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Social fabric of

AUSTRALIAN FISHING

A case study in South Australia





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The full project report is available from the Bureau of Rural Sciences website, at http://www.brs.gov.au/socialsciences and copies are lodged at several local libraries in South Australia.

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Social assessment of the fishing sector

Commercial and recreational fishing activities are important for the Australian community. They provide valuable direct employment and income, particularly in coastal areas, as well as flow-on activities, industries, employment and broader lifestyle and health benefits.

However, the fishing sector is undergoing rapid change as it faces the challenge of how best to address increasing pressures on fisheries resources and capitalise on evolving market conditions and technologies.

The social system surrounding fishing plays an important role in determining how this change is experienced and managed by fishing communities. A broader appreciation of the drivers of change facing the industry provides valuable insights into the social well-being of communities who are dependent on fishing. Information about people's motivations and values surrounding fishing is essential for informing decision making and strategic planning, both regionally and nationally. Better understanding likely attitudes and responses leads to improved design and implementation of management arrangements. The Australian fishing sector has been at the forefront of recognising and analysing the social implications of changing conditions in the fishing sector.



Assessing the various ways in which fishing and fishing industries have a social impact involves looking at things such as:

- the communities who depend on fishing, both directly and indirectly, and the various ways in which this dependence is felt
- the quality of life and social resilience of communities associated with fishing and fishing industries
- the contributions of fishing and fishing industries to the broader community
- the values, attitudes and beliefs associated with fishing and fishing industries by different groups and how this is relevant to their activities and behaviour
- implications for future management options.

Social assessment of the South Australian Marine Scalefish Fishery

The case study outlined in this booklet illustrates the breadth and scope of information which social assessments can provide. This information can assist the fishing industry and other stakeholders in decisions designed to improve the industry's sustainability. The authors are grateful for the assistance of the fishers and the industry in undertaking this work.

The case study covers:

- a profile of those participating in the fishery
- aspects of their quality of life and well-being
- a profile of the fishing businesses operating in the fishery
- impacts of the fishery at the regional level
- the various sub-groups within the fishery and their characteristics
- implications for management and future of the MSF.



Introduction

In 2004, the Bureau of Rural Sciences undertook a social assessment of the Marine Scalefish Fishery (MSF) operating in South Australia. This case study was part of a wider examination of social sustainability in Australian Fisheries and how best to assess this¹. The full project report is available from the Bureau of Rural Sciences website at www.brs.gov.au.

The MSF stretches the length of South Australia's coastline, with most fishers living between Ceduna and Victor Harbour. It targets multiple species and involves a wide range of fishing methods and gear types, as well as a large number of fishers. A number of restrictions on entry to the fishery, use of gear (particularly nets) and management controls for particular species (including size limits and periodic closures) have been implemented over time.

Information on the fishery was collected from both licence holders and non-licence holders in the MSF who were employed on fishing boats, through:

- A mail questionnaire distributed to all 416 licence holders in the MSF in August and September 2004. Licence holders were asked to distribute additional copies of the survey to their employees. Overall 59% of licence holders completed the questionnaire, with a much lower response rate from non-licence holders.
- 12 workshops held across the South Australian coast in October and November 2004.

Further detail on approaches and methods can be obtained from Social Assessment Handbook: A Guide to Methods and Approaches for Assessing the Social Sustainability of Fisheries in Australia (BRS, 2005).



FIGURE 2 Formal education levels of licence holders and non-licence holders working in the MSF







A profile of MSF fishers

Most licence holders were older males with families

The average age of survey participants was 50.07 years for licence holders and 43.6 years for non-licence holders (see Figure 1).

Almost all MSF licence holders were male. Most paid employees were male whereas women did mostly unpaid work to help manage fishing businesses.

81.4% of survey participants were married or in a de-facto relationship with an average of 1.5 dependents, such as children or elderly relatives.

Low levels of formal education

Most fishers had low levels of formal education – their considerable fishing skills and knowledge had been gained through working in fishing rather than formal training (see Figure 2).

Long fishing histories

On average, participants had worked in commercial fishing for 23 years (the longest up to 65 years), with the average time spent working in the MSF being 21.4 years.

