Fishing for women:

Understanding women's roles in the fishing industry

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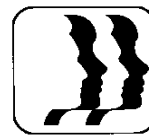## women's roles in the
fishing industry

Heather J. Aslin, Trevor Webb and Melanie Fisher
Bureau of Rural Sciences

FISHERIES
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Women's Industry Network

The Social Sciences Centre is a part of the Bureau of Rural Sciences, a professionally independent scientific bureau within Agriculture, Fisheries and Forestry – Australia (AFFA), part of the Commonwealth Government. The role of the Social Sciences Centre is to provide an interface between the social sciences and policy makers. This is achieved by providing expert social science information, assessments and advice on issues relevant to AFFA. The Centre complements the Bureau's established expertise in biological and physical sciences, and contributes to an integrated approach to addressing natural resource issues.

The Bureau's address is:

Bureau of Rural Sciences
PO Box E11
Kingston ACT 2604
Internet: www.brs.gov.au

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Summary

This study forms part of a larger research project initiated by the Women's Industry Network (WIN), a South Australian-based non-government organisation for women in the fishing industry, and the Social Sciences Centre of the Bureau of Rural Sciences (BRS). The research deals with women in the commercial fishing industry (sometimes termed the 'seafood industry'), covering wild catch fisheries and aquaculture.

Specifically, the research is based on the view that women's roles in the Australian fishing industry are poorly reflected in industry statistics, and women's contributions to industry output and productivity are poorly recognised. There is far more information available on fisheries' production and stock assessments than there is on women's contributions. As a result, this project is designed to address what is an immediate need for information to help build a picture of the roles women play and help them develop those roles. This information will provide insight into what areas of the industry interest women, what issues concern them, and how they might further develop their roles.

Accordingly, the research objectives for the study are to:
- gather information about women involved in the fishing industry
- obtain women's views about their current and future roles
- identify barriers preventing women from becoming more involved in the industry and what might be done to overcome them.

In addition, a major aim of the study is to seek women's views about the value of women's networks and the services these networks need to provide. This is to help WIN to further its action plan and possibly provide a model for similar organisations to follow elsewhere in Australia.

These objectives have been achieved by:
- conducting a search of relevant literature
- conducting key informant interviews with 20 people with senior roles or extensive experience in a range of industry sectors (17 women, 3 men)
- sending a mail-back questionnaire to 401 industry women, resulting in a final sample size of 202 respondents
- analysing interview and questionnaire responses using social science methods.

The two largest work sectors to which questionnaire respondents belonged were the owner-operator category (41.3% of respondents) and government workers, both State and Commonwealth (32.2%). The main work sectors of interviewees were Commonwealth Government (7 interviewees), State Government (5), and non-government organisations (4). Smaller numbers of interviewees and questionnaire respondents came from a range of other work sectors. Interviewees were more 'elite' in terms of their formal educational qualifications than questionnaire respondents (for example, 50% of interviewees had post-graduate qualifications as compared with 24.1% of questionnaire respondents).

Major findings of the study are:
- industry tasks most commonly carried out by questionnaire respondents fell into the categories mail/correspondence, book-keeping, and attending meetings – more than 50% normally performed these tasks
- respondents with paid roles in the industry earned a median of 26-50% of their family's income in their industry role

- while most respondents were satisfied with their main industry role, more than half wanted to make some change, and identified obtaining better status or recognition for their industry role as the main change they wanted
- when respondents were asked to indicate the main barriers to them making their desired changes, they identified time commitments/lack of time, lack of money, and lack of training as being most important
- the majority of interviewees (15) believed that women do face barriers in the industry generally – the two major categories they described were practical barriers (time commitments, childcare responsibilities, conditions on boats), and overt discrimination/prejudice from men
- 19 of the 20 interviewees thought there was a role for women's networks in improving women's status in the industry, and they identified information exchange and making contact with other women as the major services needed
- 20.6% of respondents were already a member of a women's network, and a further 61.6% indicated they might join – the main services wanted overall from networks were providing a forum to meet other industry women, and promoting industry-related training for women.

Interviews and questionnaire findings have been related to relevant findings from national and international literature on women's involvement in fisheries. Similarities between women's roles and issues in agriculture and fisheries are identified. Many of the barriers identified in this study appear similar to those identified in the *Missed opportunities* report (RIRDC/DPIE, 1998), and by Alston (1995a, 1995b, 1998) in research on Australian women in agriculture. Correspondingly, similar actions may be needed to address them.

Specific recommendations for further development of the research are:
- developing a more comprehensive and representative list of women in the industry
- developing basic statistics and data bases about industry women and their work
- identifying in more detail the gender imbalances currently existing in fisheries-related organisations and fisheries decision-making bodies
- undertaking further searches for similar research, particularly on Aboriginal women's fishing practices, both commercial and subsistence
- undertaking more specific studies of women working in specialised sectors of the industry, especially women working in home-based family fishing businesses
- undertaking research on women's ownership of property and property rights in the industry (including gear, vessels, licences and quotas)
- investigating current health and safety standards for vessels operating in the wild catch sector and the extent to which these deter women from participating more fully
- investigating wider policy implications of the study's findings and developing action plans to address the issues identified.

The report also highlights issues relating to the nature of the fishing industry, especially the wild catch sector, and its popular image. There is a need for it to move away from traditional stereotypes of 'blokes in boats' to a more community and family-based image. Industry women have a major role in achieving this image change.

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1 Background

1.1 The research proposal

This study originates from a proposal submitted in November 1998 to the Fisheries Research and Development Corporation (FRDC) by June Gill of the Women's Industry Network (WIN) and Melanie Fisher of the Social Sciences Centre of the Bureau of Rural Sciences (BRS). The proposal is entitled 'Empowering fishing women to capitalise on networks' and incorporates a proposed questionnaire survey of women in the Australian fishing industry, with a particular focus on the role of organised networks for women. The project is seen as falling principally in the FRDC program area of industry development and the key area of people development.

WIN is a non-government membership organisation composed of women involved in the commercial fishing industry, and based in South Australia. It began in 1996. The organisation has described itself as 'a network of women within the fishing and seafood industry committed to tackling important issues to ensure a positive future' (WIN, undated).

In part, this research proposal stems from international policy developments and Australia's recognition of its national obligations. A significant international development, for example, was the Beijing Declaration on Women and Development, which was adopted by the Fourth World Conference on Women on 15 September 1995. It expressed a commitment to:

> The empowerment and advancement of women … thereby guaranteeing them the possibility of realizing their full potential in society and shaping their lives in accordance with their own aspirations (Article 12)

and the conviction that:

> Women's empowerment and their full participation on the basis of equality in all spheres of society, including participation in the decision-making process and access to power, are fundamental for the achievement of equality, development and peace (Article 13).
>
> (Jayasuriya and Jayasuriya, 1999)

The Beijing Declaration also includes a 'Platform for Action', which is described as an agenda for women's empowerment. It calls upon all sectors of civil society, including women's groups and networks, to cooperate with governments to effectively implement the actions identified in the Platform. This research is very much in the spirit of this injunction, involving as it does a cooperative effort between a non-government women's network (WIN), a government research bureau (BRS), and a joint government-industry research and development corporation (FRDC).

In February 1998, WIN held an FRDC-sponsored workshop entitled 'Capitalising on the talents of women in the South Australian fishing industry'. The workshop developed a four-point action plan for WIN's future operations. Goal number three of this action plan is 'To improve information flow between all stakeholders within the fishing industry therefore increasing the competitiveness of the industry' (Gill and Fisher, 1998). The research reported here, a questionnaire and interview survey of women in the industry, forms Stage 1B of the overall FRDC-funded proposal and is also part of achieving goal number three of the action plan.

In addition, the overall proposal includes:

- conducting a conference focusing on issues facing women in the fishing industry generally
- conducting a professionally-facilitated workshop to identify processes for addressing the issues identified
- implementing processes and structures appropriate to address the issues identified
- actively encouraging and supporting women and networks to positively impact on these issues.

(Gill and Fisher, 1998)

Following the success of this proposal in obtaining FRDC funding in early 1999, WIN commissioned the Social Sciences Centre to undertake the questionnaire survey as part of the overall proposal. The original questionnaire component has been supplemented by key informant interviews to give additional information on which to draw conclusions and make recommendations. The outcomes of the research helped provide a basis and focus for a conference and workshop organised by WIN in Adelaide in December 1999. They are also intended to help identify issues and actions needed to address these issues, and to develop a contact list of industry women. Publishing the research is also part of informing industry members about women's roles, needs and issues of concern.

1.2 Research scope

The overall proposal and the survey reported here focus on women involved in the *commercial* fishing industry – subsistence fishers are not dealt with in any detail, although the literature review covers studies of women's roles in subsistence fisheries elsewhere around the world. Recreational fishing is not included.

Fishing is referred to by a range of terms in the sociological, ethnographic and anthropological literature – commercial fishing in western societies is often called 'industrial' fishing, while small-scale fishing in non-western societies is often called 'peasant' or 'artisanal' fishing.

In Australia, the term 'indigenous' fishing is often used to refer to the subsistence fishing practices of Aboriginal and Torres Straight Islander people. Indigenous people are of course involved in commercial fishing operations in Australia as well, particularly in northern Australia. This study does not deal with their involvement to any significant extent, partly because of its predominant focus on south-eastern Australia.

1.3 Structure and profile of the industry

The commercial fishing industry involves far more than those directly involved in 'wild capture' or 'wild catch' fishing activities, important as they are in giving the industry its popular image. It is hard to get away from the dramatic images of hardy men (and they are almost invariably men in popular depictions), on heaving boats, braving stormy seas and hauling in heavy nets laden with flapping fish. They are often seen as the 'grassroots' or 'real' fishing industry in analogy to farmers' roles in agriculture and loggers' roles in the timber industry. But they represent only part of the industry, and only part of the wild-catch sector, as will become more apparent later in this study.

One definition of the Australian fishing industry is that it:

> … includes any activity carried on, in or from Australia concerned with: taking, culturing, processing, preserving, storing, transporting, marketing, or selling fish or fish products.
>
> The fishing industry comprises the recreational, commercial, and Aboriginal and Torres Strait Islander sectors. The **commercial sector** – which for practical reasons includes the pearling sector – is also referred to as the **seafood industry**.
>
> (FRDC, 1999)

In terms of this definition, this study covers only the commercial sector of the fishing industry or the seafood industry as a whole, but we have tended to use the term 'commercial fishing industry' or 'fishing industry' throughout the report.

Using the term 'seafood industry' highlights the fact that the industry deals not only with fish in the zoological sense, but also crabs, abalone, oysters, mussels, octopus, clams, lobsters and a range of other marine animals. Some sections of the commercial fishing industry also use freshwater species like yabbies, marron, silver perch, barramundi, and eels, either wild caught or farmed.

The industry includes a growing aquaculture sector (often called an industry in its own right), cultivating aquatic animals in captive situations in farms dams, in sea cages, ponds, pens, tanks or other controlled settings. The aquaculture sector was the focus of a major international conference in Sydney, Australia, on 26 April - 2 May 1999, and the range of presentations at that conference highlighted the high levels of interest in aquaculture in Australia and overseas as a possibly more sustainable source of seafood than wild capture fisheries have been. Aquaculture may involve many special purpose facilities including laboratories and hatcheries for breeding animals (such as prawns for example), and holding facilities for captive-bred animals at later stages of their life cycles before harvesting.

It is estimated that in 1995-96, the direct production part of the industry's wild catch sector employed approximately 21,000 Australians, and aquaculture directly employed 6,000 Australians (FRDC, 1999). These figures do not include people employed in associated activities like processing, retailing and seafood restaurants. Nor is it clear whether they include wives or partners of wild catch fishers or aquaculturalists who provide home-based support services, as people in these situations may not formally identify themselves as being employed in the industry. The total number of people employed in the industry and industry-related activities is therefore likely to be considerably larger than these figures indicate.

In a sense, the fishing industry is not a single industry at all but a loosely connected range of economic activities. They are united only by the fact that they are based on farming or harvesting aquatic animals either to provide food for people and their domesticated animals, or to provide other special products (for example pearls, ingredients for pharmaceutical products, live fish and other marine animals for the aquarium trade).

From this it can be seen that there are many different terms used in describing the overall structure of the industry. Some important terms and descriptions used are shown in Table 1.

Table 1 Some terms used to describe the fishing industry

Aspect of industry	Descriptive terms
Nature of stocks/ resource base	Wild capture or wild catch, aquaculture, fish farming
Species utilised	Freshwater or marine species, fish or other aquatic animals e.g. lobsters, oysters, clams, marron, prawns, crabs
Nature of fishery	Many descriptive terms – inshore or offshore; geographical extent; main species fished; shore-based or vessel-based; deep or shallow water; types of boats used; indigenous or non-indigenous; industrial, peasant or artisanal; commercial, subsistence or recreational
Fishing methods used	Line fishing, hook fishing, trawling, netting, seining, diving etc.
Stage in food production chain	Harvest, post-harvest, processing, retailing, marketing etc.

2 Background - International research on women in fisheries

2.1 Research fields and theories applied to women in fishing

This study contributes to a very large body of sociological research on gender and division of labour in western societies. This body of research can also be seen as including a range of anthropological and ethnographic studies on similar topics in non-western cultures – cross-cultural gender research.

Gender research deals with the differences in men's and women's roles in different cultural and social contexts. These differences are recognised as being due partly to gender role socialisation and partly to innate genetic differences between the sexes. 'Gender role socialisation' refers to the processes by which people learn, particularly in childhood, the appropriate ways for girls and boys, or men and women, to behave in their society. This research makes a fundamental distinction between differences due to people's biological sex, and gender role differences that are due largely to social learning processes. It is not easy in practice to separate these out though, as they are intertwined virtually from the moment people are born (and some might even suggest from before birth). Gender research emphasises that gender roles are 'social constructs' that may differ greatly between human societies, not roles that are an inevitable consequence of human biology. These roles change as societies change and develop, and vary both within and between cultures.

A fundamental gender-based division of labour is often assumed to exist between men and women in hunter-gatherer or subsistence societies. In these societies, women are traditionally thought of as the gatherers, often restricted in moving far from home by the need to care for children; and men are the hunters, ranging long distances and freed from domestic duties and childcare by their female partners or female kin. This simple division of labour seldom proves to be true when more detailed research is done on these societies, but it remains as a stereotype in many people's minds.

The character of particular natural resource management practices in western societies may be strongly influenced by the fact that they are mainly carried out by one gender or the other. If so, it may be useful to investigate gender-related aspects of these practices and consider whether more balanced gender representation may have social, economic or environmental benefits as claimed by the Beijing Declaration (Jayasuriya and Jayasuriya, 1999).

2.2 Women in fishing around the world

There is a growing literature on women's roles and contributions to natural resource or environmental management, and to rural social development. This literature lies within the general fields of rural sociology, anthropology, ethnography, political economy and human organisation. A brief search of relevant databases and library catalogues for material on women in fishing did not reveal any material specifically dealing with women's roles in Australian fisheries (however, we did not search for literature dealing with Aboriginal culture and there undoubtedly are anthropological studies on Aboriginal women's fishing activities). The search did reveal a substantial literature on women in fisheries, mainly wild capture sectors, elsewhere in the world.

A book by Sachs (1997) compiles some papers previously published in this field. It includes studies done in both western and non-western societies examining gender-related aspects of forestry, agriculture, mining and fishing occupations as well as more general environmental

issues. In her introduction, Sachs (1997) identifies five main themes for gender research in these occupations:

- gender divisions of labour
- access and control over resources
- knowledge and strategies for survival
- participation in social movements
- policy concerns.

The first theme, perhaps the one most relevant to this study, considers how work is organised by gender in communities dependent on natural resources. It highlights the fact that women's work in many of these communities is often eclipsed by men's work as loggers, fishermen, farmers and miners. Marked divisions of labour exist in both western and non-western communities where these activities are carried out (Ireson, 1999). Two studies in this theme focus on fishing.

In the first of these, two anthropologists, Dona Lee Davis and Jane Nadel-Klein, who first published a review of the literature on women in fishing in a book called *To work and to weep: women in fishing economies* (Davis and Nadel-Klein, 1988), provide an update of their review. The original review and the update cover studies of women's roles in both commercial and artisanal fisheries in a range of countries and settings. The authors comment that studies of fishing economies often relegate women to:

> a passing comment, paragraph, or discrete section on the household and/or family. Accounts focusing on women as major actors in fishing economies were relatively rare.
>
> (Davis and Nadel-Klein, 1992, p.135)

Davis and Nadel-Klein (1992) identify three main approaches to analysing gender issues. These approaches focus on:

- women's lives as separate or distinct from men's lives – women and men having different but complementary spheres of activity. This is a polarised view of gender roles. Women are consistently assigned to the domestic, land-based and private sphere, and have roles as mothers, as family members, and in marriages, while men are assigned to the public and sea-based sphere. Women who work in the sea-based sphere are regarded as exceptions requiring explanation (the 'land-sea division' approach)

- considering how power relations between men and women relate to concepts like colonialism, capitalism, race and class, with a focus on how goods are produced and labour reproduced – this is a 'macro-level' approach looking for broad theories based on the ideas of political economist Karl Marx (the 'production and reproduction' approach)

- unlike the first two approaches which see gender as polarised, returning to detailed, intensive or micro-level studies which allow multiple concepts of power, status and social position, and allow multiple views of men and women's roles in particular societies (the 'multiple roles' approach).

The land-sea division
Studies using the first approach as applied to wild capture fisheries find that because men are away at sea for extended periods, much of the daily life of the community is controlled by non-fishers, particularly women. Gender roles tend to diverge, with men being responsible for sea-based activities and women for land-based ones. Women whose male partners are at sea are not only responsible for child-rearing but they also make important decisions and may show strong individuality. Davis and Nadel-Klein suggest that:

> While their men are at sea, women must become 'reluctant matriarchs'; when their men are at home, women must turn into dutiful wives.

> (Davis and Nadel-Klein, 1992, p.139)

Studies using this approach and their major findings are summarised in Box 1. Many use a comparative perspective, but are generally carried out in western settings. They take as their basis the western concept of the nuclear family, and the norm as being a division of work where women take primary responsibility for the domestic, unpaid sphere of work and men for the paid, public sphere.

The study by Thiessen and his co-workers is particularly relevant (Thiessen et al., 1992). They undertook a regional comparison of fisheries-dependent households in North Norway and Nova Scotia, Canada, and also compared the views of wives and husbands within households, focusing on their reported and desired contributions to the fishing enterprise. Structured interviews were used to collect information. The 'enterprise' in this study was limited to family-based ones where the survival of the enterprise directly depended on the family itself. Households were selected from lists of owners of small fishing vessels (less than 20 metres long). Husbands and wives, interviewed separately, generally showed close agreement in their reports of the level and ways wives contributed to the fishing enterprise. In both locations, women's major reported roles were as shown in Box 1 (domestic, support and business/financial management services). The average number of tasks Norwegian women reported doing was five, while women in Nova Scotia reported an average of six tasks. In both regions, husbands wanted their wives to participate more in the fishing enterprise, but Nova Scotian wives felt that they were already sufficiently involved.

Thiessen and his colleagues conclude their study by commenting that the potential of these family enterprises might be realised best if:

> … public policy were developed specifically to provide wives with the ability and resources, for example education and subsidizisation, to initiate and control entrepreneurial activity.

> (Thiessen et al., 1992, p.350)

Production and reproduction
In the 'production and reproduction' approach, the focus is on the sexual division of labour and how women's unpaid and often unrecognised work in the home influences both their own ability to enter the workforce, and their vital role in reproducing the industrial workforce by having children. A series of studies of North Atlantic fisheries carried out during the 1980s uses this approach (for example Porter, 1987; Moore, 1988).

Some of the points made in these studies are that in fisheries like the Newfoundland inshore fishery for example, the fishers are predominantly men, play the role of commodity producers, and sell their catches to fishplants where women make up much of the processing labour force and are industrial wage earners. A similar situation is likely to apply in Australian fisheries where part or all of the catch requires post-harvest processing before sale, for example fisheries where the catch is canned, salted, frozen and/or packaged.

