closure of a section of beach that South West Salmon fishers have regularly fished it is not considered a change that would impact on the criteria on which the EPBC decisions are based.

- 2. DFWA to ensure, where appropriate, that any relevant indigenous, conservation and recreational interests in the fishery are considered through consultative mechanisms.**

The South West Salmon fishery has been through a significant consultation process to determine how to manage the conflict between commercial and recreational fishers. This resulted in a large portion of Geographe Bay being closed to commercial fishing on long weekends, school and public holidays in 2008. This will continue in 2009, with a permanent closure of the Geographe Bay area from Cape Naturaliste to the Port Geographe marina from June 2009.

- 3. The ESD Report, including all performance measures, responses and information requirements to be incorporated into the management regime and decision making process.**

The information generated and derived through the ESD process has been incorporated into the management regime (i.e. lowering of highest acceptable catch limits) and the decision making process (i.e. including a voluntary logbook for fishermen to complete).

- 4. DFWA to incorporate into the management regime, an objective to minimise protected/listed species interactions, to minimise or maintain the take of other non-retained at sustainable levels and to minimise impacts on the marine environment.**

The interaction level with protected species in this fishery is negligible and due to the fishing practices used (i.e. seine netting) any protected or other species caught that are not going to be retained can be released with minimal harm.

Salmon fishing is only carried out on a limited number of beaches, which is a small percentage of the total distribution of stocks, thereby limiting the impact of the fishery on the environment. Further to this, the beaches where salmon fishing occurs are sandy and even though nets drag on the bottom there is very little damage to the habitat.

5. DFWA, in its Annual State of the Fisheries Report, to report on the performance of the fishery against performance measures that relate to the sustainability of the fishery.

The Department has reported against the performance measure in the Annual State of the Fisheries Report.

6. DFWA to continue to cooperate with other relevant jurisdictions to pursue complementary management and research of shared target stocks.

The Department continues to cooperate, where necessary, with other jurisdictions, i.e. South Australia. Given the relative stability of the fishery there has been little exchange of information in recent seasons, although relevant fisheries information is available to both jurisdictions.

7. DFWA to develop and implement a system to periodically validate fishery dependent data on catch and effort for all target and byproduct species within 2 years.

The Department of Fisheries has implemented a system that allows for third parties (any Fisheries staff) to report on observations in relation to salmon fishing activities. The collection of independent data has reflected the sporadic nature and low level of activity in the fishery .

8. DFWA to implement, within 1 year, a more precautionary performance measure for the major target species sufficient to ensure that harvest is maintained within sustainable levels and that significant changes in the stock abundance can be detected.

The higher level of the target range for the total catch of salmon for the fishery was reduced in 2004/05 from 3600 to 2800 tonnes. This upper catch limit has not been reached in any year since the Exemption was granted.

9. DFWA to collect data on non-retained species in the fisheries, sufficient to validate assumptions and inform future reviews.

The Department has implemented a voluntary research logbook, there has been a low up take of this logbook with fishers. The Department, in a recent

meeting, has further encouraged the use of a logbook to validate their claims that catches are low due to market demand and environmental factors.

10. **DFWA to provide a mechanism, which allows fishers to record interactions with protected/listed species. DFWA to implement an education program to ensure that industry has the capacity to make these reports at an appropriate level of accuracy.**

Compulsory monthly catch returns are used by fishers to record interactions with protected/listed species. In addition, the Department has introduced a voluntary daily logbook, in which interactions can be reported. Where interactions are reported, fishers are contacted to confirm the identification of the species and obtain further information.

Figure 1. Australian salmon landed catches for Western Australia for the period 1978 to 2007.