46.7% reported a family history of involvement in commercial fishing.

Fishing skills were acquired on-the-job, most commonly either self-taught, taught by a family member or taught by other fishers (see Figure 3).

High dependence on fishing income

The participants had a high dependence on fishing income. On average, 70.3% of household income was derived from fishing activities. For 42% of participants, all their household income came from fishing.

52.7% had a member of their household working outside the fishing sector.

Licence holders tended to work full-time in fishing (76.9%), whereas non-licence holders tended to work part-time in fishing (61.7%).

Quality of life and social wellbeing

MSF survey participants reported a generally high quality of life. However for many, various pressures and challenges — including those related to their fishing work — are reducing this quality of life. This study highlights the interconnections between many dimensions of quality of life and social wellbeing. For example, those reporting more health problems also reported lower overall life and work satisfaction, and lower levels of attachment to their local community. Strong local community linkages and social networks were significantly related to higher reported life satisfaction. This indicates that strong, stable links to local areas form a major part of social wellbeing for MSF participants. There was also a strong link between work and life satisfaction. If respondents were happy in their work, they were more likely to be happy with their life overall.

High quality of life

There was a high level of satisfaction with life in general, with the exception of participants' financial situation.

Most fishers felt a strong or very strong attachment to their local community, and rated their local community as a good or excellent place to live. They reported relatively good access to services such as schools, health, banks and police, and good levels of communication with family and friends.

However, most fishers believed their commercial fishing role was perceived negatively in the general community, making them feel less accepted as a part of that community.

Health problems reduce wellbeing

Participants reported a range of health problems but most had not sought medical attention for them. However, 79% reported experiencing back pain with many seeking medical assistance for this problem.

Those who reported more health problems also tended to have lower overall satisfaction with their life and work, and lower levels of attachment to and interactions in their local community and in fishing groups.



Workshop attendees linked higher fishing income to higher risks with workplace health and safety. The implication is that those who are under financial pressure may be more likely to operate at a higher risk of physical injury (e.g. fishing during poor weather conditions) or may experience health problems resulting from working excessively long hours.

Younger fishers — who tended to have a higher fishing income and larger capital value businesses — reported more health problems related to fishing. This group may have a higher risk approach to their fishing work, chasing the higher returns needed to service debt and support families.

Irregular and unpredictable fishing hours affect social networks

Many fishers stated that the irregular and unpredictable fishing hours they worked reduced their ability to interact with family, friends, and be a part of community groups. The cost of attending a social event in place of going fishing was often a day's income. Despite this, almost half (49.5%) were members of at least one community group, especially sporting groups, religious groups and emergency services.

Part-time workers in the fishery were more likely to be members of community groups than full-time fishers, indicating their significant contribution to social capital and hence quality of life in their local communities.

Low membership of fishing representative groups

Fishing social networks tend to be informal, localised and fragmented. While most fishers spoke to other fishers regularly, 63.2% were not members of any fishing representative groups. Existing informal networks were declining in some areas, and new entrants to the fishery in particular often reported little interaction with other fishers.

Many workshop participants felt disillusioned with fishing representative groups and processes. They felt that previous participation had not brought them the benefits or results they hoped for, and there were too many meetings held. Many fishers reported that participation and interaction had declined over the past two decades in particular. There was also a belief that commercial fishers were perceived negatively by government and the general community and therefore had little ability to influence fishery decisions. Many believed this was a 'chicken and egg' problem — that if more fishers became active members of groups, there would be a greater potential for these groups to achieve change.

Independence and stable fishery management important

Rewarding work and tasks were rated as more important than achieving high monetary returns from fishing or high levels of positive interactions with the public (see Figure 4).



FIGURE 4 Importance of different aspects of fishing work

There was a strong preference for stability in management of the fishery. In the workshops, many participants reported feelings of significant uncertainty and anxiety about potential management changes which negatively impacted on their quality of life.

Varying satisfaction with aspects of fishing work

While most survey participants reported being generally satisfied with their fishing work, this satisfaction was qualified (see Figure 5).