Box 1 Major findings of studies taking the 'land–sea division' approach to women's roles

- wives of North Carolina fishers - these women are so unenthusiastic about their husband's occupation that they actively discourage their children from taking up fishing, with the result that men find it difficult to recruit the next generation (Dixon et al., 1984)

- 'fishwives' on the east coast of Scotland, where women are widely regarded as an essential part of fisheries because of the role they play in mediating conflicts resulting from decisions about forming crews and fishing competitively (Nadel-Klein, 1988)

- women involved in commercial wild capture fishing in Massachusetts, where the low percentage of women (1-2%) is attributed to the fact that women do not have the opportunity to learn about fishing as an occupation during childhood. Women who take up wild capture fishing do so almost by chance rather than through actively choosing it as a career (Kaplan, 1988)

- in northern Norway and Nova Scotia, surveys of small boat, household-based fishing enterprises show that women participate substantially in these enterprises, with their major self-reported roles being domestic services (cleaning boats, making meals, washing clothes), support services (getting parts for equipment, listening to marine radio), and business/financial management (book-keeping, recording catches, paying fishing bills) (Thiessen at al., 1992)

Another aspect of wild capture fisheries highlighted by studies using this approach is that fishers' (usually men) absences at sea influence their ability to develop power bases and political alliances in the larger society to which they belong. The result may be that they and their occupational group are politically marginalised. Comparisons could be made here between the political profiles of fishers and the fishing industry in Australia as compared with agriculture and forestry. Also, as men go to sea, they become particularly dependent on women's work onshore. This dependence extends to women's work directly in fisheries (whether processing or other production-related activities), and to their work in caring for children and the home (Thompson, 1985).

Multiple roles
The third approach, the multiple roles approach, covers many studies that avoid using simple masculine-feminine or land-sea gender role divisions, and avoid making broad generalisations about human social organisation. They include studies using anthropological and ethnographic methods, often based in non-western cultural settings. An example is the detailed study of women in a fishing village near Madras in India, the second of the fishing studies in Sachs' book (Norr and Norr, 1992). It finds that women do not fish but instead go to meet their husband's boats or the boats of other male relatives when they return from fishing trips, and assume primary responsibility for selling the catch. This is a traditional role for women in the village. In comparing the village's women with women in Indian agrarian or agricultural communities, the authors find that fishing women are less constrained in their daily activities and have more power. This is partly because they have access to an independent income from selling fish; men are away for long periods fishing; and there are high male death rates because ocean fishing is such a dangerous occupation, not only in India but elsewhere (Davis and Nadel-Klein, 1988).

Some of the complexity and variations in women's roles in Indian, South-East Asian and Pacific fisheries is conveyed in reviews by Joseph (1989) and Matthews (1995). A brief summary of some findings is given in Box 2.

Box 2 Summary of findings of studies on women's roles in fisheries in India, South East Asia and the Pacific. From Joseph (1989) and Matthews (1995)

- in the Philippines, more than 50% of handling, marketing and distributing fish catches is carried out by women, but women are not permitted on board fishing vessels

- taboos about women going on board fishing vessels do not exist generally in the South Pacific, however in some Melanesian societies women are forbidden to touch men's fishing equipment

- in Melanesian, Micronesian and Polynesian societies women traditionally glean seafood around shores, reefs and lagoons, and fish by hand or by using traps or nets inshore – deep sea fishing is a male preserve

- in Fiji and Papua New Guinea, subsistence fishing and post-harvest fish processing are carried out mainly by women

- in Thailand, women carry out both fish processing and freshwater fish farming, with about 90% of the labour force in fish and shrimp processing being women

- in Malaysia, women process products such as fish pastes, shrimp sauce, pickled fish and dried and salted fish

- in Sri Lanka, women use beach seines and boats in some villages, as well as being involved in a range of other fishing activities

- in Bangladesh, women are extensively involved in small scale fisheries including fishing in inland waters

- women's roles vary from State to State in India, but women make up most of the labour force in processing, distributing and marketing fish overall – prawns, clams and shrimp are major seafood products.

Joseph (1989) reports that there is little information about women's roles in aquaculture or fish-farming in India, and points out the scope for women to participate more in every aspect of aquaculture because it can be easily combined with raising livestock. Joseph also gives figures for numbers of women's cooperatives in different Indian States. These cooperatives provide loans to members to buy salt for fish curing and twine for net-making, as well as improving members' access to education, health care and family welfare services.

The edited book by Matthews (1995) contains articles about women's involvement in fisheries throughout the Pacific islands, and is intended to help improve recognition of women's contributions. The foreword of the book identifies these obstacles as confronting women in the Pacific:

- a lack of women's participation in fisheries development planning which results in exclusion of women from the development process

- low or no priority given to subsistence inshore fisheries, the domain of women
- limited or no access to land, technology, capital, and training
- lack of analytical gender-specific information on fisheries development activities.

<div align="right">(Tuara, 1995)</div>

The last chapter of the book reports on the origins of the Women and Fisheries Network based in Suva, Fiji, and formally constituted in 1993. Its intent is to establish a broadly-based membership in the Pacific, comprising women, development activists, researchers and women involved in fisheries activities or projects. Its goals are to:

- achieve recognition of the importance of Pacific women's fisheries activities in subsistence communities and in domestic food markets
- acquire access for Pacific women to fisheries development resources and training
- seek representation for women in fisheries decision making
- promote sustainable forms of development in the Pacific
- engage in research and analysis on issues concerning fisheries and women.

<div align="right">(The Women and Fisheries Network, 1995)</div>

A somewhat similar network, the Women's Fisheries Network, exists in the United States, with three chapters covering the Northwest, Northeast and Alaska (Women's Fisheries Network, 2000). It was founded in 1983 and describes itself as:

> A national nonprofit network of women and men dedicated to educating members and non-members alike about issues confronting the commercial fishing and seafood industry.
>
> <div align="right">(Women's Fisheries Network, 2000, p.1)</div>

It offers members a forum to meet others with similar interests, identify and address women's specific needs, exchange information on important issues, and increase awareness of the contributions women have made to the industry.

Comparisons between studies of women's roles in fisheries in India, Japan, Taiwan, Brazil, the Caribbean, Portugal and Malaysia suggest that women's economic opportunities in fishing and in other natural resource-based activities are an important aspect of these societies and an important influence on women's status in them (Davis and Nadel-Klein, 1988). If women have direct access to fishing income, or can make money from other activities, they may have more independence and power than they would otherwise have (Thompson, 1985; Norr and Norr, 1992). Where societies or communities are based on primary production, women's direct involvement in production helps integrate them into a network of relationships extending beyond home and family (Norr and Norr, 1992; Huber and Spitze, 1988). Women's fishing networks and cooperatives are evidence of this integration for women in fisheries.

In an epilogue to their study of women in an Indian fishing village, Norr and Norr (1992) make general comments about the demands on women to perform many family and business roles in modern western societies. They suggest western women's recent (and perhaps modest) gains in wealth and status may be accompanied by losses in other spheres of life. For example, in western industrial and post-industrial societies, women's gains in education and employment outside the home may be accompanied by increasing overall workloads because there have not been corresponding changes in how household work and child care are divided up between male and female partners (McMahon, 1999). These changes in responsibilities for household work have not taken place because of western gender role

stereotypes that are almost universally held by both women and men, and perhaps because many men see it as being in their own interests to retain ascendancy in the public sphere.

Allison and her co-workers have written a book entitled *Winds of change: women in northwest commercial fishing* (Allison et al., 1989). This book reports the results of detailed oral history interviews with ten women involved in fishing in the Pacific Northwest of the United States. While it is based in a western context, this book deals with fishing at the micro-level and provides detailed descriptions of individual women's roles – therefore it seems to fit best with the multiple roles approach. The authors comment:

> The stereotypic image of commercial fishing consists of male rugged individualists boldly confronting the sea. This stereotype obscures the range of actual behaviors and individuals who contribute to and make their living within the Pacific Northwest commercial fishing industry. The stereotypic image of individualists and the sea usually does not include women, who are often invisible in characterizations of these hardy souls.

(Allison et al., 1989, p.xi)

In their analysis of women's roles, they identify the following broad categories: fishermen's wives; women in small family businesses and independent women; fish processing; fishing industry management; and political activism. They point out that these categories are non-exclusive and women may participate in the industry in several capacities sequentially or simultaneously.

Another issue closely related to multiple roles and to gender divisions in using different tools and techniques is the scale of the fishing operation. Eva Munk-Madsen (1998) discusses this in an article on fishing quotas in Norway. She points out that small-scale fishers of either gender who switch between different roles and jobs at different times of the year, may as a result be considered inefficient or unprofessional. Their status and rights in the fishing industry may be devalued as a result. For example, she reports that when a quota system was introduced for cod fishing in northern Norway, quotas were allocated to vessels on the basis of their previous catch sizes. Small-scale fishers owning small vessels and relying on a range of income sources, not only fishing, generally lost out. This description applied to most of the female vessel owners in the fishery.

Together, the studies using this multiple roles approach suggest that 'fishing' or the 'fishing industry' as a broad category of socio-economic activity may need much closer scrutiny from a social science perspective. It covers people engaged in a wide range of activities with perhaps not a great deal in common. More useful distinctions may relate to the different sectors of the industry; how industry activities are structured (whether family-based, factory-based, organisation-based etc.); and techniques or tools used. Gender differences often appear in relation to who uses what – both men and women use hooks and lines, while only men fish with poison in a study of the Bun people of Papua New Guinea, for example (McDowell, 1984). Men are almost universally associated with ocean and deep sea fishing, whatever the cultural context.

3 Background - Women in agriculture

3.1 Women in agriculture internationally

A number of fisheries' researchers point out the similarities in the situations and contributions of women to fishing and to agriculture, especially where family businesses are involved. Women on family farms commonly carry out many roles essential to the farm's economic and social survival, as do women in fishing families. These roles include accountant, direct producer, information source, and organiser:

> In short, farm wives in effect underwrite the farm operation to the extent that the very economic and social survival of the enterprise is highly dependent on their contribution.

> (Thiessen et al., 1992, p.343)

There is a very large body of international research on women's roles in agriculture, and even detailed investigations of the influence of gender on rural economic policy and structural adjustment (Sachs, 1983, 1996; Bakker, 1994). Women in farm households can also be categorised in a similar way to women in fishing ones - for example, they may be independent producers, agricultural (business) partners, agricultural helpers, and/or homemakers.

Carolyn Sachs (1996), in her book on women's roles in agriculture and the environment internationally, points out that:

> Essential first steps for research on rural women included documenting the extent of women's work, creating an adequate definition of work, and pointing out changes in farm and rural women's work. For example, studies of farming women in the United States revealed that women participate in farming activities to a greater extent than typically assumed; they do most household labor and subsistence production; and they often keep their family's farm financially afloat through their off-farm work.

> (Sachs, 1996, pp.11-12)

She continues:

> However, merely documenting women's work proves insufficient for providing strategies for women to alter gender relations and enhance their lives. Strategies put forward as a result of these studies included providing women with credit, increasing their access to land, and educating them in agriculture. For the most part governments moved slowly to adopt these strategies; some nations implemented policies, but in most nations women generally lack access to these resources.

> (Sachs, 1996, p.12)

3.2 Women in Australian agriculture

Australian farming women have been gaining a higher profile recently and have attracted interest from rural sociologists, particularly those working at regional university campuses. The research being undertaken has varied objectives, but generally it is directed towards gaining a better understanding of women's work and its value; increasing its 'visibility' in

society; identifying women's particular development needs or barriers; and often, to making relevant policy recommendations.

For example, Alston's (1995b) book *Women on the land,* examines women's work on farms and how it has been neglected as an important component of rural economies because of the almost exclusive focus on directly production-related activities. As Alston points out, established definitions of 'work' are biased against women from the outset because they give prominence to paid activities and not to the unpaid family support activities that make paid work possible (Alston, 1995b). She also makes the point that women's work in general is often structured around family and domestic duties that are still widely regarded as primarily women's responsibilities. Her study of 64 farm women in New South Wales found that they were almost exclusively responsible for domestic work. Consistent with this, the 'leading women in agriculture' whom she surveyed in a later study reported that they were primarily responsible for household tasks for their families, and spent up to 20% of their time on these tasks. Not surprisingly, the 'leading women' reported that family responsibilities restricted their career in significant ways (Alston, 1998).

Historically, women have contributed and continue to contribute their time, labour and expertise to agriculture and resource management. Rural women's organisations have played and continue to play a growing role in setting the rural policy agenda.

A recent trend has also been the emergence of State Government-sponsored rural women's networks and Commonwealth Government rural and regional women's units (New South Wales Agriculture Rural Women's Network, 1998). These provide an important link between Government policy makers and women in rural industries. They aim to improve the recognition and participation of women in decision-making in these industries and to ensure that women's issues become part of the mainstream for policy makers. The formation of these groups and networks is in response to Australian Governments' recognition of international developments in this area, including the Beijing Declaration on Women and Development (Jayasuriya and Jayasuriya, 1999).

Evidence of the higher profile being established by rural women, particularly agricultural women, includes a major forum on women in agriculture and resource management held in March 1997, sponsored by the Commonwealth Government's Standing Committee on Agriculture and Resource Management (SCARM, 1997). This followed an earlier National Rural Women's Forum held in Canberra in June 1995 (Alston, 1995a).

The 1997 forum was attended by 211 people from rural businesses and communities, industry bodies, research and development corporations, government, and farmers' and rural women's organisations. The forum marked the starting point for the development of a national plan entitled *A vision for change: national plan for women in agriculture and resource management* (SCARM, 1998). In a complementary process, local action plans have also been developed by government-sponsored State and Territory-based rural women's networks (SCARM, 1998). Acting on the recommendations in the national plan, AFFA has recently produced *Guidelines for reaching our clients: women* (AFFA, 1999).

In 1998, the results of a research project involving a questionnaire study of agricultural women around Australia and literature review were also published in the report *Missed opportunities: harnessing the potential of women in Australian agriculture* (RIRDC/DPIE, 1998). This report, as a parallel process, informed discussion in the National Plan.

Missed opportunities and *A vision for change*
In gathering information for the *Missed opportunities* report, the authors surveyed the views of people involved in agriculture and resource management from the following groups (numbers of people contacted are in brackets):

- national agricultural leaders (29 interviewed face-to-face)
- chief executives and chairs of agricultural organisations (28 completed a mail survey)
- women and men involved in a range of aspects of agriculture (199 interviewed by phone)
- people attending focus group forums held in central Queensland and north-eastern Victoria (46 attendees).

The survey does not appear to have included any people whose primary involvement is in fisheries, although it undoubtedly included people from resource management agencies covering fisheries as well as agriculture.

Some of the major overall findings of the report relevant to this study are in shown in Box 3.

Box 3 Some major findings of the *Missed opportunities* report (RIRDC/DPIE, 1998)

- a large majority of Australia's agricultural businesses are family-owned and operated

- 32% of Australia's farm workforce is female, and of that workforce, 70,000 women identify themselves as farmers or farm managers

- women's contribution amounts to at least 28% of the market value of Australian farm output (approximately $4 billion in 1995)

- women's main contributions to on-farm output are in the areas of livestock care, value adding, farm tourism and business management

- women contributed to the viability of farm enterprises by earning approximately $1.1 billion in 1995 through off-farm work

The study is based on the belief that agricultural enterprises in Australia need to change and diversify if they are to survive in an era of international competition, and that part of this is diversifying leadership and management. This is consistent with views expressed in the Karpin Report, which also concludes that for Australian industry to improve its performance internationally, it needs greater management diversity (Karpin, 1995). Improving women's representation and influence in industry is clearly one way of increasing diversity. As a result, *Missed opportunities* focuses strongly on identifying barriers to women playing leadership roles in agriculture, and finds that the greatest barriers are:

- organisational cultures
- 'family unfriendly' workplaces
- women's own perceptions that their skills and abilities are not adequate
- absence of role models and mentoring ('mentoring' is receiving ongoing advice and guidance from a wise and trusted senior person)
- organisations failing to recognise women's experience as being relevant to the job at hand (failing to apply 'merit' principles and valuing a narrow set of skills)
- lack of access to training.

Some survey participants express concern about the 'tall poppy' syndrome, in which women who begin to take on leadership roles are subject to personal attacks.

In the report, women in different agricultural sectors are found to place emphasis on a slightly different set of major barriers, as follows:

- women on farms:
  - time
  - other commitments, including outside work and family
  - age/physical ability

- women in agricultural research and development:
  - stereotyping of women
  - male attitudes
  - other commitments, including family

- women in agricultural organisations:
  - stereotyping
  - male attitudes
  - lack of self-confidence
  - other commitments, including family.

(RIRDC/DPIE, 1998, p.3)

The report goes on to identify some 'best practice' examples of organisations within and outside the agricultural sector that have implemented strategies to improve women's roles and representation, particularly at management levels. It then makes recommendations about appropriate strategies for agricultural grower and producer organisations, government agencies, research and development organisations, and agribusiness.

Drawing on the forum and the *Missed opportunities* findings*, A vision for change* discusses barriers to women's participation under three headings: cultural and attitudinal barriers; structural and organisational barriers; and practical barriers and multiple roles.

Cultural and attitudinal barriers

These barriers are seen as being 'entrenched, conservative community attitudes' towards women in agriculture and resource management (SCARM, 1998, p. 9). These gender-related barriers have been extensively discussed by Alston (1995a, b, 1998). They frequently include other women's attitudes as well as men's attitudes. Some 'commonly-held' attitudes and beliefs affecting women in resource management cited in *A vision for change* are shown in Box 4.

It should be pointed out that some of these perceived barriers are not necessarily backed up by large-scale quantitative research, and remain at the level of personal accounts (which is not to suggest that these are invalid, only that they may need supporting evidence from other sources).

Box 4 'Commonly-held' beliefs and observations about gender roles as cited in *A vision for change* (SCARM, 1998)

- it is 'the man on the land' (and correspondingly, 'the fisherman at sea')

- 'a woman's place is in the home' or in the individual family business where she can work at home

- women have primary responsibility for care of children, the disabled and the elderly

- the physical and technical aspects of farming are at the core of agriculture

- women in general lack competence or are not interested in technical matters

- any woman 'worth her salt' can overcome barriers without special help

- sons are the natural successors to the farm (and fishing) business

- daughters-in-law and mothers-in-law are potential enemies rather than allies, or there are other generational problems between women

- both men and women prefer men to take the leadership role

- women are not interested in farming (or fishing)

- women do not own the farm (or boat) or form part of the industry

- educational differences between partners are not accepted

- there is an over-emphasis on physical strength

- service providers and tradespeople do not accept women as the ones to do business with.

Structural and organisational barriers

These barriers refer to the belief that as a result of gender-biased social structures and organisational cultures, women are 'disconnected from power' and have less access than men to information and opportunities to gain relevant experience. This could be in areas like the political decision-making process, or obtaining first-hand knowledge of the market or industry. The focus of government, agribusiness and the rural community itself is often on male primary producers and providing services to them. Not only that, but government and non-government organisations providing services and making policies for rural communities may be almost exclusively male in their senior decision-making levels, as is government itself.

Evidence cited to support the claim that there is a focus on male primary producers rather than female ones, is a 'Who's who in agriculture' published by the *Australian Farm Journal* in February 1997. Of 100 people identified as 'movers and shakers', only three were women (SCARM, 1997, p. 11). Another example is actual gender ratios in senior management structures in government natural resource agencies. Kirby reports that in 1997, the Department of Primary Industries in South Australia had 47 male senior managers out of a total of 48 (SCARM, 1997, p.48).