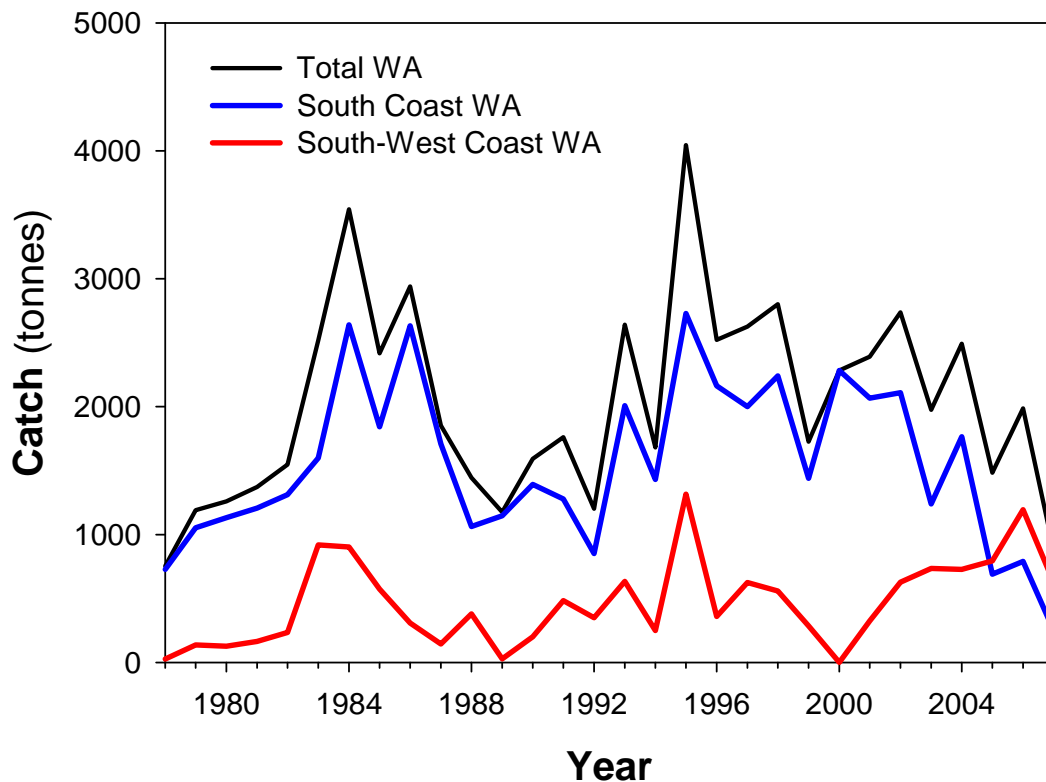


Table 1. Australian salmon landed catches for Western Australia for the period 1978 to 2007.

YEAR	TOTAL WA (t)	SOUTH COAST – WA (t)	SOUTH WEST COAST- WA (t)
1978	755	728	27
1979	1191	1054	137
1980	1260	1132	128
1981	1373	1208	165
1982	1547	1312	235
1983	2518	1598	920
1984	3543	2640	903
1985	2417	1843	574
1986	2941	2633	308
1987	1852	1708	144
1988	1444	1064	380
1989	1176	1147	29
1990	1593	1392	201
1991	1762	1278	484
1992	1202	852	350
1993	2641	2007	634
1994	1681	1431	250
1995	4046	2728	1316
1996	2523	2163	360
1997	2626	2000	626
1998	2801	2241	560
1999	1726	1440	286
2000	2283	2283	0
2001	2392	2066	325
2002	2737	2109	628
2003	1975	1239	735
2004	2492	1764	728
2005	1484	690	794
2006	1986	792	1194
2007	871	248	623

Table 2. The estimated annual reported catch (kg) of byproduct in the SCS Fishery between 2003-2007.

Bycatch species	2003	2004	2005	2006	2007
Bream, silver		4	15		
Cobbler		18			
Flounder		4			
Garfish	120	1,238	580	1,860	
Herring, Australian	8,933	13,191	1,358	1,329	300
Mullet, sea	340	1805	200	30	
Mullet, yellow-eye			40		
Pike, sea	30				
Shark fins	7				
Shark, bronze whaler	224	115			
Shark, hammerhead				29	
Skippy	30	7	5		
Squid		62			
Whiting, King George	10				
Whiting, sand		15			