There was overall a high level of satisfaction with the tasks involved in fishing, the environment they work in and the time spent working to make a living. A majority were satisfied or very satisfied with:

- the amount of challenge in their fishing work
- the freedom they had to choose their methods of working
- the balance between their work and home life
- the feeling of accomplishment achieved from fishing work
- the people they interacted with in the course of their work.

However, there was considerably lower satisfaction with the income received from fishing and the external influences affecting commercial fishing. A majority were dissatisfied or very dissatisfied with:

the level of support received for commercial fishing from other organisations

- the rules set on how fishers can operate
- the viability of fishing
- job security
- income received from fishing.

The most important factors contributing to overall work satisfaction were related to the ability to work independently without supervision, and the type of tasks undertaken, skills used and environment worked in when fishing. Income was the least important factor motivating people to work in fishing, although a lack of adequate income created significant stress and lowered wellbeing.

Social wellbeing related to financial wellbeing

Social wellbeing of participants was clearly related to their overall financial wellbeing.

Respondents tended to be less satisfied with their overall household finances than with other aspects of their lives, indicating that many households in the MSF are experiencing some financial stress.

Those with lower satisfaction with their finances were significantly more likely to report lower satisfaction with all other dimensions of life satisfaction, including their health and the local area they live in.

Similar results were found for fishing income, with higher income significantly related to higher satisfaction with work, including the tasks undertaken while working and time spent working.





FIGURE 5 Satisfaction with aspects of fishing work

Most fishers work in fishing for the love of it and independence

Most fishers do not work in fishing with the goal of earning a high income, but for reasons including enjoyment of the types of tasks undertaken and environment worked in. Most commonly fishing was chosen as a profession because:

- 'I love fishing' or 'I never wanted to do anything else' — they enjoyed the process of fishing and the challenges fishing presented
- 'I wanted to be independent' or 'I'm master of my own destiny' — the ability to direct their own work was a key reason why many chose fishing as a living.





Profile of MSF fishing businesses

There was considerable variation in the fishing businesses operating in the MSF, reflecting the different types of licences held and the range of small and large operators.

Employment in MSF fishing businesses

Over half of the businesses operating in the fishery could be described as solo operations, with no employees (either paid or unpaid) assisting the licence holder. Notwithstanding this, the average number of paid employees per business was 1.16 persons (or 0.95 full-time equivalents) and the average number of unpaid employees per business was 1.05 persons (or 0.38 full-time equivalents), indicating a number of substantially larger operations.

Unpaid employment was a feature in 46.4% of businesses, mainly reflecting the part-time contribution of family members to the business. Only 16.3% of unpaid employees were not family members. A smaller percentage of businesses (37.6%) employed paid crew members (see Figure 6).

FIGURE 6 Employment in fishing businesses



Considerable variability in size of MSF fishing businesses

There was considerable variation in the size of fishing businesses (see Table 1). 'Net fishers'² tending to have higher business capital value, expenditure and gross sales than other fishers (see Figure 7).

TABLE 1 Fishing business income, spending and capital value in 2003-04 by licence type

Financial Year 2003-04	Mean*	Median**	1** Range***	
Capital value of business	\$122,623	\$64,450	\$2,580,600	
Total expenditure of business	\$45,281	\$22,450	\$722,285	
Gross sales of business	\$70,324	\$42,173	\$1,101,550	
Return to owner from fishing activities	\$21,076	\$14,665	\$439,825	

 Mean is the average of all responses (i.e. responses are added together and then divided by the number of responses).

** Median is the 'middle' value of all responses (e.g. if there were 500 responses, the median value would be the 251st value if the responses were ranked in order from lowest to highest).

*** Range = highest value - lowest value



The data in this graph exclude figures from one business of considerably larger size than the norm which otherwise would have skewed the average upwards. The figures in the table above include the figures from this large business.

Concerns over the future of fishing in the MSF

Most respondents (65%) would not encourage young people to enter the MSF. Workshop attendees gave several reasons for this:

- the underlying uncertainty and the lack of future security associated with fishing
- that they would want their children to have other skills, training or education to 'fall back on', rather than only learning fishing skills that may or may not support them into the future.