Amanda Sinclair, an academic at the University of Melbourne, has discussed organisational cultures, gender and leadership issues in Australia in several papers and books (Sinclair, 1991, 1994, 1998). She identifies four 'waves' or stages in the evolution of organisational awareness of gender issues in senior management. They are:

- Denial – under-representation of women at senior levels is not seen as a business issue
- Women's problem – the issue is recognised but is seen to be a result of women's own voluntary decisions (e.g. to have children, not to be ambitious)
- Company solutions – the issue is recognised and the company or organisation devises special-purpose company solutions to deal with it e.g. through female appointments to boards, by setting up women's networks
- Leadership-driven change – there is a commitment to change driven from the top in recognition that the problem lies in the organisation's own culture.

(Sinclair, 1994)

Sinclair discusses evidence that indicates that the proportion of women in executive positions in Australia generally is lower than in comparable industrialised economies (Sinclair, 1998). Not only that, but there is evidence that this proportion may have declined between 1984 and 1992. An International Labour Organisation study judged that Australia has the lowest percentage of female managers among industrialised countries, and that this is changing only slowly (Still, 1993). The Australian public sector, particularly at the Commonwealth level, is performing better than the private sector in this regard. The low representation of women in senior positions in the private sector is in spite of evidence that Australian small businesses run by women have a higher survival rate than ones run by men (Roffey et al., 1996).

A paper by Rickson and Daniels (1999) on decision-making by farm women tends to confirm their relative lack of influence outside the home. The authors interviewed 75 'farm wives' on cereal properties in Queensland, as well as 15 key informants from the resource management sector. They find that the reported decision-making structure in the families studied shows a strongly gendered pattern. Women report that they have substantial responsibility for making decisions about purchasing household equipment; but that their male partners generally have primary responsibility for making decisions about purchasing farm equipment, soil conservation practices, and planting new crop varieties. However, the key informants argue that the centrality of women's management tasks, particularly 'keeping the books', gives them more say in decision-making than is often reported.

Structural and organisational barriers also refer to the perceived unwillingness of banks to lend money to women for business purposes, and the fact that women often do not have assets, land or equity to borrow against. But according to Roffey et al. (1996) there is no substantive evidence that women face discrimination in obtaining finance for small businesses generally in Australia today. Nonetheless, women persistently report difficulties with banks in obtaining business loans, and claim they are often treated in a condescending fashion by loan officers (Still and Guerin, 1991). It does seem to be the case that because women are unlikely to inherit farms, they need to start their own farm businesses or purchase existing ones. This reflects discrimination in inheritance traditions, particularly among some ethnic groups (Symes, 1990). The same is likely to apply in relation to women inheriting fishing boats or equipment from male family members, and this could contribute to women lacking equity for loans.

Women from rural and remote areas may have less access than men to resources to attend industry-related conferences, forums or meetings, and also may not receive tax breaks for this sort of spending unless they are formally part of a business or workplace organisation.

The role of networks arises in relation to overcoming structural and organisational barriers faced by women in business and industry generally. In discussing women's roles in small businesses, Roffey et al. (1996) report a number of overseas studies that link women's membership of networks to business success. Women often prefer to seek out other women as information sources, and their networks also tend to provide personal and social support, in contrast to those of men. Calvert and her co-workers (1994) find that the Australian business women most likely to belong to networks are Australian born; have businesses in the areas of community services, manufacturing and finance, or property and business services; are home-based with no employees; own a business less than 10 years old and with a turnover of less than $100,000; and have post-secondary education.

The Small Business Development Corporation of Western Australia (1994) reports that women are often critical of the political orientation of male-dominated networking organisations and prefer a more informal, less-politicised approach.

Practical barriers and multiple roles

These refer to the day-to-day issues that many women face in finding time and energy for their varied roles. Jill Kerby, a speaker at the 1997 National Forum in Women in Agriculture and Resource Management, says:

> We know that rural women – and farm women in particular – are extremely versatile and able to perform a multitude of tasks, sometimes simultaneously. When we consulted them in 1994, they described their role on the farm as partners, extra pair of hands, caterer, messenger, secretary, accountant/bookkeeper, labourer, manager, right through to off-farm income, taxi, tree planter, tractor/header driver and shed hand. They said that the main reasons preventing the learning of new skills are time, distance to travel and isolation, cost (of transport and the learning experience), age, and children or family responsibilities.

> (SCARM, 1997, p.49)

Because of their multiple roles, women may find it especially difficult to attend training courses of any length. This is exacerbated in the case of women in remote areas because of the additional time it may take to travel to educational institutions. Similar difficulties may arise for them in attending meetings. Questions of infrastructure and service availability in rural Australia arise here – the need for childcare, good roads and transport services, and access to telecommunications, including the internet and e-mail services (SCARM, 1997). For women from ethnic communities, language and literacy barriers may prevent them taking on roles outside the home or obtaining further training to enable them to participate in non-traditional ways in business or industry. This of course may also apply to their male partners although men may be more likely to have workplace situations where they can improve their English language skills.

4 Need

The research proposal that led to this study is based on a belief that women's roles and contributions to the Australian fishing industry are under-recognised, even 'invisible' in some cases, and that action is needed to address this lack of recognition. The study is therefore in the 'critical' tradition of social science research – research designed to address a perceived social inequity and identify actions needed to help correct it. However, this perception of social inequity is tested to some degree in the study itself by asking women in the industry if they share it.

As mentioned in the **Background** sections, this perceived inequity is strongly-expressed in the Beijing Declaration adopted by the Fourth World Conference on Women in 1995. In particular, Article 56 of this Declaration states that:

> Sustainable development and economic growth that is both sustained and sustainable are possible only through improving the economic, social, political, legal and cultural status of women. Equitable social development that recognizes empowering the poor, particularly women, to utilize environmental resources sustainably is a necessary foundation for sustainable development.

(Jayasuriya and Jayasuriya, 1999)

The Declaration calls upon appropriate governments, regional and international organisations, and non-government organisations, to integrate gender concerns into all policies and programs for sustainable development. Among actions to be taken to assess the effects of environmental and natural resource policies on women, it identifies a need to analyse the structural links between gender relations, environment and development, with special emphasis on particular sectors, including fisheries (Strategic objective K.3).

Specifically, the research reported here is based on the view that women's roles in the Australian fishing industry are poorly reflected in industry statistics, and women's contributions to industry output and productivity are poorly recognised. There is far more information available on fisheries' production and stock assessments than there is on women's contributions. As a result, this project is designed to address what is seen as an immediate need for information to be gathered to help build a picture of the roles women play and help them develop those roles. This information will provide insight into what areas of the industry are of interest to women, what issues are of concern to them, and how they might develop an even more productive role in strengthening the industry.

In particular, there seems to be a need to widen established networks for women in the industry to provide better avenues for information exchange and support for women in the industry Australia-wide.

The research reported here is part of achieving the overall project objectives of developing productive and supportive networks for women, and contributing to positive 'people development' to enable women to develop skills to enhance their roles in their current work environments and in the fishing industry as a whole.

In relation to the findings of the literature review, as discussed in the preceding **Background** sections, this project addresses an obvious gap in research on women's roles the fishing industry – an area that appears to have been almost totally neglected by Australian researchers working in the natural resource management field. The research reported here

begins to address the need to provide better information about women's work and its value, as stressed by Sachs (1996). Obtaining basic information about women's roles and contributions to the fishing industry is a first step in raising awareness of gender issues in the industry. This research also addresses an apparent disparity in the amount of information available about Australian women in agriculture as compared with those in fishing.

The research also fills a need to be able to compare this aspect of Australian natural resource management with its overseas counterparts, and perhaps enable lessons to be learnt from international experience in confronting similar issues. Research like this, related to the broader context of international gender studies, helps Australian women, fishing industry members and Australian policy-makers gain an international perspective on these issues.

5 Objectives

As stated in the original research proposal, the objectives of the overall project of which this research is a part, are:

1. To add to and strengthen the existing role of WIN in promoting awareness of the roles of women in the fishing industry

2. To increase the opportunities for women to participate in the decision-making process of their industry

3. To facilitate the collection and dissemination of information to women within the fishing industry

4. To build on existing women's networks with a view to developing a national focus for women in the fishing industry.

This research is designed to help achieve these objectives by:

- gathering information about women involved in the fishing industry
- obtaining women's views about their current and future roles
- identifying barriers preventing women from becoming more involved in the industry and what might be done to overcome them.

The research is designed to help WIN, its sister organisations, and service providers in the industry, ensure women's needs are met.

6 Methods

The research reported here consists of three main components:

- literature review and analysis (findings discussed in the **Background** sections)
- key informant interviews
- mail-out questionnaire.

6.1 Literature review and analysis

This aspect of the research involved searching relevant data bases (ABOA, Agricola, BiblioLine), and library catalogues (The Australian National University, National Library of Australia, and Agriculture, Fisheries and Forestry – Australia), for material dealing with women in fishing and agriculture. Various search combinations using the terms 'women+fish*' and 'women+agricultur*' or 'women+farm*' were tried (the '*' is referred to as the 'wild card' and allows words with a number of different endings to be included in the search e.g. agriculture and agricultural, fishing and fisheries). In addition, the *Missed opportunities* report was used as a source of references, particularly for those dealing with women in Australian agriculture. We also used our pre-existing literature and knowledge in gender studies and women in management.

6.2 Key informant interviews

Value of interviews

Although it was not part of the original research proposal, we elected to conduct key informant interviews to provide in-depth data, first-hand reports, and insight into women's roles, issues and attitudes. The 'key informant' idea is very widely used in the social sciences, and key informant interviews are often used in sociological, anthropological, ethnographic and oral history research (Brenner et al., 1985).

Interviews have the primary role of strengthening and deepening understanding of the research subject matter. They also provide multiple perspectives on research issues, help build theory, and provide a basis for dealing with complex or little-known subjects (Brenner, Brown and Canter, 1985). The subject matter of this research fitted the category of being both complex and little-known, at least in Australia. Using key informant interviews is consistent with the common sense view that if you need to find out about something, the best thing to do is to go and ask the 'right' people. Who the 'right' people are of course always requires the researcher to make subjective judgements. The very notion of a key informant is inconsistent with statistically representative sampling or random selection of respondents – it comes from an interpretive rather than a positivist research paradigm. Key informants are chosen precisely because they have some special relationship to the research topic and are expected to have a special knowledge of it that can help the researcher.

Unstructured and semi-structured interviews are often seen as having special value in allowing the researcher and interviewee to explore the meanings of questions and answers – they allow on the spot feedback, sharing and negotiation of meanings. ('Un-structured' and 'semi-structured' refer to interviews where the questions asked and the question order is flexible to a greater or lesser extent, and the interviewer allows a natural flow to develop

rather than necessarily following a prescribed sequence. This is contrasted with survey interviewing where there is a fixed interview schedule with fixed question wordings and order, and where there may also be pre-determined categories for all question answers.) In unstructured and semi-structured interviews, the idea is to make the interview conversational in tone as much as possible.

When transcribed, interviews provide fresh and authentic statements of interviewees' views of their world and their experiences in that world. They provide quotations in interviewees' own words to enliven researchers' ways of writing or speaking about the issues in question.

The other value of interviews in this context is that they provide an alternative line of evidence or source of data to help minimise biases or misinterpretations that might arise from using only one method. This is the idea of 'triangulation' in social research (Brewer and Hunter, 1989).

Preferably, key informant interviews should be conducted early in research like this, as interview findings can be used to construct more formal survey instruments like questionnaires, and help identify important concepts or issues. Unfortunately, the short timetable for this project made it necessary for the interview and questionnaire phases to be run concurrently.

Choice of key informants

Twenty key informants were interviewed. This was considered to be the maximum that could be attempted within the project's budget and time frame, in the knowledge that analysing the qualitative data produced by semi-structured interviews is very time-consuming. Interviewees were chosen on the basis of the authors' own knowledge of senior people with relevant experience and/or interests in women's roles in agriculture and fishing, plus suggestions of people to interview from the research client, WIN. The general criteria for selecting interviewees were that they fell into one or more of these categories:

- women occupying middle to senior level positions in industry-related organisations or with official roles on industry boards, committees or non-government industry organisations
- women with experience in private sector fishing businesses
- women with experience in the area of women's roles and contributions to rural industries generally
- men with special knowledge or interests in industry gender issues.

In some cases, details of possible interviewees were obtained from their organisation's web-site. Within the constraints of the small number of interviewees, an attempt was made to contact people from a range of organisations including both State and Commonwealth Government agencies with responsibilities for fisheries and primary industries, non-government and industry organisations, and small businesses. People with experience in aquaculture and fish farming were included as well as those with experience mainly in the wild catch sector. Throughout the research a broad view of the commercial fishing industry was maintained.

Conduct and content of interviews

Interviews were semi-structured and based on the interview guide included as Appendix 3. Heather Aslin conducted all interviews, which took place between 21 September and 20 October 1999. Interviews were done either by phone (as many interviewees were based outside Canberra), or in person. Telephone interviews were recorded with permission from interviewees, and play-back tapes were provided through the *Telstra ConferLink®* service.

Face-to-face interviews were recorded with interviewees' permission using a micro-cassette tape-recorder and directional microphone.

An initial telephone contact was made with each interviewee, the purpose of the research explained, and a time to conduct the interview arranged. A number of interviewees asked to be sent the questions before the interview so they could think about them beforehand. The questions were either posted, e-mailed or fax-ed to them on request. At the beginning of each interview, the interviewer read the introductory section of the interview guide to the interviewee and asked if he or she had any further questions about the research. Permission was sought to record the interview on the basis that interviewees would not be identified in the report and transcripts would be used only for research purposes. The interviewer completed an interview guide for each interview, recording details of the interviewee, time, location and length of the interview, and notes of question answers to supplement the recordings. Questions were generally asked in the order given in the interview guide unless the interviewer felt that the interviewee had already covered that question. While 'yes' and 'no' categories were included in the guide for some questions, in practice it was difficult to use these categories in a rigorous way as interviewees frequently qualified their answers.

Questions in the interview guide cover the following:

- personal background in the industry (Question 1)
- perceptions of barriers for women in the industry (Question 2)
- women's representation in the industry and industry decision-making bodies (Question 3)
- need for action in relation to women's status, and kind of action needed (Question 4, Questions 4a-e)
- role of women's networks and kinds of services needed from them (Question 5)
- perceptions of changes to women's roles in the industry (Question 6)
- views about women's future roles (Question 7)
- perceptions of own organisation's culture (where appropriate) (Question 8)
- demographic questions (Questions 9-14).

For further details please refer to Appendix 3.

Not all initial phone contacts resulted in interviews being completed. One potential interviewee could not be 'pinned down' to a suitable time or place, and another (from a conservation organisation which campaigns on industry issues) declined to be interviewed because she did not feel comfortable with being considered as part of the industry.

Transcription and analysis
Interviews were transcribed by a commercial transcription service, returned in electronic (floppy disk) and hard copy form, and edited by the interviewer. The introductory section read by the interviewer, and the section covering the demographic questions, were not transcribed. Editing transcripts consisted of listening to all tapes and correcting errors or misinterpretations in the written transcript for later correction on screen. Tapes were generally good quality and accurate transcriptions could be made within the constraints of transcription formatting assumptions and conventions (Poland, 1995). However, the tapes made using the micro-cassette recorder were inferior to the *Telstra* tapes and there were some difficulties in providing a verbatim transcription of small sections of several interviews. This was only a minor problem, however. In addition, approximately nine minutes at the beginning of one interview were not recorded due to a *Telstra* error.

Electronic files of interview transcripts were entered into a project file set up within the qualitative analysis software package *NVivo®* 1.0 for Microsoft Windows (Qualitative

Solutions and Research Pty Ltd). The transcription service was also provided with the preferred formatting instructions for transcripts to be used with *NVivo*. This software was used to help analyse the content of the transcripts, and to locate specific references or quotations.

6.3 Mail-out questionnaire

Questionnaire development
A mail-out questionnaire was designed to gather information about women's current roles and the level of satisfaction with those roles, the types of changes women would like to make, and the barriers they saw that prevented them from making these changes. A modified Total Design Method (TDM) (Dillman, 1978) was adopted in designing and administering the questionnaire. One of the major drawbacks of the mail-back questionnaire as a method is the often high rates of non-response, particularly from general public samples. The TDM encourages high response rates through rewarding the respondent, reducing any costs incurred by the respondent and by establishing trust with the respondent (Dillman, 1978). Rewarding the respondent does not necessarily mean material rewards, though it may include them. It also refers to intangibles such as expressing positive regard for the respondents and showing appreciation for their involvement. While reducing the costs requires not only that no financial burden should be imposed upon the respondent by including reply-paid envelopes for the return of completed questionnaires, but also that any time or emotional cost to the respondent should be reduced. Accordingly the questionnaire should not appear complex and formidable, but should be clear and concise and of interest to the respondent. Finally, as with any social interaction, a level of trust will enhance that interaction. The respondent must feel satisfied that the researcher will do as they say they will do; and that the results will be used for the purposes described.

WIN prepared an initial working draft of the questionnaire and supplied it to us. This was subsequently modified though an iterative process. We initially modified the draft by drawing upon studies exploring the role of women in agriculture, in particular the *Missed opportunities* study (RIRDC/DPIE, 1998). The modified draft was then pilot-tested on two occasions with women who attended WIN committee meetings in Adelaide, and modified on the basis of feedback received from them about the form and content of the draft questionnaire. In this way the questionnaire was made easier to understand, more relevant and less open to mis-interpretation by incorporating language and terms appropriate to women in the industry. Comments from the Women in Rural Industries Section (WIRIS) of AFFA were also taken into account.

The final questionnaire is organised into five sections, and is included in full as Appendix 6. An introductory section gives the respondent information about the purpose of the questionnaire and how the information collected will be used. Following this, Section A seeks information about the respondent's current role in the fishing industry. This includes questions about women's:

- length of time in the fishing industry
- intention to stay within the industry
- types of work they normally do
- what sector of the industry they are employed in
- level of satisfaction with their role
- most valuable skills or knowledge
- degree of influence over decision-making
- sources of information about developments in the industry.

Section B focuses upon changes and barriers to changes for women in the industry. An initial question asks if the respondent would like to make any changes to their current role in the industry. A 'yes' answer leads the respondent to a series of questions about the barriers that prevent them from making the desired change. Information is then sought about the types of:

- barriers that exist
- financial assistance that may assist in making desired changes
- training that may assist in making desired changes.

Section B also seeks information about the respondent's membership of women's industry networking groups and their reason for joining or not. Respondents are also requested to rank a list of services these groups could provide.

Section C of the questionnaire includes a series of Likert-type statements seeking the respondent's opinion about women's roles in the industry generally.

A series of demographic questions is included in Section D. This also includes several questions about the responsibilities the respondent has for child and family care. The questionnaire finishes with a section allowing for open comment.

Mailing list
A contact list of women in the industry provided by WIN formed the basis from which the questionnaire mailing list was developed. The initial contact list had a strong geographical bias towards South Australia and was focused mainly on women involved in the primary production side of the industry. Additional women were added to the mailing list to increase its geographic and industry sector diversity. We located addresses for additional women by searching staff lists, publications and internet sites of relevant organisations, including State and Commonwealth fisheries and primary industry departments; university faculties and departments; and the CSIRO. Attendee lists and speakers' lists for several recent relevant conferences, including the *Aquaculture99* conference, were searched for addresses of appropriate women. Names, addresses and contact telephone numbers of fishing women were also sought from within relevant sections of AFFA, particularly WIRIS. Some telephone contacts provided additional names – a form of 'snowball' sampling. The Australian Bureau of Agricultural and Resource Economics was asked for relevant names and addresses from their client survey lists. In addition, a number of women were added to the mailing list after they had heard of the research and made contact with us. An item about the research seeking expressions of interest in participating was published in a WIRIS newsletter and in a newsletter sent to industry women in New South Wales.

The final mailing list comprised 401 women from all States and all sectors of the industry. However, we do not claim that the list is either representative or comprehensive. We discovered as part of this aspect of the research that there appeared to be no pre-existing substantial mailing lists of women in the industry Australia-wide. Therefore the mailing list we developed with WIN's help is a useful outcome in itself.