A large majority (94.9%) of respondents reported that it has become harder to enter the MSF over time. Workshop attendees reported that while it may have become administratively easier to enter the fishery, the high cost of purchasing a licence and the necessary capital items made entry difficult. Several older attendees considered they would not have been viable if they had needed to meet current levels of investment in start-up costs.



FIGURE 7 Fishing business size, expenditure and sales by licence type*

² The MSF has different types of licences and endorsements. 'A-class' licences are transferable, whereas restricted 'B-class' licences are not transferable. Some 'A-class' licences have endorsements to use nets as well as lines in their fishing (referred to as 'net fishers').

External changes threaten fishing business viability

The biggest challenges identified as facing fishing business viability (see Figure 8) were:

- increasing competition for catch from recreational fishers
- market pressures, with increasing operating expenses not matched by increasing prices for catch
- restrictions placed on how MSF participants can fish.

Regional impacts of the MSF

High impact on many regions

The MSF contributes significantly to many coastal regions of South Australia, both in economic spending, and in membership of community groups and historical links to the local area (see Table 2).

Key regions where the MSF has a high impact are the West Coast (principally Ceduna, Thevenard and Streaky Bay), Port Lincoln,

Increased recreational fishing for marine 80.1 10.8 4.3<mark>4.8</mark> scalefish species (N = 231) Changes to market prices (N = 220) 78.6 10.9 7.3 3.2 Changes to operating expenses (N = 221) 75.6 13.6 7.2 3.6 Changes in availability of fish (N = 223) 71.3 19.3 4.9 <mark>4.5</mark> Changes in regulation of the MSF 67.1 19.4 5.9 7.7 by the government (N = 222)Changes in access to particular 24.8 62.4 5.5 7.3 species (N = 218)Size limit changes (N = 223) 46.6 37.3 12.1 3.6 Netting closures (if applicable) (N = 185) 35.1 27.6 22.2 Т 0% 20% 40% 60% 80% 100% **Reduced viability** No effect on viability Increased viability Don't know/not applicable

FIGURE 8 Impacts of changes on fishing business viability

Region	Estimated number of active MSF licence holders	Estimated number of non-licence holders working in the fishery ¹	Estimated number of FTE ² employees working in the fishery ¹	Estimated household spending derived from MSF fishing income ³	Estimated spending on operating costs by MSF businesses ³	Percentage of regional population working in the fishery ⁴	Average number of years lived in the region ⁵	Average number of generations lived in the region ⁵	Percent who are members of community groups
South Australia	388	857	514.9	\$8,839,700	\$16,364,900	0.085%	30	2.1	49.5%
Northern and Eastern Adelaide	15 9	19	9.5	\$118,500	\$600,700	0.0061%	31	1.2	80%
Western Adelaide	37	74	38	\$1,136,500	\$1,692,200	0.055%	25.4	1.9	44%
Southern Adelaid	e 19	30	15.2	\$497,300	\$774,900	0.016%	24.8	1.4	36.4%
Fleurieu Peninsula (including Victor Harbour & Yanka	a 14 ılilla)	23	11.4	\$202,200	\$1,271,300	0.16%	25	1.7	41.7%
Wakefield	10	17	8.6	\$377,000	\$272,100	0.43%	31.9	2.7	61.5%
Kangaroo Island	19	36	18.1	\$448,100	\$355,700	1.3%	28	1.9	46%
Barunga West an Copper Coast	d 46	87	44.6	\$1,031,400	\$1,209,100	1.02%	33.5	3.0	37.1%
Yorke Peninsula	58	114	58	\$1,527,100	\$2,356,800	1.56%	32.4	2.3	59.6%
Whyalla	8	30	15.2	\$359,600	\$676,200	0.18%	20.8	1.9	30%
Port Pirie City and District	15	28	14.3	\$369,000	\$609,100	0.25%	38.5	2.6	45.5%
Port Lincoln	62	95	48.5	\$1,298,500	\$3,004,700	1.19%	34.9	1.8	52%
Greater Lincoln ar (exc. Port Lincolr	rea 30 1)	57	29.4	\$211,700	\$2,199,700	0.81%	21.6	1.7	59.3%
West Coast	57	106	54.1	\$1,193,300	\$1,644,200	2.88%	31.4	1.9	42.1%

TABLE 2 Impact of MSF on different South Australian regions

¹ Includes paid and unpaid employment

² FTE = full-time equivalent

³ Includes part-time and full-time employment

⁴ Figures are for financial year 2003-04

⁵ Average is for all MSF participants, both licence holders and non-licence holders

the Yorke Peninsula and Kangaroo Island. In Western Adelaide, there is a high impact primarily via delivery of catch to fish receivers, but also through a relatively high number of MSF participants resident in the region.

Based on the survey results, activities in the MSF are estimated to provide direct employment for over 850 people in full and part-time, paid and unpaid employment. Across South Australia, participants had:

- lived in the same region for an average of 30 years and an average of 2.1 generations
- spent an estimated \$8,839,700 on household costs in 2003/04
- spent an estimated \$16,364,900 on business operating costs in 2003/04.

Most respondents purchase household items locally

The significance to the local community of MSF participants is further highlighted by the levels of local expenditure. More than 70% of respondents usually purchased their household items locally (defined as the postcode of the area in which they live). The exceptions were spending on holidays and mortgage or rent payments, where less was spent locally (see Figure 9).

FIGURE 9 Proportion of household expenditure in respondent's local area





Groups within the MSF

Just as there is a variety of business types and sizes operating in the MSF, there are various groups within the fishery that have quite different levels of wellbeing and quality of life.

Older participants tended to have:

- lower fishing effort and smaller fishing businesses with lower gross sales, expenditure, number of paid employees, capital value and profit
- fewer work-related health problems and were less likely to report that their fishing work presented high or very high risk to their health. This may be related to lower overall fishing effort in this group, and a reduced likelihood of fishing during poor weather or other adverse conditions
- higher overall satisfaction with their level of finances.

Younger fishers are, in general, experiencing higher levels of stress and financial difficulties. Workshop attendees indicated that higher debt levels among younger fishers were due to investing in the capital and licence needed to fish in the MSF, and younger fishers needed higher overall income to support young families.

Women were more likely to be:

- working unpaid in a fishing business, usually part-time
- while often described as unpaid, the work undertaken by women usually results in financial gain for their household.



MSF fishing businesses often operate as household businesses run by a husband and wife who undertake different tasks. Describing some of the work in the business as unpaid means that the contribution of women often goes unacknowledged.

Net fishers tended to:

- run larger businesses with higher turnover and higher numbers of employees than line fishers
- report a higher satisfaction with their life than A-class line fishers
- have higher levels of satisfaction with their fishing income than other fishers
- be more likely to be members of a fishing group
- be more dependent on fishing income than A-class line fishers, with 44.3% of net fishers reporting someone in their household had a job outside fishing compared with 58.9% of A-class line fishers.

B-class licence holders had:

- much lower business size and activity than other licence holders
- much higher dependence on fishing income than either of the other licence type, with only 31.2% reporting someone in their household had work outside fishing
- a high satisfaction with the life overall, despite their lower income.

While net fishers have higher quality of life in terms of fishing income and strong fishing networks, their high dependence on fishing income suggests they are more vulnerable to changes in fishing. B-class licence holders, despite reporting lower levels of income from non-fishing sources, appear less actively involved in fishing networks and in fishing generally, with lower turnover and activity in fishing, perhaps reflecting a part-time or semi-retirement status.

New entrants or those with fewer years of experience fishing were:

- making less money
- more likely to perceive their fishing work as involving high risk.

Those with an intergenerational history of fishing, while being less satisfied with external influences on the fishery, reported:

- higher income
- larger business size
- more links to fishing networks than newer entrants, indicating a higher quality of life overall.

Workshop attendees suggested recent entrants to the fishery, particularly those without a family history in fishing, were more likely to be servicing high levels of debt than others in the fishery. They were also believed to be 'going broke' on a regular basis, with more experienced fishers observing, in recent years, many new entrants coming into the fishery and exiting within a few years.

The apparent shift from intergenerational fishing participation to increasing numbers of new entrants in the fishery without a family history of fishing may reduce levels of wellbeing. New entrants have fewer avenues for learning fishing skills and hence making a reasonable financial return from fishing. The results show that those who had worked for only one generation in fishing reported significantly lower business activity, including gross sales, than those with intergenerational histories of fishing. An alternative explanation for this pattern is that some new entrants are taking up commercial fishing as a lifestyle choice, rather than to run a profitable business.