Questionnaire mailings
The questionnaire was posted with a covering letter on BRS letterhead (Appendix 5), explaining the purpose of the questionnaire, and a reply-paid envelope for returning the completed questionnaire. Questionnaires were not individually identified and respondent anonymity and confidentiality were maintained. A postcard was included in the mail-out package to enable respondents to register their interest in receiving a summary of the study's findings, together with their return address, separately from returning their questionnaire.

A number of women who received the questionnaire rang or e-mailed us seeking further information about the research and in some cases to ask if they were appropriate people to complete the questionnaire. Others contacted us with address corrections either for themselves or for the intended recipient.

Two weeks after the initial questionnaire mail-out, a reminder card (Appendix 7) was posted to all recipients except those who had returned the summary findings request card and those who had advised us they were not appropriate people to complete the questionnaire.

After an additional two-and-a-half weeks, a second reminder, this time a letter, was sent to all the original questionnaire recipients except those in the two categories previously mentioned. This final reminder is included as Appendix 8.

All questionnaires returned within seven weeks of the initial mail-out were included in the analysis.

Analysis
The questionnaire responses were numerically coded where appropriate before analysis. Some open-ended questions were theme-coded using an inductive approach (content analysis). Comments included in the final section were transcribed and analysed, and where appropriate, some have been quoted in the results from the key informant interviews. Responses from the multiple choice questions (Questions B1, B3 and C1) are presented in graphical or tabular form in the **Results** section. These data have been used in a descriptive manner rather than to make statistical inferences.

The set of eleven belief statements forming question C1 was reduced to a series of three composite scales. Each scale comprised a sub-set of the eleven statements that represents an underlying belief dimension that was identified through factor analysis (Appendix 9, Table 18). Scores on the scales are the mean summed scores on the variables comprising the scale. Reliability of each scale was tested using Cronbach's alpha. Each of the four groups derived from the responses to question A5 was used as a categorical variable in subsequent analysis of variance.

7 Results

7.1 Interview results

A set of tables showing the socio-demographic characteristics of interviewees is provided in Appendix 4 as well as being discussed in this section. In reporting results and quoting from interview transcripts, we have tried to omit any specific details that might identify interviewees. Where material has been omitted it has been replaced by an ellipsis […] in closed brackets to distinguish these omissions from pauses in the conversation.

Fifteen interviews were conducted by phone and five were done face-to-face. Interviews took between 30 and 55 minutes to complete.

Interviewee characteristics

Twenty key informants were interviewed, 17 women and 3 men. The majority (14) were aged between 41 and 60. None was under 21 and only one fell into the 61 years or older category. This is a result of the selection of these interviewees as mainly mid- or later-stage career people, often with substantial experience in the fishing or agricultural industries, and occupying prominent industry-related positions in many cases.

In terms of marital status, the majority of interviewees (13) were married. Four had never been married and two were divorced or separated (one interviewee declined to answer this question).

On the basis of the postcodes of their home addresses, ten interviewees lived in New South Wales or the Australian Capital Territory, five in South Australia (reflecting WIN's South Australian base), two in Queensland, and one in each of Tasmania, Western Australia and the Northern Territory. None was from Victoria. This distribution is of course not a geographically representative one, nor was it intended to be.

Interviewees were 'elite' in terms of their highest educational qualifications. Ten had completed a post-graduate qualification; three an undergraduate degree; four an apprenticeship, technical or TAFE qualification; two had completed 5-6 years of high school; and one had completed 1-4 years of high school.

Thirteen of the twenty interviewees had been born in Australia, four in England, and one in each of in New Zealand, France and Germany. They were therefore mainly of white Anglo-Saxon origin, and, with the exception of two, had English as their first language.

One interviewee indicated that he had Aboriginal or Torres Strait Islander ancestry.

Qualitative responses

With the exception of the socio-demographic questions just discussed, the interviews consisted of qualitative questions requiring content analysis. This section briefly discusses responses to each question in the order they appear in the interview guide.

Question 1 - Main sector of work and current role

Categories for women's **main** roles in the industry were developed for the questionnaire, and interviewees could be assigned to similar categories on the basis of their descriptions of their current roles and the interviewer's prior knowledge about them.

Seven interviewees fell into the Commonwealth Government category (which included the university sector, and research and development corporations jointly funded by the Commonwealth government and industry). Five interviewees were employed by State Governments (which included State-funded educational and research organisations, and the State political sector). Four were employed by non-government organisations; two were private sector owner-operators or business partners; and two had voluntary, honorary or advisory roles in non-government organisations.

The only category used in questionnaires that was un-represented among interviewees was 'Support role for others in the industry'. This reflects the fact that women who describe their main role in this way are unlikely to be identified as 'key informants' – they are often among what has been called the 'invisible' women of the industry (RIRDC/DPIE, 1998).

A feature of answers to this question was the varied roles and role transitions a number of women had made. Several had moved from private sector fishing businesses or non-government fishing organisations to the public sector or vice versa. For example, this is a response from a woman now working in a government fisheries area:

> I completed [my university degree] and then drifted into a job with NSW Fisheries, but I only spent about 12 months there before I needed to get out into private enterprise, and went from there into a prawn farm, which was operating up there in North Queensland […] from there actually it led me into what ended up being the bulk of my work in private enterprise which was a pearling industry job in the Northern Territory, and then I spent about 12 months working in Indonesia with that, and my main role there was to establish a hatchery, but to get to work with the local, well not local girls, but girls that we brought in from a university village at […] to train them in cell culture techniques and the live food techniques as well. So that was my primary role over there, as well as running the actual hatchery itself. It was a great step, as I said all up about three-and-a-half, nearly four years there as well. And then once I left the pearling industry we then came back down here to […] and then came into this position here in the policy side of things.

Other interviewees had worked mainly in the public sector, but had moved from State to State taking up increasingly senior positions in fisheries agencies. This is one response from a woman whose career path was like this:

> OK, I suppose it's always been a government background. I trained in marine biology and fisheries science at university and in that fisheries science area, we did a lot of looking at the commercial sector, I suppose. Then in […] I joined the […] Fisheries as one of their statistics resource management people. I was heavily involved in all of the collection of the data from the commercial sector which covered at that stage, prawns, barramundi, mudcrab, the reef-line fisheries, other fisheries, all that sort of thing. Then I moved into a full resource management roles and, over the years, built up to senior resource manager. So, doing … again from a government perspective, dealing with all of the committees, the commercial groups, commercial industry, fishing industry, committees, developing the legislation through the management advisory committees, coordinating a lot of that. So a lot of my contact with the industry … and I suppose my view is that there's … the industry makes up the government part, the actual catching part and the fish part, you know, they're sort of different components that actually make the whole thing move forward […] And I was in the Minister's Office for eighteen months, on the fishing industry … side.

Several women who had senior roles in government fisheries agencies or on government fisheries advisory bodies were at pains to point out that they did have experience working on

boats in the wild catch sector, but they invariably saw this as a brief phase not a long-term career option:

> … I began in this industry about 19 or 20 years ago. I actually came to the Northern Prawn Fishery and worked as a cook/deckhand on boats in the Northern Prawn, East Coast, and Torres Strait Trawl Fishery, looking for a bit of adventure at the time. I was working on boats for about four years and I knew that wasn't what I wanted to do with my life although some women have managed to … y'know … stay out there and get their skipper's tickets and things, but that didn't really appeal to me.

This interviewee went on to say:

> … I know very few women with my type of background that … that move through, and one of the reasons I think that I've gotten to where I am is because I started at the bottom and I've moved through the different roles and, on the way through, I've gained the respect of the industry because of my knowledge and because I've walked the walk not just talked it. There aren't a lot of women who actually do that for whatever reason. I know many girls on boats and they seem to go on the boats and that's the end of them. They do their few years and then they go off and do something else, which is a real shame because their … I think that grounding and moving through and then becoming involved in other things like the marketing, and all of that gives you such a tremendous knowledge base …

One man spoke of his experience with his wife in the wild catch sector:

> We didn't come from a historic background in the fishing industry, we knew little or nothing about it and set off on a 40-foot boat into the wild blue yonder of […] and to … you know … to participate in the wild catch fishery. Very remote area. We fished as a couple there for some ten years on the vessel. In that time we had three children. Because of the necessity to provide an educational role about six years after we'd embarked on that, whilst still fishing, we moved ashore and […] my wife ran all the shore-based sort of stuff and we moved into an advocacy role …

Other interviewees' experience had been mainly in aquaculture:

> Well, I've grown up in a fishing family, my father's a commercial fisherman and my brother and husband have both worked as commercial fishermen, so, y'know, I've always been in and around the fishing industry. After I left school, I went into marine biology because I recognised at an early age there was no future in me working on the boat, so … I studied marine biology with the aim of getting onto fisheries management but as it turned out, I ended up going into aquaculture. So I started off working in a prawn hatchery which is a local one around here, I never expected to end up working in the area where I grew up but it just happened. So I worked in a prawn and oyster hatchery for a few years then got into prawn farming, and my husband was working at fishing with my father during that time, and then we both together bought our farm and set up a silver perch farm.

This interviewee and two other women who had been involved mainly in aquaculture or freshwater research issues, had moved into teaching and training roles as well as continuing their involvement in other industry areas.

Question 2 – Barriers

The majority of interviewees (15) agreed that women faced barriers in obtaining status or recognition in the industry. Four interviewees were somewhat undecided on this issue or qualified their answers, depending partly on whether they were speaking of their personal experiences or giving a more general opinion about the industry as a whole.

An example of an emphatic 'yes' reply was from a woman who spoke of her experience while training in marine biology:

> I remember perfectly at university in the middle of one of the classes, it was after a few years at university […] and this professor came into the room and said that there was an opportunity to work during summer, two months, very well paid on a fishing boat, and whoever was interested could come and sign their name. So I went there. Nobody around me was interested because they all wanted to go on holiday. They weren't interested in working during the summertime, but I was working to pay for my studies so I was quite happy to find a job on a big fishing boat. And when I went there, knocked at the door, came in and explained to the professor, y'know, that I would like to go there, he just looked at me and said 'I forgot to mention, it is only for men'. So politely, so dismissive.

A reply from one man working for an industry organisation in the wild catch sector was:

> Well, I think this industry is still the ultimate macho industry and it's going to take some time for a generational change to get real change in that area.

Table 3 summarises the barriers interviewees mentioned here according to categories developed on the basis of content their answers. (Later questions in the interview asked about specific types of barriers, but this section discusses ones volunteered by interviewees in response to this question.)

Table 3 Barriers identified by interviewees. Number of interviewees responding = 20, number of responses = 34

Category	No. of responses
Practical barriers – time commitments, childcare responsibilities, conditions on boats etc.	8
Outright discrimination/prejudice from men	7
Lack of confidence/assertiveness/belief in self	5
Personal preferences of women – not wanting to take on wild catch roles	4
Lack of networks/isolation	3
Lack of training/education/career opportunities	2
Lack of role models/mentors	2
Community conservatism/gender role stereotyping	2
Nature of industry representation processes	1

The largest category dealt with practical difficulties for women changing their roles in the industry. A graphic example of practical deterrents to women working in the wild catch sector was:

> … when I first started doing work on bycatch I could have gone out to sea on Taiwanese gillnet vessels. Working in the Arafura Sea, they had no toilets, no showers, no nothing, and as a woman I found that quite confronting and I didn't go out. I'd do day work on them, but other women did, but I … that was an additional thing to make me think 'Oh yuk!'. What am I going to do out in the middle of the tropical ocean with no privacy, no toilet, and no showers?

Seven responses referred to overt discrimination from men as an issue and several interviewees gave personal examples of experiencing discrimination.

Some interviewees did think barriers to women were decreasing. One woman in government fisheries management said:

I have faced barriers but ironically enough it has come from my colleagues rather than the industry. I mean, yes. Certainly in my life I have had a lot of industry involvement. I mean I managed a fishery that had 320 operators, we had a lot of consultation, y'know, occurring on management proposals so we would have large port meetings with up to 100 people turning up. So I've had a lot of exposure and occasionally you get a comment, 'What's a sheila doing telling a man his fishing business?', you know? They're the dinosaurs and I think they are actually dying out in the industry. I think far more common is the recognition that, you know, a job well done, it doesn't matter whether you are male or female. Certainly the new breed of operators have that attitude.

One man interviewed responded to this question with a reasonably definite 'no'. He said:

No, not so much. I think that one of the issues I've raised […] is that because we're raising the profile of the women in the industry, which I think is a great thing, we've just got to make sure that … and this is not contradicting what I said before about change … we just have to make sure that [women's networking groups] actually don't go out and re-invent the wheel.

In other words, he was suggesting that many of the necessary measures have already been taken.

An interviewee who gave a qualified 'no' answer replied:

… all my years on the boats and certainly all my years involved in industry organisations and management, I did not feel that … I had any barriers in front of me at all and I certainly didn't feel there was, or I was … the subject of male chauvinism or those types of things.

However, in spite of this, she believed there is a 'bit of an old boys' club' at the level of industry boards, 'because you're moving into an arena of older men, who aren't used to younger women at that level'.

Question 3 – Representation

This question asked the interviewee's opinion about how well women are represented across the various industry sectors and on relevant decision-making bodies. Fifteen of the twenty interviewees considered that women's representation was unsatisfactory. The terms 'poor' or 'very poor' were commonly used. The most extreme response came from a woman working in the South Australian government sector, who replied that women were represented 'Appallingly, absolutely appallingly'. Another South Australian interviewee also used the term 'appalling' in referring to her experience with women's representation on agricultural bureaus.

A less extreme response is from a woman working in a Commonwealth Government agency, who said:

Not much [representation]. When I was involved in direct sort of day-to-day fisheries management, on management committees like […] MAC [Management Advisory Committee] and stuff like that, I don't think I ever had a woman representative on any of the committees that I was working with. In the industry there were … often the conservation representatives will be women, more often than not in fact, and the government representatives, both from State government or whatever, may well be women, but actually from the industry, quite rare.

The view that women are better-represented on the conservation/environment side of the industry was supported by the one interviewee who was from a non-government conservation organisation. She said:

> Well, yes, I would say the bulk of the stroppy marine campaigners in the country are female (laughs). The Marine and Coastal Community Network has a smattering of both men and women but they are not officially allowed to be lobbyists, that's not their role, it's a networking role …

Several interviewees commented on the good representation of women at managerial level in the Australian Fisheries Management Authority, but the wild catch sector of the industry was often singled out as the area where women's involvement was poorest.

Interviewees with experience in agriculture made similar comments to the fishing industry women about the low level of representation by women in senior management and on agricultural decision-making bodies.

Question 4a – Need for action on women's status

Seventeen of the twenty interviewees agreed that action needed to be taken to improve women's status and/or recognition in the industry. Two of the twenty replied that they couldn't comment on this or lacked information. One woman objected to the way the question was phrased. She replied:

> Oh, when I read that I thought, 'no, that's the wrong way, the wrong way to put it', because there's basically nothing wrong with women, women don't need special education or special treatment. It's more the environment, the working environment that needs modification. […] I wish I'd been given more opportunity to explore what I was rather than having to work so hard on fitting into something where … and I would often think my difficulty in fitting into it was because of me. I wasn't good enough (laughs), y'know, that something was wrong with me. I mean … and yet now because it's twenty years later I am coming back to it … and it's been a painful process now, where have I been? (laughs). So I don't think women need special treatment as such, but maybe they do need a better framework to have a voice.

This question also elicited comments about equal employment opportunity and affirmative action. Three interviewees referred to being seen as the 'token woman' on boards or committees: One had accepted that she was sometimes viewed in that way but had responded by saying 'Yes, I accept, I am the token woman, thank you very much'. Two others had turned down offers of prestigious positions for this reason, and one commented that 'for those of us who get there on our own merits, it's a bit of a stick in the eye'. She did not support affirmative action for this reason.

Two interviewees referred to their disappointment in experiencing either competitiveness or a lack of support from other women. One interviewee referred to her observation that local rural women actively avoided her after she won a national award:

> No, I think they feel intimidated … and also you saying, 'Well, you go for it', your saying to other women 'I can do it, *you* do it', and … but they've got other pressures. Like I've got a husband who allows me to do whatever I want. If their husbands aren't the same, what you do is put extra pressure on the women.

In terms of action needed to improve women's status or recognition in the industry, interviewees' main suggestions are summarised in Box 5 under six categories emerging from interview responses.

Question 4b – Time commitments a barrier

This question asked whether women's time commitments in caring for others, both children or other family members, are a barrier to them achieving higher status or better recognition.

Thirteen interviewees agreed that these commitments are a problem for women, four replied 'yes and no', two said 'no', and one replied that she didn't know. (Although this was not directly asked, a number of interviewees mentioned whether or not they had children in answering this or later questions. At least four did not have children.)

One woman replied:

> When you're looking at government representation, like, y'know, you were talking about decision-making committees and that sort of thing, it can be an impediment. I think that just goes across the board in, y'know, all areas of careers, that it's difficult for women to take the time off and care for children because you come back into the workplace and your colleagues sort of have already gone up two steps of the ladder and you're still back at the bottom.

Another angle on career difficulties resulting from taking time off to care for children was:

> I found … that when women have small babies they … begin to lose the confidence in talking … it's all a matter of hype. You get so used to talking to (laughs) … a little person it's hard to relate to someone bigger. And it's only hype … Yes. So I think you just lose touch with talking to someone at eye level. I don't know what it is, someone needs to do a study on that.

Several interviewees acknowledged the practical difficulties of finding time for caring responsibilities but pointed out that this is not a fundamental barrier, simply one that needs to be recognised and accommodated. This was also the thinking behind several of the 'no' responses:

> No, I don't. I think what happens is that we all tend to become superwomen and … that instead of staying at home and doing six hours of housework and playing with the children, we're doing six hours of housework and playing with the children and a twelve-hour work day on top of it (laughs). I sometimes wonder whether we should have made this gigantic step into the workforce (laughs). Because all it's done is put a bigger load on our shoulders.

Several interviewees recognised that they may have been especially fortunate either in being comparatively well off and able to afford paid childcare, or in having relatives living nearby who could care for their children when they had work commitments that took them away from home.

Responsibilities for caring for elderly parents or disabled family members were also acknowledged in answers to this question, and the point made that men can also be primary carers for others and can face the same difficulties as women in these situations.

Box 5 Summary of interviewees' suggestions about actions to improve women's status and recognition in the industry. Number of interviewees responding = 17

Better understand and promote women's current roles
- better define, understand and promote what women are doing in the industry at present
- develop booklets and other information highlighting female role models in the industry

Change the industry's image and orientation
- shift the whole industry framework so that it better fits *both* men and women's abilities
- promote and market both aquaculture and wild catch fishing as being based on *family partnerships*, and the industry as a whole as being *community-based*

Provide better information/education material about the industry
- develop clear and simple educational material explaining industry structures, industry regulations, industry politics, and how to become involved on management advisory committees or other industry bodies – on a State-by-State basis
- develop industry-related Internet sites and links to other sites

Help women obtain appropriate training and education
- develop summer scholarship schemes for women to help them get experience not only in R & D but also in applied research on boats
- need the industry itself e.g. the Australian Seafood Industry Council, to develop fellowships or scholarships for women
- R & D sector to offer a scholarship for women in fisheries' management
- encourage women to apply for national leadership programs e.g. rural youth leadership - obtain overseas experience, leadership training – a more open and strategic approach needs to be taken so more women are aware of these opportunities
- encourage more women to apply for existing training courses on fisheries' management
- ensure women get training to deal with 'harder' organisational issues e.g. staffing issues, finances, corporate issues
- leadership and training programs needed specifically for women – to train women to project themselves better, assertiveness training, recognise and value their own skills, deal with the media, improve public speaking, learn business planning and company directorship skills, learn meeting and procedural skills, training in marketing skills
- develop careers information about the industry for young women and get it into schools, universities and TAFE colleges, and to career counsellors
- hold a national women and fisheries training week, for example at the Australian Maritime College

Develop networks and mentors for women
- develop networks and mentorship arrangements, particularly with other women, and through leadership programs

Develop more 'women-friendly' and 'family-friendly' workplaces, develop affirmative action for industry
- consider gender balance in work environments and encourage workplace flexibility e.g. in accommodating time off for family commitments, better recognition of family responsibilities
- require industry boards to have women members
- develop performance measures for industry affirmative action or progress towards better representation of women.

Question 4c – Financial incentives

Opinions were divided on the question of whether there is a need for any special financial incentives for women to improve their status or recognition in the industry. Nine interviewees thought there was a need for incentives, seven said 'no', two said that any incentives should be available to men too, and two replied either that they didn't know or had no opinion.

Many of the 'yes' replies here refer back to suggestions made about actions to improve women's status, as summarised under question 4a. In other words, opinions were that any financial incentives needed are related to helping women obtain training and education to advance in the industry (e.g. scholarships, help with course costs, travel to course locations, child care during courses), or to help women become aware of career opportunities in the industry. Financial assistance to attend meetings was also raised e.g. payment of sitting fees, travel costs for meetings. Financial help to set up home offices was also mentioned as a useful measure for women doing home-based work.

There were disagreements about the ability of different parts of the industry to provide financial help to women. One interviewee said:

> The downside is … that the fishing industry in particular is always stretched for financial assistance from government and others … and I would like to see that financial assistance going to the seafood industry rather than to women or men or whatever … When you consider that the fishing industry unlike other rural industries is badly done by as far as government subsidy is concerned. There's no … where you've got rural adjustment for terrestrial businesses there is none for the fishing industry. […] Governments have not treated the fishing industry equally with the rural industries … … So for all those reasons, I think that it would be very silly and very unwise for the governments in particular to be seen throwing money at helping women in the fishing industry when the fishing industry needs that money from government thrown at other activities.

By contrast, another interviewee replied:

> Plus, the other issue is that most fisheries at the moment are very financially healthy and … y'know … there's no reason why … for example, we pay people to come to meetings from a reasonable way away, males, no reason why you wouldn't pay baby-sitting fees for some female who could do a good job for you or better …

Questions of gender equity were raised here and some interviewees were not happy with the idea of incentives going preferentially to women. For example, they thought that childcare incentives should be on the basis of need and if men were primary carers they should have access to any assistance in the same way as women in similar situations. Other interviewees commented that the barriers women face are not primarily financial ones and financial incentives are not what is needed to improve women's status.

Question 4d – Training

This question asked if women need any special training to improve their status in the industry. Fifteen of the twenty interviewees agreed that there was such a need, three replied that both men and women need special training, and two said 'no'.

Many of the special types of training interviewees thought women need have been summarised in Box 5. Training needs covered a wide range of areas. Some needs were ones that interviewees thought were special needs either for working women in general, or for women in the industry in particular; while others were topics unique to the fishing industry but which could be equally useful to men or women in the industry. In the first category were

topics like assertiveness training, leadership training, confidence-building, public speaking, media training, business and marketing skills. In the second category were topics like training about the industry's structure, government regulations, the role of management advisory committees, and generic work skills like communication, negotiation and job interview skills. Implicit in some of the responses (particularly those in the second category) was perhaps a judgement that women find it more difficult than men to learn about these aspects of the industry because they lack appropriate networks or mentors, or possibly because of a 'boys' club' mentality that may exclude women from some areas of the industry.

One interviewee commented on difficulties getting candidates of either gender to attend existing fishing industry leadership courses, and the low percentage of women attending existing training courses for Management Advisory Committees, even though these courses were already funded. He believed that many fishing industry members are not interested in obtaining training in these areas. He commented:

> I think that the fishing industry has still got largely a … catching mentality, going out there, catching – 'Leave me alone, I hate bureaucrats, I hate managers and I hate researchers', so we've got to tap into the younger people, men or women, in the fishing industry to help make those changes … … The problem is with the industry as a whole …

Furthermore, he commented that the Australian situation is 'big government, small industry involvement' in contrast to descriptions he had heard of the New Zealand industry where the reverse applied.

Contrasting with the 'yes' responses to this question was one woman's reply that turned the question around:

> No, a woman can train other people really (laughs). The women could train, y'know … I could have a course about what it means for a woman to go into fisheries science … I could tell of personal experience and what I have learned socially and politically. Y'know … it stretched my mind. I was confronted with quite challenging situations at times. I had to think, I had to resolve them. I had to … so I have learnt a lot, much more than what other people had in taking it much more easily. So, no, women do have lots of experience.

This reply raises the question of women serving as role models and passing on the benefits of their experiences to others.

Question 4e – responsibility for action

Question 4e asked who is responsible for taking action to help women improve their status. Of the 17 interviewees who were asked this question (three had not identified a need for action), ten focused on some combination of industry groups, five assigned the responsibility to industry itself (presumably meaning the commercial or non-government side of the industry), one focused on women themselves, and one identified employers.

Table 4 gives a detailed breakdown of the groups mentioned and the numbers of interviewees who mentioned each (interviewees sometimes mentioned several groups).

Table 4 Groups interviewees nominated as being responsible for taking action to help improve women's status, and the number of interviewees identifying each group. Total number of responses = 26, number of interviewees responding = 17

Group	No. of interviewees
Industry	7
Women themselves	4
Industry training councils/committees and training providers (TAFE, technical colleges)	3
Women's groups	2
Partnership between women, industry and government	2
FRDC	2
Employers	2
Partnership between industry, government and industry councils	1
Government	1
Shared responsibility between industry and women's networking groups	1
Industry producer organisations	1

Two interviewees pointed out that there are different levels of responsibility and levels for action, involving different groups.

Question 5 – Need for women's networks

Nineteen of the twenty interviewees believed there is a role for women's networking groups in improving women's status in the industry. Many interviewees were very positive about these groups and their contribution. For example, one man said:

> … I really believe that they can very much forward, as a single agenda, those issues far better than anybody else can – it's just in a very pragmatic way, they are in a better position to forward those areas and to … form strategic alliances and relationships with people like myself and with those major groups. And … I see a role, and potentially a position on [fishing industry] boards for those representative groups …

A woman interviewee replied:

> Oh, definitely. I was involved in a number of women in business networks and women's entrepreneurial networks in New Zealand and they do offer quite life-changing experiences for some people …

Another interviewee was supportive but less convinced about the real effects of women's groups in achieving change, and commented:

> They are part of a change, but we shouldn't rely only on these sorts of actions for long-term changes. Long-term changes … in my view rely on something else that … something more insidious, something more grounded. I don't know how really to explain but these sort of highly focused groups are good to highlight issues and … what people actually want, but then we still have to make it happen …

One woman interviewee did not personally see a need for women's networks and commented:

> I would say, not particularly. It's probably networks with colleagues in general … I'd say … not specifically women. In the main I've moved around too much in different areas, there's too few women too (laughs). I've many friends but in terms of professional

network, it's just as likely to be a male as a female. And so the … networks are certainly important but I don't have my female network and then my male network.

Table 5 summarises the services interviewees thought women's networks need to provide.

From this it can be seen that the most common responses deal with the need for networks to provide opportunities for information exchange among industry women. In some cases this was seen as not only being valuable in its own right but as a basis for empowering women through sharing knowledge. A closely related but slightly different category of responses focused on the idea of networks and networking events themselves rather than their function in information exchange – and saw developing contact lists and holding networking events as a major service provided by these women's groups.

Another major category for responses was the need for networks to provide support and encouragement for women, to help build their confidence and provide a forum for them to air issues without fear of being ridiculed or criticised.

Table 5 Interviewees' views on the services women's networks need to provide. Total number of responses = 40, number of interviewees responding = 19

Service needed	No. of responses
Information exchange e.g. about training and education opportunities, information about upcoming positions on industry bodies	10
Contact with other women, overcoming isolation, support and encouragement, building confidence, safe environment to express concerns, sharing experiences	8
Working to change traditional attitudes and values in the industry, 'throwing out the challenge', 'waving the flag', raising awareness of women's issues, showing leadership on women's issues	4
Providing role models and mentors for other women	3
Forming strategic alliances and relationships with other parts of industry, with politicians and people in power	3
Building communication networks - developing websites, e-mail services, contact lists for industry women, holding meetings and conferences, linking up with other similar networks	3
Encouraging appreciation of women's styles and ways of working as compared with those of men	2
Adding value to industry processes, infrastructure and thinking, supporting the industry generally	2
Holding public displays, shows and open days, obtaining positive publicity for the industry	2
Providing representatives for industry councils, committees and boards	1
Taking women's needs on to government	1
Encouraging women to take on non-traditional roles	1

Question 6 – Changes to women's roles

Question 6 asked interviewees whether they had noticed any changes to the roles women play in the industry over the last few years. Nineteen of the twenty thought they had seen changes, but they often commented that the changes were slow or subtle, or would take a long time to 'filter through'. One woman said:

Yes, it's probably very subtle in that … I think the fisheries that I've been involved in, in the southern area, tended to … the women are only starting to get involved in coming along to things because of social activities. I mean, the more social activities there are

and the more they come along and meet with other women, the more they then want to get involved and are willing then … even to go to conference sessions whereas once upon a time, they wouldn't be involved at all. They would be there, they would go shopping while the conference sessions were on, and I think there's gradually a change that they want to find out more about the politics of fisheries' management and what's going on, the future of the industry.

Two interviewees commented on new or expanding areas of the industry that they believed were either being driven by women or provided areas for women to exercise their particular skills and interests. These areas included food safety, quality control, and the environmental or sustainability aspects of the industry. A move to ecosystem perspectives in managing the wild catch sector was also seen as something that suited women's approaches.

Table 6 provides summary categories for the types of changes interviewees reported having seen.

Table 6 Types of changes interviewees reported having seen in women's industry roles in the last few years. Total number of responses = 29, number of interviewees = 19

Type of change reported	No. of responses
More high profile women in the industry, women more visible in senior positions	7
More women actively involved in the industry and industry organisations	4
Women taking more active roles in fishing and agricultural businesses	3
More women in government resource management	3
Women's work better valued or recognised by women and society generally	3
Men seeking out women's opinions and involvement more	2
More women in marketing, quality control and food safety areas	2
Women involved in improving industry's image, promoting the industry	2
Women more confident and outspoken at meetings and workshops	1
More applications from women for research and development funding	1
Women 'driving the environmental agenda'	1

Question 7 – Women's future roles

This question asked interviewees what roles they thought women would be playing in the industry in the future. A summary of responses is shown in Table 7.

Table 7 Interviewees' opinions about women's future roles. Total number of responses = 27, number of interviewees = 20

Type of role	No. of responses
More involved in management and research, on MACs and industry committees, executive and board roles	9
Business roles e.g. small business management, business decision-making, running their own businesses, business marketing	6
Negotiating industry issues, policy-making, doing long-term planning and ensuring sustainability or resource security, bringing a more holistic perspective to industry issues	5
Anything they want, 'across the board', equal with men	4
Industry advocacy roles, spokespeople for the industry	2
Integrating fishing industry with other primary industries	1

An example of the most common response category is:

> I think they'll be getting a lot more involved in … in the actual management of the
> fisheries … in the industry associations and in the MACs and in sub-committees and in all
> the roles that the men are now playing. I see … I would hope that over the next ten years,
> that there will be a great influx of women into those positions.

Question 8 – Organisational cultures

Question 8 asked interviewees about the culture within their own organisation. It was not
necessarily an appropriate question in this form for all interviewees and is oriented more to
people working in larger, structured organisations, not in small, informally structured family
businesses. However, even interviewees not working in formal organisations could
sometimes respond in terms of the major role in which they were interviewed – for example,
their official positions on industry boards, committees or in non-government organisations. It
was assumed that these groups also have organisational cultures in the sense of this
question. Three interviewees thought the question was not relevant to them – they either
belonged to women-only organisations or were self-employed. One interviewee thought she
had been with her current organisation for too short a time to be able to reply to this question.

Nine of the remaining sixteen interviewees thought their organisation's culture was 'good',
'generally good', 'trying to do the right thing' or 'coming to understand the need' in relation to
women and having women in senior positions. Other positive terms used about
organisational cultures were 'very egalitarian', an 'equal mix', 'fairly supportive' 'basically
fine', and that the issues are 'taken seriously'. The impression was of considerable recent
progress in some organisations. However, even interviewees who were positive about their
organisation's overall culture often highlighted areas that still needed improvement or special
difficulties remaining. Seven interviewees considered that their organisation was 'not good' in
this respect and needed to change.

An example of the first type of response is from an interviewee working in a government
agency:

> Mm … it's basically fine. There are … it depends on whether you are talking about the
> general of the specific. I mean there are some absolute chauvinist yobbos in this
> Department, but as well as that I'd say at the highest levels of management there is a
> close to EEO as you're going to get […] as it stands. I think … though that there is an
> effect which is … there is probably all sorts of unconscious stuff that still sits there which
> is the reason why there's less than 10% women SES [Senior Executive Service] in this
> Department … and it is very hard to judge as a woman whether if a man had the same
> qualities and characteristics as you, whether he would have leapt up the greasy pole
> faster (laughs). Like I expect he would. But that's also … may be nothing to do with the
> men around, that may be to do with the women and how they perceive what is OK for
> them to try to do or to apply for. That is, if women are more reticent about sliding up the
> greasy pole, they can't complain that they didn't get there as fast as the men, so it's a sort
> of two-edged sword and I'm not attributing blame (laughs). Cause and effect.

In contrast, a man who was interviewed said:

> Yes, well my attitude as an individual would be that I would very much encourage women
> to take up those [senior] roles and I have done so as an individual … but I guess I'm out
> of the denial phase and I wouldn't say that that's the case with many of the members of
> the boards that I sit on […] it's not an issue, it's just not an issue, because the issue
> hasn't been brought forward. We haven't shown enough leadership and said 'Listen this
> is an issue. Let's think about it and what are we going to do about it?' […] WIN should
> write me a horrible letter and say 'What are you doing?' …

However, five women either with official roles in industry organisations or considerable experience in fisheries research and management, commented on their surprise and pleasure at how readily they personally had been accepted by wild catch fishers (and in some cases by fishers' wives as well).

Some interviewees gave detailed responses in which they made distinctions about women's acceptance and representation in different sectors, or at different levels in the industry. These replies highlighted the industry's complexity, social and cultural differences between various sectors, and the range of organisational cultures within the industry.

7.2 Questionnaire results

Response rate
The questionnaire was sent to 401 women, of whom 16 replied to say the survey was not relevant to them, and an additional 18 questionnaire packages were returned as undeliverable, giving an actual sample size of 367. By the cut-off date, 202 completed questionnaires had been returned giving an overall response rate of 55.0%. An additional 14 completed questionnaires were returned after the cut-off date, but are not included in the analysis.

Description of respondents
The majority of questionnaire respondents saw their main role within the fishing industry as owner-operator, business partner, company manager or director (41.7%). State Government employees were the next best-represented group in the sample (23.2%). The remaining sectors individually accounted for less than 10% of the overall sample. Thirteen 'other' responses were recorded of which ten identified their major role as falling in the education and/or research fields, typically being employed by universities (see Appendix 9, Table 1).

Given the low representation of some sectors, the eight options given in the questionnaire were condensed to four. 'Other private sector employee' and 'employee in family business' were combined into a single 'private sector worker' category, and both Commonwealth and State Government employees were combined in a single 'government worker' category. The categories of 'voluntary, honorary or advisory role' and 'support role for others who work in the industry' were combined with those in the 'other' category and have been given the latter title. The owner-operator category has not been amalgamated. Figure 1 shows the breakdown of respondents after these amalgamations.

The median age category of respondents was 31-40 years, with 34.5% of respondents falling into this age group (Appendix 9, Table 2). Owner-operators and those in the other categories were slightly older than the overall median age, with their median being 41-50 years.

Levels of formal education were skewed across the sample with owner-operators generally holding lower levels than government workers, though a significant (38.3%) proportion of owner-operators also had post high-school qualifications (Appendix 9, Table 3). Approximately 20% of respondents are currently enrolled in some form of formal education, with 48.8% enrolled in a university course and 31.7% enrolled in a technical course, apprenticeship or TAFE course. Figure 2 shows the education levels of respondents.

Figure 3 shows places of residence by State/Territory for the overall sample. The majority of respondents, and in particular the owner-operators, were from South Australia (40.5%) (Appendix 9, Table 4). This geographical bias is largely an artefact of the WIN contact list.

Additionally it is likely that WIN's commissioning of the project resulted in an enhanced response rate from WIN members, who are likely to live in South Australia.

Eighty-six percent of respondents were Australian-born. The remaining 14% came from a range of countries of which the most common were the United Kingdom, New Zealand and the United States. One respondent came from each of ten countries in Africa and Asia. One respondent identified herself as being of Aboriginal or Torres Strait Island descent.