Implications for management and future of the MSF

The results of this social assessment have key implications for the management and future directions of the MSF.

Fishers' motivations affect responses to financial incentives

Fishers' primary motivations for working in fishing were related to the tasks and environment of the work undertaken — not to the income received from fishing. Many fishers were willing to continue working in fishing even when they were consistently making very low returns from fishing. This means fishers are potentially unlikely to be responsive to financial incentives alone.

Pressures facing those dependent on fishing

While fishers were highly satisfied with the tasks they undertake while fishing, they felt constrained by a range of external pressures. Many of those dependent on the MSF perceive an uncertain future for the fishery, with reduced business viability or increased stress as a result of the following pressures.

- Competition and pressure from recreational fishing for scalefish species:
 - Some fishers work in poor weather conditions or take other risks to avoid interactions with recreational fishers.





- Market pressures due to increasing business running costs without associated rises in prices received for catch:
 - Leading to increased effort to stay in business, particularly those servicing high business debts.
- Past and future changes to regulations and management of the fishery and the impacts of these changes on their right and ability to keep fishing:
 - Fishers reported having little flexibility in their businesses as a result of management regulations. Management regulations limited the ability of fishers to expand their businesses through targeting a broader range of species in response to changing market prices. In some cases, fishers believe it has limited their ability to fish sustainably, because they have had to repeatedly target the same species or areas rather than shift fishing effort across a wider range of species or areas over time.
- The strong belief that commercial fishers are perceived negatively by the general community:
 - This creates a feeling for some fishers that they are 'under siege' and that they are being unfairly cast in a negative light as causing damage to the environment. Many felt this community perception contributed to the fishery being isolated and under threat, including politically, increasing their sense of uncertainty about the fishery's future.



Long-term trends in the MSF

Concerns about the underlying uncertainty and lack of future security associated with fishing led fishers to feel they would not encourage young people to enter the MSF. They would seek a broader set of skills for children to 'fall back on' rather than only learning fishing, which may or may not support them in the future.

As a result more income may be diverted to financing other education with less unpaid family labour available to fishing businesses. In the long term, lower confidence in the ability to hand on businesses to the next generation may stimulate short-term thinking and the adoption of less sustainable fishing practices.

Changing nature of participants in the fishery

The shift from participants with a strong family history of fishing to new entrants who do not have previous experience fishing commercially has a range of implications. Intergenerational fishers tend to have larger businesses and higher returns. They are also likely to have increased fishing knowledge and skills. All of this may mean they fish in a more sustainable way than some more recent entrants to fishing.

Transfer of fishing skills

The shift in participants may mean fishing skills are not effectively passed on to new fishers. Most current fishers learned their fishing skills either from family members or through trial and error while fishing. The shift to new, inexperienced entrants, may result in the loss of important local fishing skills and knowledge. More support networks for new and younger entrants to the fishery, and for the many employees (particularly women) in the fishery, would help to ensure that knowledge and skills are disseminated more effectively through the fishery.

Networks and communication among fishers

Fishing networks and support systems are fragmented and many fishers rely heavily on informal, localised networks to gain information about activities and changes happening in the fishery. Members of fishing groups tend to be those with larger fishing businesses and higher family involvement in fishing. A large number of paid and unpaid employees working in the MSF are not members of fishing representative groups. Low membership of fishing groups limits opportunities to transfer knowledge and skills within the fishery, and the ability of the fishery to work as a united group.

Suggestions made during workshops for encouraging participation in fishing groups and attendance at meetings included organising meetings for bad-weather days so that fishers do not have to forego income to attend; developing a database of contact details, including fax numbers, to more easily and efficiently contact fishers; meeting fishers at places and times where they already are likely to be (e.g. processors); and ensuring that fishing representative groups explicitly target (and are seen to target) the issues facing fishers.





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For further information

If you found this summary booklet informative, you can access the whole report at the BRS Social Sciences website – www.brs.gov.au/socialsciences

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