Two-thirds of respondents (66.6%) indicated they had one or more children, with an average of 1.6 children. Of these respondents, 62.1% had dependent children, and the remaining 37.9% were of an age that suggests their children would be independent adults. For those with dependent children, 28.8% paid for childcare and 38.8% received free childcare from family and/or friends.
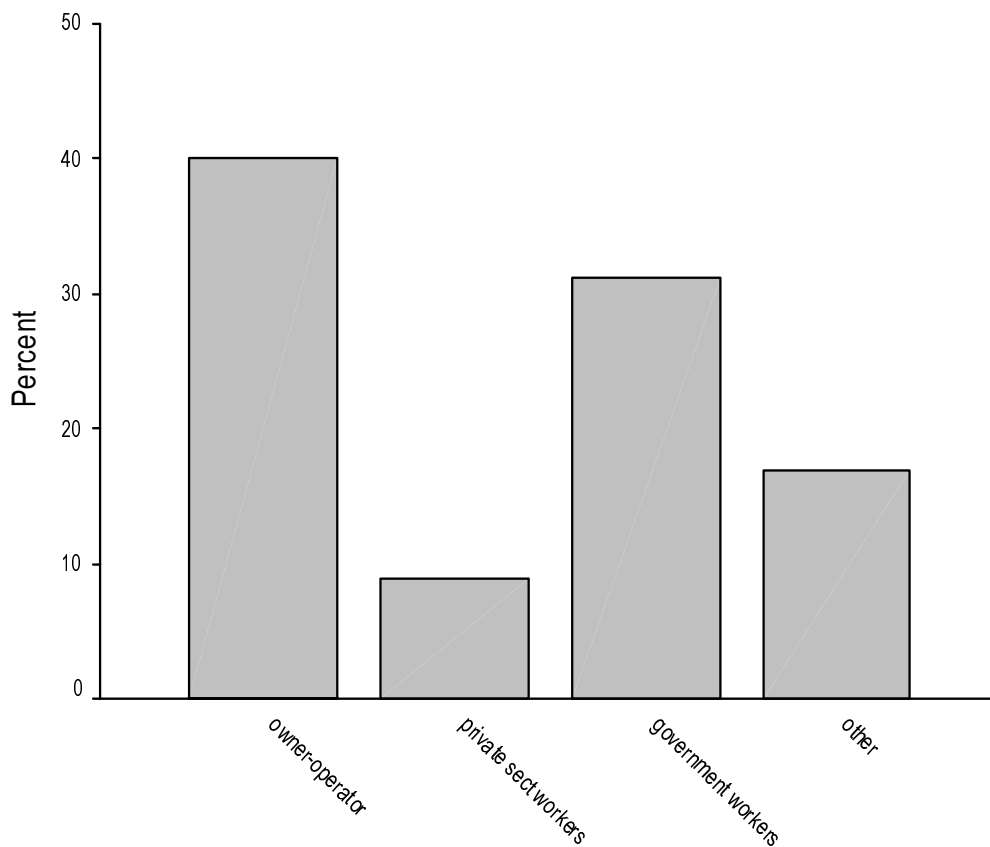
Figure 1 Respondents' major roles
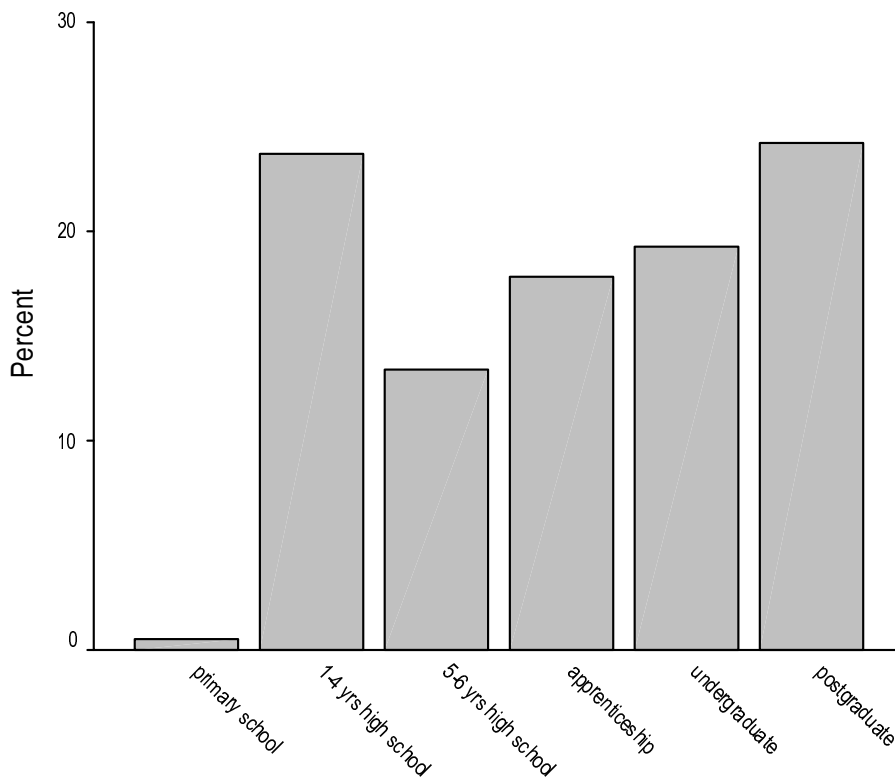
Figure 2 Respondents' highest formal educational qualifications
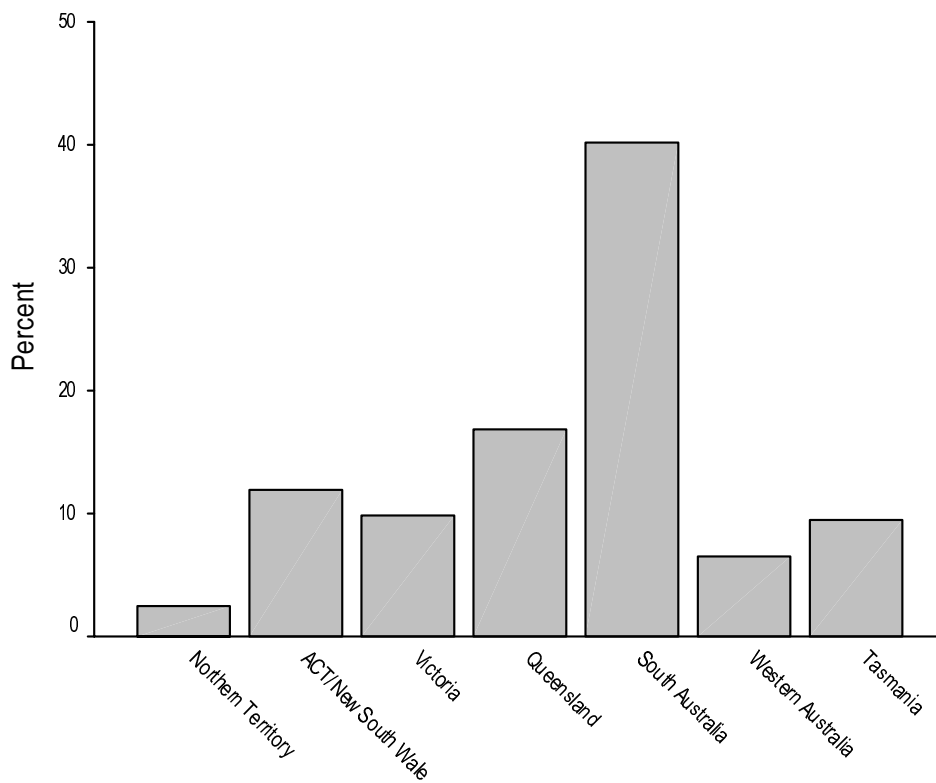
Figure 3 Respondents' place of residence

Twenty-nine point eight percent of respondents cared for other family members. The most common people cared for were partners, followed by parents and then grandparents. On average, respondents with caring responsibilities spent 31-40 hours a week on these duties.

Fishing industry experience
Most respondents had spent more than five years in the industry (Appendix 9, Table 5). As a group, owner-operators had generally spent longer in the industry than other groups. A large majority of respondents either intended to stay in the industry for an indefinite period or were unsure how much longer they would stay (Appendix 9, Table 6).

Question A4 listed a series of 24 tasks carried out by workers in the industry. At least one respondent reported performing each of these tasks (Figure 4). However, the most-frequently performed tasks were the administrative tasks of mail, book-keeping and attending meetings - more than 50% of respondents normally performed these tasks (Appendix 9, Table 7).

The median number of hours per week respondents spent in their main role was between 31 and 40 hours (Appendix 9, Table 8). This was the same for owner-operators and private sector workers. However, the median for government workers was longer at 41-50 hours, while for other groups it was shorter at 10-20 hours per week. The last group incorporates voluntary and honorary positions that would generally be part-time commitments. Despite the owner-operator group having a median of between 31 and 40 hours per week, more than 20% of women from this group spent more than 60 hours per week in their main role.
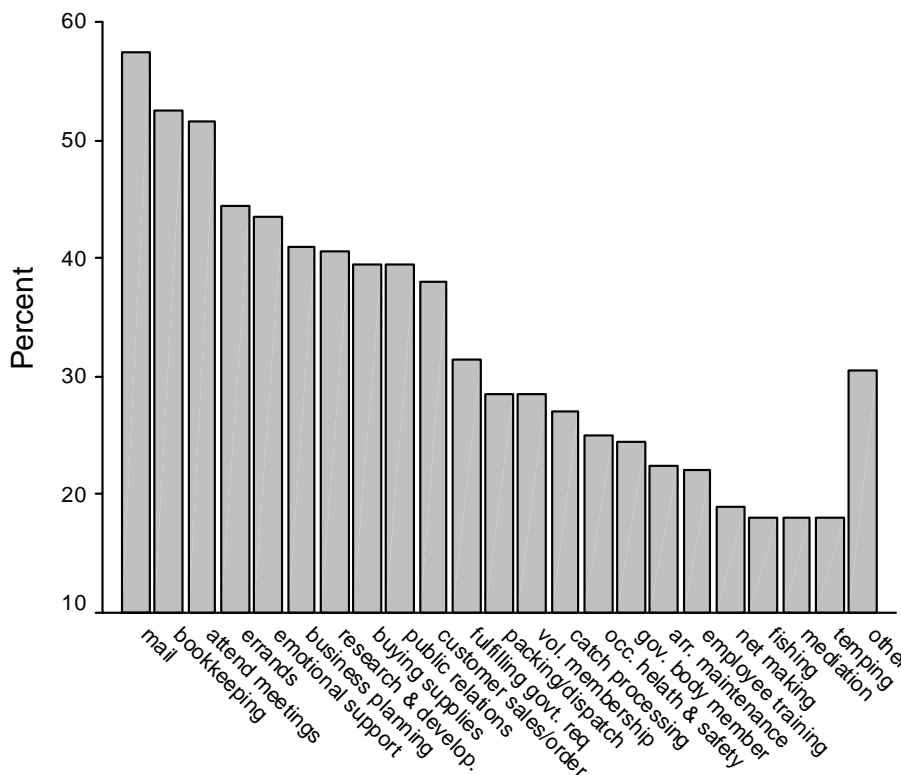
Figure 4 Respondents' tasks in the industry

For women whose main role was a paid role, the median contribution to family income was between 26 and 50% (Appendix 9, Table 9). This was the same for all sectors except for government workers, where the median was a contribution of between 51 and 75%. Most groups had a relatively even distribution of respondents spread across the five possible

categories. However, owner-operators were primarily represented in the 26-50% category. This may be an indication of the partnership underpinning many owner-operated fishing businesses, and the equal contribution to the family income from both partners.

Overall, respondents showed very high levels of satisfaction with their current role in the industry (Appendix 9, Table 10). The mean response on the scale was 3.94±0.07 (the standard error of the mean is given as a measure of variation), where a score of 1 represents 'very dissatisfied' and a 5 represents 'very satisfied'. Indeed, only 12.3% of the respondents indicated some level of dissatisfaction, and an additional 12.3% were neither satisfied nor dissatisfied. There were no significant differences in levels of satisfaction between women in different sectors.

The principal reason given by women who were dissatisfied was related to the way government regulates and manages the industry. These issues were linked primarily to the owner-operator sector of the industry and are not gender-specific. For example, women expressed dissatisfaction about restrictions on the transferability of fishing rights, increases in licence fees, and the perceived 'cavalier' nature with which government makes decisions about the future of particular fisheries. The high workload and 'all-consuming' nature of the work were also sources of dissatisfaction. Fewer women identified a lack of support from their workplace, or workplaces that were not 'women-friendly', as other reasons for dissatisfaction.

Question A9 asked what were the three most valuable skills or areas of knowledge that respondents brought to their current main role. The question did not provide categories and the responses given were sorted iteratively to produce 17 categories and an 'other' category (Appendix 9, Table 11).

Respondents thought communication skills were the most valuable skills women in the industry contributed to their main role (Figure 5). This was followed by individual personal qualities. This category was less focused on skills or knowledge *per se*, but rather on values and ways of operating. Confidence, empathy, objectivity, honesty and reliability are examples of the types of responses that were included in this category. The remaining categories are all overtly knowledge- or skill-based.

Question A10 gave 14 areas of decision-making over which women may exert some influence. Respondents were asked to rank their level of influence on a '1=no influence' to '5=sole decision-maker' scale. The degree of influence was analysed for each area (e.g. equipment purchases, safety) across all responses. Means for each decision area were calculated. The area of highest influence was public relations (mean=3.42±0.08), followed closely by managing finances (mean=3.41±0.10). Conversely, women felt they had less influence in the areas of equipment purchases (mean=2.63±0.09) and production levels (mean=2.52±0.11) (Table 6).

In addition to the overall scores for each decision-making area, the mean score for each respondent across all decision-making areas was used as an overall indicator of decision-making influence. One-way Analysis of Variance (ANOVA) indicated significant differences between the groups in their influence over decision-making (F=4.514, df=3, 188, p=0.004). *Post hoc* testing (Tukey's Honestly Significant Difference test was used) indicated that the significant difference was between owner-operators and women in the 'other' category, with the former group having significantly more influence over decision-making than the latter (mean$_{owner-operator}$=3.18±0.09, mean$_{other}$=2.63±0.17). This is consistent, as the 'other' group includes voluntary workers with arguably limited roles in decision-making. While not statistically significant, there is also a trend suggesting that government workers have less influence over decision-making than owner-operators (mean$_{government\ workers}$=2.82±0.10). The

mean score for private sector workers also indicates less influence over decision-making than owner-operators. However, there were high levels of variance associated with this sample ($mean_{private\ sector\ workers}=2.68\pm0.24$).
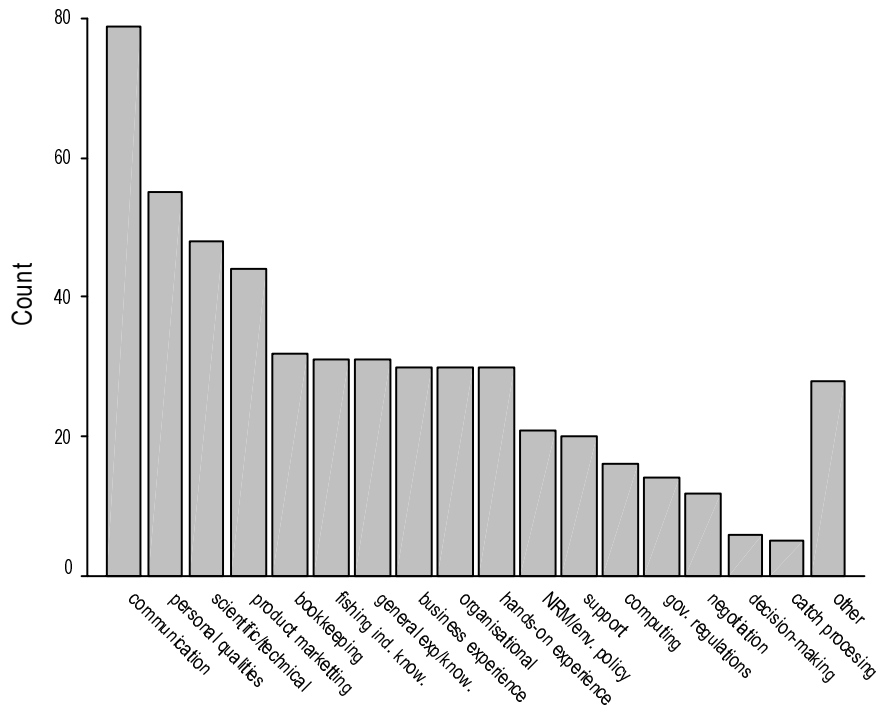
Figure 5 Respondents' view of women's most valuable skills and knowledge

Table 6 Respondents' influence over decision-making in their main role. Higher scores indicate greater influence

Area of decision-making	Mean score
Public relations	3.42±0.08
Managing finances	3.41±0.10
Policy making or planning	3.03±0.09
Marketing and promotion	2.99±0.11
Managing staff	2.97±0.11
Training staff	2.93±0.11
Quality control	2.93±0.11
Safety	2.89±0.09
Introducing new techniques/approaches	2.87±0.08
Hiring staff	2.85±0.11
Environmental management	2.84±0.09
Major investment decisions	2.70±0.10
Equipment purchases	2.63±0.09
Production levels	2.52±0.11
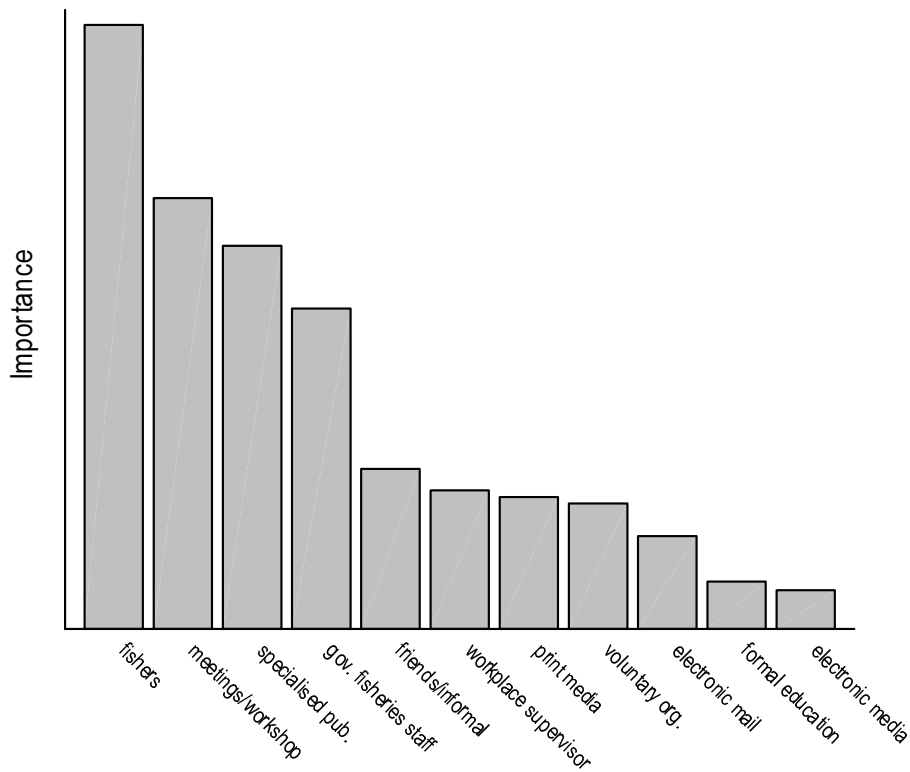
Figure 6 Respondents' main sources of information

Question A11 listed 11 sources of information about developments in the fishing industry. Women were asked to rank what they considered to be their three most important sources of information. These rankings were converted into a numerical score by awarding the highest-ranked source three points, the second-highest two points, and the third-highest one point. Each source was then given an overall score and the sources were ranked for the whole sample. The most important source of information for women was fishers themselves, which was closely followed by meetings, specialised publications, and government fisheries staff, as shown in Figure 6.

Changes and barriers to change
As noted earlier, in general women were satisfied with their role in the fishing industry, none-the-less more than half of the respondents also indicated a desire to make some change to their current roles (Appendix 10, Table 12). However, as a group less than half the owner-operators wanted some change in their main role. Obtaining better recognition or status for their position was the most wanted change, followed by spending more time in their current role and receiving better pay for their role (Appendix 9, Table 13) (Figure 7).

Lack of time and having too many other commitments, and lack of money were the dominant barriers that women considered prevented them from making changes (Appendix 9, Table 14). While fewer respondents considered lack of training and organisational rules as barriers, they were still seen as barriers by more than 25% of those wanting to make changes to their current roles (Figure 8).
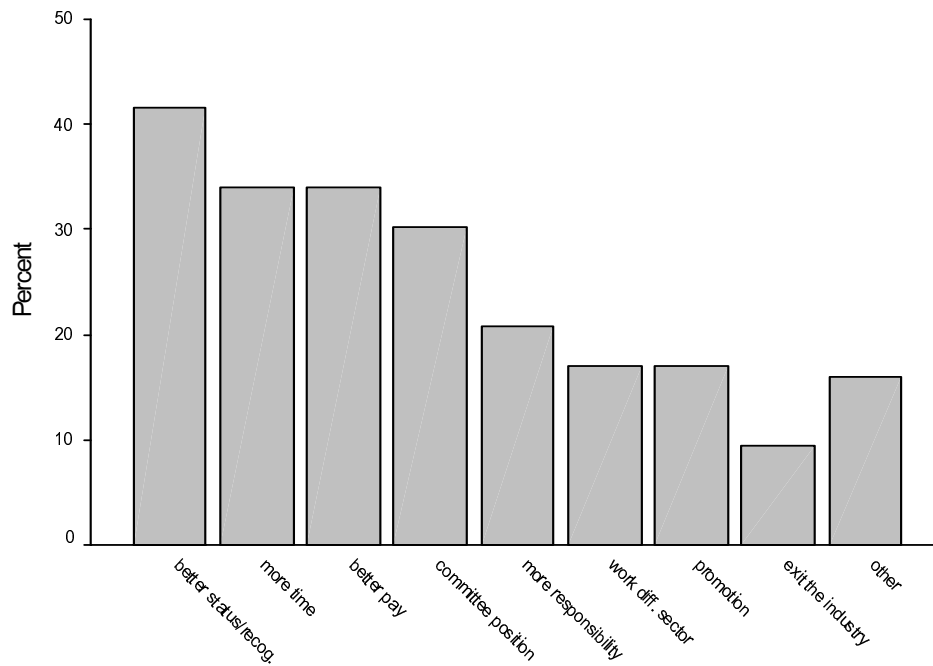
Figure 7 Types of changes desired
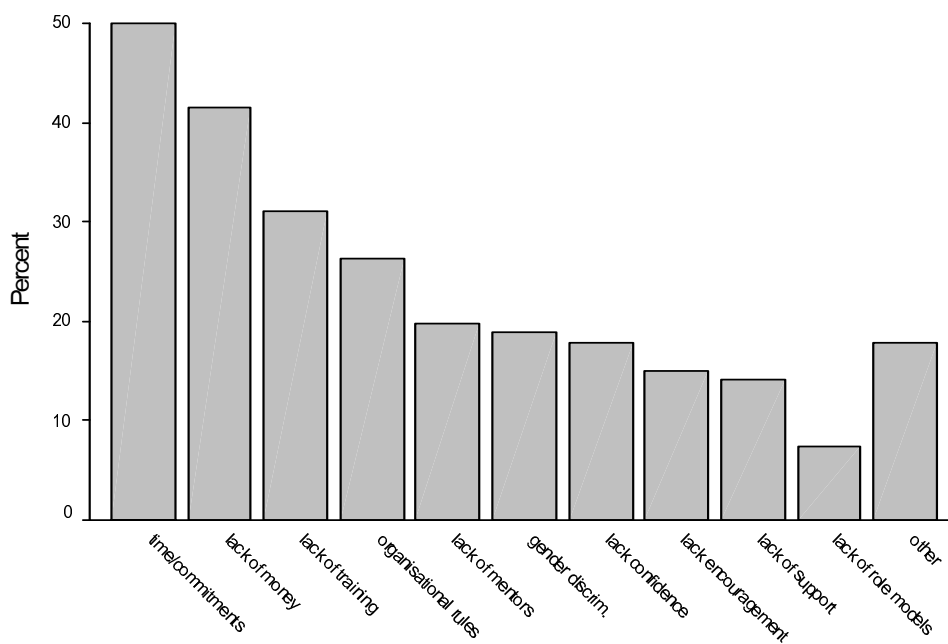
Figure 8 Barriers to change

Those respondents who indicated that either lack of money or lack of training were barriers, were asked to indicate what types of financial and training assistance would help. Research and development grants, or better financial recognition for their current role, were the most frequently wanted forms of financial assistance, being requested by 56.6% and 41.3% of the respondents respectively (Appendix 9, Table 15) (Figure 9).
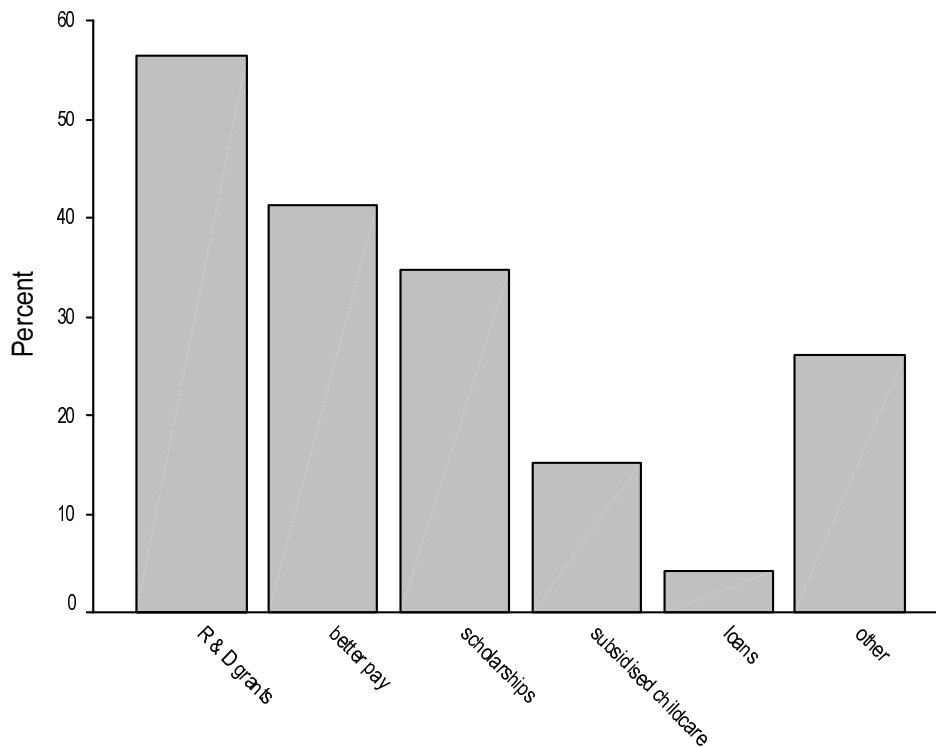
Figure 9 Types of financial assistance wanted

Of those who indicated lack of training was a barrier to making changes to their major role, 46.9% indicated that assertiveness training would help to overcome this barrier (Appendix 9, Table 16) (Figure 10). Training for business management/ planning and leadership were also considered useful in overcoming barriers. At the lower end, only 16.3% considered training in boating or fishing skills to be helpful in overcoming barriers that prevented them from making changes.

Respondents were also asked to indicate the difficulties they had in accessing training opportunities. This was an open-ended question which was inductively coded to produce the following five categories in decreasing order of reported frequency:

- time: the lack of time was frequently noted as restricting access to training opportunities, particularly where workloads were so heavy that they precluded taking extra time off for training activities expense: the cost of training was the second most frequent noted barrier to taking up training opportunities. Expense incorporated both the direct costs of training courses as well as the forgone profits from taking time-off work or the cost of replacement staff
- isolation: some respondents considered their geographical isolation from training opportunities was a major barrier to taking advantage of them
- family: family commitments and childcare responsibilities, or the lack of appropriate childcare (often linked to isolation) further reduced the capacity of some respondents to take advantage of training opportunities
- availability: some respondents questioned the availability of courses appropriate to their main roles
- support: some respondents indicated that their family or workplace did not support them in taking up training opportunities.
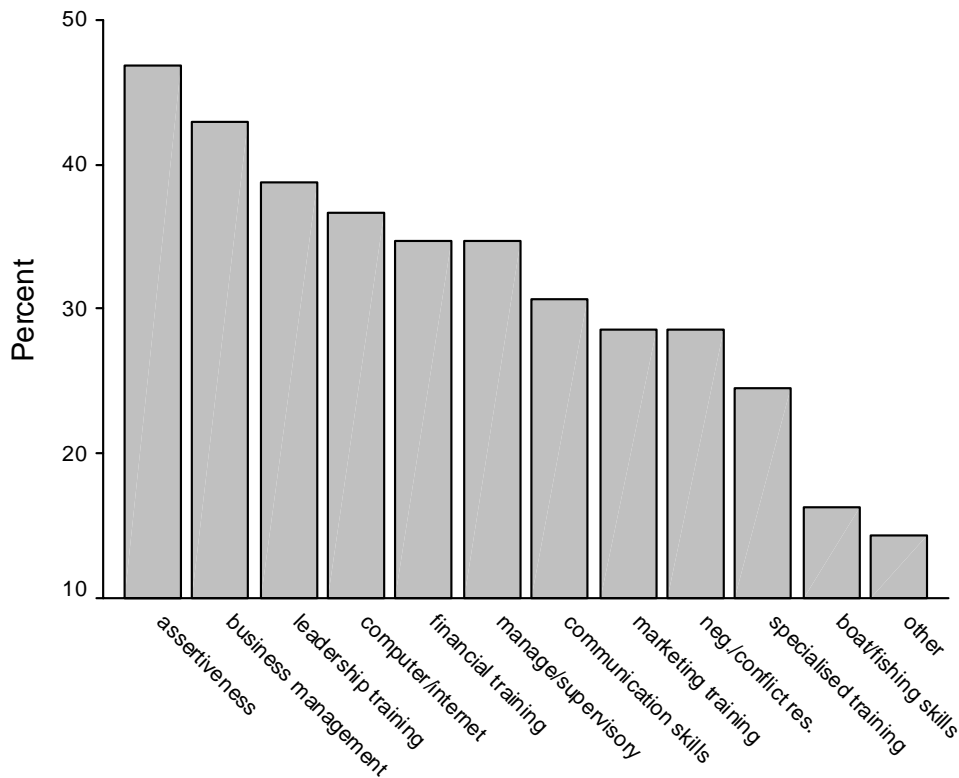
Figure 10 Areas of training requested

For those respondents who indicated a lack of time was a barrier, an opportunity was provided to suggest what would enable them to put more time into their current role. While some women were unable to make any suggestions noting that its 'just the way things are', other suggestions could be grouped as follows:

- giving up other employment: however this may not be an option as outside employment may bring in extra family income
- employing additional staff: again this would have resource implications
- reducing government regulation: and thereby reducing the time spent in administration, particular where duplicated
- reducing family responsibilities: primarily through the provision of childcare however some women were not prepared to use childcare and noted that when their children were of school age they would have more time to put into their current role.

Women's industry networking groups
Of the respondents, 20.6% indicated they were members of a women's industry networking group. Of the remaining 79.4%, 30.8% said they would join such a group, 38.5% indicated they would not join, and the remaining 30.8% said that it would depend on other factors. Geographically, the majority of those who were currently members of women's industry networking groups lived in South Australia, clearly related to the location and concentration of WIN's work.

The factors influencing the decision whether or not to join a network included:

- degree of isolation from meetings
- relevance of the group's activities to the respondent's role
- time and level of commitment required
- level of political decision-making influence the group exerted

- expertise of others involved in the group
- expense/cost of being involved in the group
- need for additional information about the group before deciding.

Some of the reasons given by those not interested in joining a women's industry network group were the same as above, for example isolation, the cost, time required. Other reasons for not joining were:

- no need as they already had informal or other networking opportunities
- planning to retire or otherwise leave the fishing industry in the near future
- not wanting to be involved with, or politically opposed to, a single gender networking group.

Women who indicated a desire to join a networking group or who were already a member, were asked to rank the three most important services these groups could offer from a list of ten options. Rankings were converted to a numerical score adopting the same method as used for the information sources in Question A11 (see above).

The two most important services these women thought these groups could offer were as a forum to meet other women from the industry, and to promote industry-related training for women. The next three services form a group around changes in the workplace; raising awareness, gaining status and identifying and removing barriers to women's advancement. The relative importance of these services is shown in Figure 11.
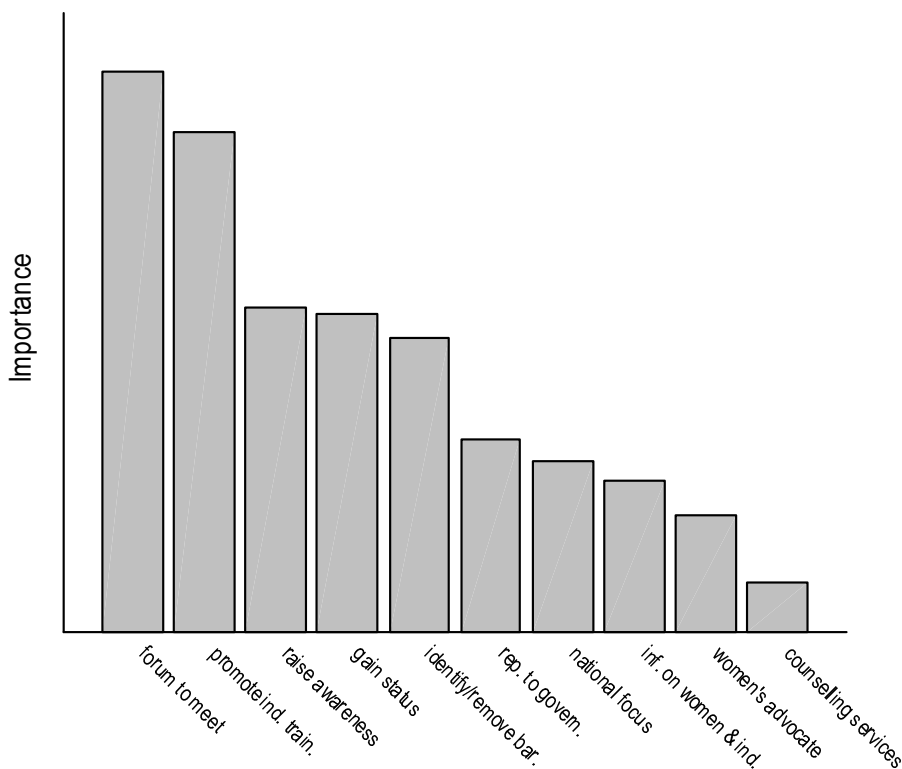
Figure 11 Most important services wanted from women's networking groups for those respondents interested in joining

When respondents were asked to suggest other services that women's industry networking groups could offer, the three most common suggestions were to: offer mentoring services; provide funding opportunities for women or information about funding opportunities that currently exist; and generally provide information to women and raise awareness in the industry about women. Two respondents suggested that these groups should offer all these services but they should not only be limited to women.

Beliefs about women in the industry
Section C of the questionnaire included a series of Likert-type belief statements about women's roles in the industry. The following response scale was used:

1. strongly agree
2. agree
3. neither agree nor disagree
4. disagree
5. strongly disagree

Table 7 indicates the mean score for each statement (Appendix 9, Table 17).

Table 7 Mean scores on belief statements across all respondents. Higher scores indicate stronger *dis*agreement with the statement

Belief statement	Mean score
1. Many women need more confidence to try for a better job in the industry.	2.26
2. Men involved in the industry generally acknowledge women's contributions appropriately.	3.16
3. Women need better access to training and education to advance in the fishing industry.	2.30
4. Industry advisory committees and boards generally have enough women members.	3.73
5. Men often believe that women lack the physical strength to take on many industry jobs.	2.31
6. Women are often discouraged by their bosses from taking on more responsible jobs in the industry.	2.81
7. Family commitments do not prevent women from making a greater contribution to the fishing industry.	3.30
8. Men tend to think women have no place in many industry jobs because men have always done those jobs in the past.	2.53
9. Women could achieve more status and recognition for their work if they had leadership training.	2.36
10. Women's skills and abilities are one of the fishing industry's greatest untapped resources.	2.04
11. Women feel welcome in the fishing industry.	3.07

Factor analysis of responses to the statements revealed three underlying belief dimensions (Appendix 9, Table 18). The first dimension represents training and skills, combining statements 1, 3, 9, and 10. The second dimension represents broad gender issues, combining statements 2, 5, 6, 8 and 11. The third dimension represents issues of representation and family commitments, combining statements 4 and 7. Summated scales were developed representing each dimension.

The mean score on the training and skills scale was 2.2±0.05. Respondents believed that women's skills were an untapped resource for the fishing industry, and that women needed

more confidence and better access to training and education to advance in the industry. The level of support for the belief was moderate. There were no significant differences in response to this scale between women grouped on the basis of their major role.

The mean score on the gender issues scale was 2.7±0.05. Respondents generally believed that the industry was an 'unwelcoming' place to work, where men held beliefs that limited the contribution women could make. However, it should be noted that the score is only slightly away from a neutral position. That is, while respondents considered the attitude and beliefs of men restrict their options, it is not a strongly-held belief. There were no significant differences between women grouped on the basis of their major role.

The mean score on the representation and family commitments scale was 2.5±0.05. Respondents generally believed that industry advisory boards and committees do not have enough women members, and that family commitments do prevent women from making a greater contribution to the industry. As with the other two scales, there were no significant differences between women grouped on the basis of their major role.

Women's future roles
Respondents were given an opportunity at question C2 to indicate the sorts of roles they thought women are likely to be playing in the industry in the future. The responses were very varied, ranging from women having no future roles through to women having any role they want. Many of the roles identified by respondents were similar to the types of fishing work listed in question A4. In addition to these roles, some respondents considered that women would generally have an increasing role in the industry. This included a far greater role in representing the industry at higher levels to government, through to greater involvement of women on boards and committees. Women were seen as moving from a 'behind-the-scenes' support role to a more overt 'up-front' managerial role.

Behind the belief that women would have no future role in the industry was the conviction that government would make wild catch fisheries non-viable due to over-regulation and excessive charges, leading to their closure. A less strongly-expressed perspective saw women taking up an increasing role in promoting the wild catch sector and advocating that it continue to both government and the wider community. In addition to the change towards higher profile public roles, some women also saw women as moving more into 'hands-on' roles in the wild catch sector, including roles as fishers, crews and skippers. In contrast, a number of women considered that the roles women would play would undergo no significant changes, but rather women would continue to play an important supportive land-based role managing fishing businesses. Some women expected greater numbers of women to take up scientific careers in fisheries science leading to employment in fisheries management and increasingly in aquaculture.

Further comments
Fifty-four questionnaire respondents wrote further comments in the space provided at the end of the questionnaire. These have been categorised according to their content, and Table 8 shows the results.

Table 8 Further comments made on the questionnaire and numbers of comments in each category. Number of respondents making comments = 54, number of responses = 69

Category	No. of responses
Barriers/no barriers to women in the industry	26
Description of own role	15
General industry comments	9
Women's aptitudes and abilities	6
Measures needed to address barriers	6
Other comments e.g. about questionnaire	7

The largest category was comments dealing with opinions about whether or not barriers exist for women in the industry and, if so, the nature of these barriers. An example of a comment about overt discrimination as a barrier to women in the wild catch sector is:

1) Women shouldn't have to "grow balls" to become mates and skippers.
2) The term "cook" needs to mean that and not the crewmember expected to sleep with the skipper

I think training essential for this job which is a very important job on vessels which are away from port for weeks or months at a time as many girls take on this job with no experience and if they can't immediately teach themselves to cook for 5-8 people at odd times of day and night and keep a clean galley and help with processing they are usually treated abominably by the crew and have to leave [the] job. Someone trained and also trained to handle people and earn respect – does much better and can enjoy the job.

It should be pointed out that not all women who made comments in this category thought that barriers **did** exist. For example:

If people would stop brainwashing women into thinking they are downtrodden maybe more women would become involved in the fishing industry. Sometimes I think women are their own worst enemy. I enjoy my job and lifestyle. I have never been concerned about what men or anyone thinks of me being a fisherman.

The next-largest category was comments in which women provided more detail about their own roles, situations and contributions to the industry. An example is:

As I fill out this questionnaire, we are having a 'man-free' work shed (oyster farming) bar one! That is, four women. We are sorting oysters and counting for sale, and managing the shed, so this survey seems timely! […] I guess even though I drive boats/tractors and would be relatively skilled, we do not place an emphasis upon asking the girls to drive the boats (or even get their licences) or to drive the tractors etc. I guess this is stereotyping the workforce, even though I have a full participation?
…

8 Discussion

One finding of this study is the complexity of the Australian commercial fishing industry and how difficult it is to make valid generalisations across the various industry sectors and for women in varying industry roles. We are aware of this study's limited scope in terms of number of questionnaire respondents and number of interviewees. For these reasons, and because little other work appears to have been done in this field in Australia, any conclusions must be drawn with caution.

For example, it appears there are considerable differences between women working in the public and private sectors of the industry and between what might be called the 'grass roots' women working in small family fishing businesses and 'elite' or 'tall poppy' industry members with senior positions in government organisations or on industry boards and committees. The last group can be considered the 'leading' women and men in analogy to Alston's (1998) study. The issues and opinions of these groups differ, as is apparent from some of the differences between questionnaire and interview responses. The questionnaire reached many women in the private sector, particularly the owner-operator category (who made up 41.7% of questionnaire respondents), whereas the interviews were biased towards people working in government, particularly Commonwealth Government. However, many government women have worked in the private sector at some stage of their careers, as shown by several interviewees' replies. Also, as is often the case with key informants, interviewees had higher levels of formal educational qualifications than did questionnaire respondents (50% of interviewees had post-graduate qualifications as compared with 24.1% of questionnaire respondents). These factors contribute to some of the differences in interview and questionnaire results.

Our sample of fishing women is unrepresentative in some respects although there is no statistical basis for comparison as there is no comprehensive list of women in the industry. For example, only 27.0% of respondents reported doing tasks associated with catch processing. It is likely that the post-harvest stage of the wild catch sector – for example women working in fish canneries and other factory situations – is under-represented. This area is likely to include many women with ethnic backgrounds and having first languages other than English. These women might be less likely to respond to a survey such as this even if contacted. Similarly, indigenous people are almost entirely lacking from both the interviews and the questionnaire (only one questionnaire respondent and one interviewee identified themselves as having Aboriginal or Torres Strait Islander ancestry). Indigenous women do work in the commercial fishing industry, particularly in northern Australia, and may have special needs and interests not captured in this study.

Geographically, the study is strongly skewed towards South Australian women and towards south-eastern Australia generally. Different emphases may emerge if women in more remote locations are surveyed – particularly issues related to geographical isolation and lack of access to community services.

In terms of the background literature examined for this study and approaches identified in it, we think the 'multiple roles' approach' may be a profitable one to pursue for women in the Australian fishing industry (Davis and Nadel-Klein, 1992). Because the industry is so complex and women's roles so varied both individually and collectively, a case can be made for much more detailed work on women's work in particular situations and detailed studies examining how women juggle competing work and family roles. This particularly applies to

those women who work from home in family fishing businesses. Studies using the multiple roles approach direct attention to the details of different types of fishing activities and different fishing sectors, rather than making sweeping assumptions based on gender. They may also direct attention to possible differences between aquaculture and wild catch fishing in terms of women's roles and representation.

Thiessen and his co-workers' (1992) study of Norwegian and Nova Scotian women in fishing-dependent households showed that women's major tasks fell into the areas of domestic, support and business/financial management services. Similarly, in this study more than 50% of questionnaire respondents reported that they carried out administrative tasks like mail/correspondence, book-keeping/banking/bill paying and attending meetings. Women in both the owner-operator and government worker categories had major responsibilities for these types of duties. This is a point of similarity between women working in both the public and private sectors of the industry. It also relates to women's decision-making power, as overall the respondents indicated they had substantial decision-making influence over public relations (which could include correspondence, phone communication, participating in meetings), and financial management (related to responsibility for book-keeping, banking and paying bills). This also fits with the views expressed by the key informants in Rickson and Daniel's (1999) study.

We made reference earlier to Sachs' (1997) five main themes for gender research in natural resource management. While this study has focused partly on the gender divisions of labour theme, it touches on issues to do with the other four themes, particularly participation in social movements – indeed one of the aims of the study has been to examine women's participation in women's networking groups; how these groups can be made more relevant to women's needs; and how they can empower women in the industry. Women's networking groups are part of a larger feminist movement seeking to improve women's status and recognition in society. The study is also relevant to policy makers because it provides information about women's perceptions of barriers facing them personally, and key informants' judgements of barriers in the industry generally and what actions might be taken to overcome them.

A majority of questionnaire respondents wanted to make changes to their main role, and a large majority of interviewees agreed that women do face barriers. The barriers to change identified in this study are similar to those listed in recent studies on women in Australian agriculture (RIRDC/DPIE, 1998; SCARM, 1998). Of the categories provided, questionnaire respondents reported that 'lack of time/too many other commitments' was the major barrier to them making the changes they wanted to make in their industry roles. This barrier relates directly to women's varied roles and competing demands from home and work. It also stems from widely accepted gender roles in which women still carry major responsibility for caring for children, other relatives and the home. These gender role stereotypes extend right across society and are very difficult to change.

Several writers mentioned earlier have discussed issues surrounding higher expectations of women and increasing demands on their time in modern western societies (Norr and Norr, 1992; McMahon, 1999). However, better-recognition and pay for women's home-based work, accompanied by special purpose financial assistance (for example childcare while attending industry meetings), may help overcome time barriers to some extent even though lack of money is not the fundamental problem. The dimension representing training and skills that emerged from analysing the questionnaire belief statements reflects some respondents' conviction that training and skill enhancement is a significant issue, and that industry women have not reached their full potential. Those respondents who saw lack of training as a barrier identified assertiveness training as the most important kind needed. Lack of training is something that can be much more readily addressed than society-wide gender role stereotypes.

Interviewees placed relatively greater emphasis on overt discrimination from men as a barrier to women advancing in the industry than did questionnaire respondents. Some of the personal examples they gave dealt with being prevented from going out on fishing boats. While relatively few industry women appear to want a long-term career working on fishing boats, many do want the opportunity to gain experience in the wild catch sector – to 'walk the talk'. For this reason they may particularly resent being excluded on the basis of gender. Not only this, but some comments made by interviewees and questionnaire respondents raise questions about discriminatory practices that could be the subject of legal action. They also raise questions about minimum occupational health and safety standards for commercial fishing boats, and the need for internationally-accepted legislation to ensure that all boats operating in Australian waters comply with these standards (including for example providing basic toilet facilities suitable for both men and women). Standards like these have long been accepted for other Australian workplaces and there seems to be no reason why the wild catch sector of the fishing industry should be exempt. 'Out of sight' need not be 'out of mind'.

However, overt discrimination in the industry may raise issues to do with corporate cultures and 'power elites' as well. Because many interviewees had experience in higher levels of the industry, they may have seen types of discrimination that most questionnaire respondents had not been exposed to, particularly those working in small family businesses.

Interviewees were asked a question about corporate cultures, and the fact that just under half of those who replied to this question thought that their organisation was not satisfactory in how it dealt with gender issues, suggests there is still a long way to go in eliminating gender-based discrimination in fisheries organisations. While Sinclair's (1994) categories cannot be strictly applied to our results, it appears that some organisations, both private and public sector, are still in her 'Denial' stage. This suggests the urgent need for attention to be given to organisational cultures within fisheries organisations and decision-making bodies, and for them to become more accountable in implementing equal opportunity and workplace diversity policies and practices.

Nonetheless, one interesting finding of this study is the relatively high levels of satisfaction women reported with their work in the industry. In spite of this, more than 50% of questionnaire respondents did want to make some changes. These findings are not necessarily inconsistent – they suggest that women enjoy their work but their enjoyment could be enhanced by appropriate changes, particularly gaining better status and recognition for their present work. One questionnaire respondent captured this when she wrote:

> Acceptance and respect for a women in this industry is a long and continual battle and our male peers leave no room for human error […] Having said that: It's a great industry to be in, the people are real!

We found relatively high levels of support for women's networks in this study. Only 38.5% of questionnaire respondents did not want to join a networking group, and nineteen of the twenty interviewees believed these networks have a role. Questionnaire respondents were supplied with categories for the services they wanted from networks and overall they identified providing a forum to meet other women with similar interests and promoting industry training opportunities as the two most important services. Interviewees responded to an open-ended question and replied in their own words. They identified information exchange-type services and contact with other women as most important.

Some comparisons can be made with services provided by women's networks and cooperatives in overseas fisheries. The Indian women's networks mentioned by Joseph (1989) provide improved access for their members to education and other community services, and the Women and Fisheries Network based in Suva, Fiji, has as one of its goals

acquiring access for Pacific women to fisheries development resources and training. Comparisons can also be made with networks established for women in Australian agriculture and natural resource management generally. These are now extensive in Australia and follow the longstanding tradition of the Country Women's Association. The general categories of services women want from these networks may not be highly industry-specific, and WIN or similar groups may be able to benefit from examples in other natural resource sectors.

Perhaps the most interesting comments made by interviewees and questionnaire respondents in this study dealt with the structure and image of the fishing industry and their perceptions that these needed to change. The people who saw this need were aware of broader social changes and a move to a 'post modern' or 'post-industrial' society, even if not necessarily in those terms. A key feature of this society is diversity – multiple use, multiple stakeholders and multiple views on issues. As mentioned earlier, the Karpin Report (Karpin, 1995) also identified diversity in management as a key to the competitiveness of Australian industries in an era of global trade. Better representation of women and recognition of women's contributions is part of achieving diversity. The forestry industry has faced similar issues about its image to those now being faced by fisheries (Kennedy, 1991; Cramer et al., 1993). Diversity means that these industries have to reflect community diversity better than they have done in the past, and become more integrated into the communities that both support and depend on them. Women are well-placed to help the fishing industry achieve this and as one interviewee put it, to change its image from 'a bunch of blokes in boats' to a 'seafood community'.

9 Benefits

This research has aimed to benefit the fishing industry and its stakeholders overall by providing a better understanding of women's roles and contributions; and by identifying how these can be enhanced by working towards reducing barriers preventing women making changes to their current roles. These aims have been achieved within the limits of the study's time frame and budget.

Immediate beneficiaries of the research are industry women and particularly women interested in being involved with women's networking groups. The research findings are useful to them because they identify reasons why the women surveyed wish to join networks and the services they want from these networks. These findings will help women's networks develop in ways that will satisfy current members and encourage other women to join. These benefits may extend Australia-wide if this research and the actions following from it encourage organisations like WIN to become established in other States and Territories, or encourage the formation of a national organisation for fishing women.

The research has produced many useful suggestions about measures that can be taken to enhance women's contributions to the industry. Many relate to training and skills development. These will be useful to women who seek further training, and to training providers because they identify the kinds of training fishing women see as most useful. Better-focused training and effective use of networking groups are likely to benefit a range of fisheries stakeholders including government fisheries agencies, industry associations and other non-government industry organisations. These beneficiaries are as identified in the original proposal.

The benefits of this research do not lend themselves to being quantified in dollar terms. However, in the longer term, capitalising on women's skills and abilities, as well as the benefits of increasing industry diversity and changing the industry's image may have substantial economic benefits. They may also be vital in increasing the industry's longer-term social and ecological sustainability – the conviction expressed in the Beijing Declaration on Women and Development (Jayasuriya and Jayasuriya, 1999).

Other benefits are:

- raising awareness of an apparently unstudied aspect of the industry
- developing a substantial mailing list of industry women and making contact with them
- identifying the generally high levels of satisfaction expressed by industry women, particularly those in the owner-operator category
- helping to appreciate some of the common issues faced by women in fisheries and in agriculture
- helping to develop a more integrated view of the industry as a whole, including the government sector
- helping to place Australian women's roles in the industry in a broader international context
- identifying a need for the industry to change its image and develop a more inclusive community base.

10 Further development

In many respects this is a pioneering study. We would identify the following areas as needing further development:

- developing a more comprehensive and representative list of women in the industry, with particular attention to geographical spread, women in the post-harvest sector, indigenous women, and women who see themselves as being in support roles
- developing basic statistics and data bases about industry women and their work
- identifying in more detail the gender imbalances currently existing in fisheries-related organisations and fisheries decision-making bodies
- undertaking further searches for similar research, particularly on Aboriginal women's fishing practices, both commercial and subsistence
- undertaking more specific studies of women working in specialised sectors of the industry, especially women working in home-based family fishing businesses e.g. examining allocation of time and resources through keeping daily diaries and task details – this is essential if a dollar value is to be placed on women's contributions to the industry
- undertaking research on women's ownership of fishing licences, quotas, boats, fishing equipment, company ownership, other property or property rights in the industry, and industry inheritance traditions [this relates to Sachs' (1997) fourth theme for gender research]
- investigating current occupational health and safety standards for vessels operating in the wild catch sector and the extent to which these deter women from participating more fully
- investigating the wider policy implications of this research, particularly by developing action plans to address the issues identified.

We suggest that WIN and FRDC take steps to publicise the outcomes of this study collaboratively with BRS, and consider funding further work in the areas mentioned above.

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Appendix 1 - Intellectual property

As this is a social sciences research project, the intellectual property arising from the project principally relates to the research findings and the report's form and content. These are unlikely to be of direct commercial value, but instead represent a contribution to knowledge and understanding of women's roles in the fishing industry. They also provide guidance to WIN and other similar non-profit networking groups for women about their future directions and the services women want from them.

Appendix 2 – Staff

The following staff of the Social Sciences Centre worked on this project:

Heather Aslin
Research Scientist

Trevor Webb
Professional Officer

Melanie Fisher
Director, Social Sciences Centre

Michael Martin
Professional Officer (now with the Natural Resource Management and Policy Division of AFFA)

Appendix 3 - Interview guide

Understanding women's roles in the fishing industry

Name of interviewee: …………………………………………………………………………..

Interviewee's phone no.: …………………………………………………………………….

Date and time interview conducted: ……………………………………………………….

Type of interview (face-to-face or telephone): …………………………………………….

Location of interview (if face-to-face): …………………………………………………….

…………………………………………………..

Interviewer: …………………………………………………………………………………….

Length of interview:…………………….

Introduction

This interview is part of a national research project calle*d Understanding women's roles in the fishing industry*. It is designed to:

- gather information about women involved in the fishing industry
- obtain women's views about their current and future roles
- identify barriers preventing women from becoming involved in the industry and what might be done to overcome them.

Your answers to the questions will be analysed and a report of the results produced. This report will be distributed to decision-makers in Government, non-government and private sector organisations, and a summary will also be sent to anyone who would like to receive a copy.

Research conduct and funding

This research is being carried out by the Social Sciences Centre of the Bureau of Rural Sciences for the Women's Industry Network, with funding from the Fisheries Research and Development Corporation. Information obtained from your replies will be used only for research-related purposes.

For the purposes of this research, 'fishing industry' refers *only to commercial wild-capture fishing and aquaculture, not recreational or subsistence fishing*.

You have been selected as someone who has special knowledge of the fishing industry and women's roles in it.

Your replies are confidential. In reporting results, we will not name interviewees individually and only sectors or organisations people come from will be mentioned, or combined responses discussed.

I would like to ask you if you would allow me to tape-record this interview for later analysis under the condition that your replies are confidential and only the research team for this project will have access to the recording.

Is it OK for me to start the recording now?

Questions

1 Could you outline for me your background in the fishing industry and your experience in relation to women's roles in the industry?

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………………………………………………………………………………………………………

2 Have you identified any particular barriers or problems women commonly face in the industry?

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3 How well do you think women are represented across the various industry sectors and in relevant decision-making bodies?

………………………………………………………………………………………………………

………………………………………………………………………………………………………

……………………………………………………………………………………………………….

4 Do you think any action needs to be taken in relation to women's status or recognition in the industry?

  ❏ no   ❏ yes

 4a *If yes,* in your opinion what needs to be done?

  ………………………………………………………………………………………………

  ………………………………………………………………………………………………

  ………………………………………………………………………………………………

  4b Do you think women's time commitments e.g. caring for children or other family responsibilities, are a barrier to them achieving higher status or better recognition in the industry?

  ❏ no   ❏ yes

  ………………………………………………………………………………………………

  4c Do you think women need any special financial assistance or incentives to improve their status?

❏ no   ❏ yes

……………………………………………………………………………………

4d Do you think women need any special training to improve their status?

❏ no   ❏ yes

……………………………………………………………………………………

4e If you think action needs to be taken to help women improve their status, **who** do you think is responsible for taking it?

……………………………………………………………………………………

5 Do you think women's networks have a role to play? If so, what sorts of services do you think these networks need to provide?

……………………………………………………………………………………

……………………………………………………………………….……………

……………………………………………………………………………………

6 In the last few years have you noticed any changes to the roles women play in the industry?

❏ no   ❏ yes

(Prompt if necessary)

……………………………………………………………………………………

……………………………………………………………………….……………

……………………………………………………………………………………

7 What sort of roles do you think women are likely to be playing in the industry in the future?

……………………………………………………………………………………

……………………………………………………………………….……………

……………………………………………………………………………………

(For interviewees in formal organisational contexts only)

8 How would you describe your organisation's culture in relation to women and attitude towards having women in leadership or executive roles?

……………………………………………………………………………………………………

……………………………………………………………………………………….……………

Background/demographics

Would you mind answering a few background questions about yourself so I will be able to summarise the characteristics of people I have interviewed?

9 What is your age group?

- ❑ under 21 years
- ❑ 21-30
- ❑ 31-40
- ❑ 41-50
- ❑ 51-60
- ❑ 61-70
- ❑ over 70 years

10 What is your marital status?

- ❑ never married
- ❑ married/de facto
- ❑ divorced/separated

11 What is your home postcode? …………………………..

12 What is the *highest* level of formal education or training you have completed?

- ❑ primary school
- ❑ 1-4 years of high school
- ❑ 5-6 years of high school
- ❑ apprenticeship/technical training/TAFE course (main field of training?)
  …………………………...
- ❑ university undergraduate degree (main field of study?)
  …………………………...
- ❑ university postgraduate qualifications (main field of study?)
  …………………………...

13 Were you:

- ❑ born in Australia?
- ❑ born overseas? *If so,* please specify in which country you were born:
  …………………………...

14 Are you of Aboriginal or Torres Strait Islander origin?

❑ no   ❑ yes

Many thanks for allowing me to interview you.

Would you like to receive a summary of the results of the research findings?

(If yes, ensure that interviewee's address is obtained to send information out.)

Address: ……………………………………………………

……………………………………………………………...

……………………………………………………………...

Appendix 4 – Interviewee characteristics

The number at left gives the question number in the interview guide. 'n' is the number of interviewees in the relevant category and 'N' is the total number of interviewees responding to the question. N is 20 unless otherwise shown. Three men and 17 women were interviewed, and only one interviewee claimed Aboriginal or Torres Strait Islander ancestry (Question 14).

9 Age

Category	n
Under 21	-
21-30	1
31-40	4
41-50	9
51-60	5
61-70	1
Over 70	-

10 Marital status (N = 19) (1 interviewee declined to answer)

Category	n
Never married	4
Married/de facto	13
Divorced/separated	2

11 Postcode of home address

Postcode range	n	State/Terr.
0-999	1	NT
2000-2999	10	NSW/ACT
3000-3999	-	Vic.
4000-4999	2	Q
5000-5999	5	SA
6000-6999	1	WA
7000-7999	1	Tas

12 Education

Highest level completed	n
Primary school	-
1-4 yrs high school	1
5-6 yrs high school	2
Apprenticeship/technical training/TAFE qualification	4
Undergraduate degree	3
Post-graduate qualification	10

13 Place of birth

Country	n
Australia	13
New Zealand	1
England	4
France	1
Germany	1

Appendix 5 - Questionnaire covering letter

Bureau of **Rural Sciences**
AUSTRALIA

September 1999

To women involved with the commercial fishing industry

Dear Industry Member

We are carrying out research for a project entitled *Understanding women's roles in the fishing industry*. This research is being carried out jointly by the Women's Industry Network (WIN) and the Social Sciences Centre of the Bureau of Rural Sciences (BRS). The research is funded by a grant from the Fisheries Research and Development Corporation.

We are writing to you because you are a woman involved in the fishing industry and have special knowledge of women's roles and commitments. Your name has been selected from a mailing list of women in the industry and industry-related organisations. We would like to ask you if you could complete a short questionnaire about your role, and women's current and future roles in the industry generally. Results of the questionnaire will be analysed and a report prepared. Results will also be presented at a conference being organised by WIN in December 1999. The report will describe women's roles in the industry at present. It will help identify barriers to women's involvement and what might be done to remove them. The research will help policy makers appreciate the value of women's contributions to the industry and encourage them to take measures to enhance women's status and recognise their efforts.

We do hope you will be able to find the time to complete the enclosed questionnaire and return it to us in the reply-paid envelope provided. *Could you please return it to us within the next two weeks.* Your time and effort will be greatly appreciated.

Please feel free to contact Heather Aslin on (02) 6272 3047 or Trevor Webb on (02) 6272 3233 if you would like any further information about the research. If you are ringing from out of Canberra, we will be happy to ring you back on request.

Thanking you in anticipation.

Yours sincerely

Mrs June Gill   Dr Heather Aslin
Principal Investigator   Research Scientist
Women's Industry Network   Bureau of Rural Sciences
Phone (08) 8834 2016   Phone (02) 6272 3047
E-mail jgill@kadina.mtx.net.au   E-mail heather.aslin@brs.gov.au

Appendix 6 – Questionnaire

Women's Industry Network

**UNDERSTANDING
WOMEN'S ROLES
IN THE FISHING
INDUSTRY**

Understanding women's roles in the fishing industry

Research background

We have been asked by the Women's Industry Network to investigate the views of women involved in the fishing industry. As a woman involved in the industry you have personal experiences and knowledge about women's roles. This research project is designed to:

- gather information about women involved in the fishing industry
- obtain women's views about their current and future roles
- identify barriers preventing women from becoming more involved in the industry and what might be done to overcome them.

The information gained through this process will help the Women's Industry Network and other service providers to ensure women's needs in the industry are met. This questionnaire is a vital part of the research. Answers to the questions will be analysed and a report of the results produced. This report will be distributed to decision-makers in Government, non-government and private sector organisations, and a summary will also be sent to anyone who completes the questionnaire and would like to receive a copy.

Research conduct and funding

This research is being carried out by the Social Sciences Centre of the Bureau of Rural Sciences for the Women's Industry Network, with funding from the Fisheries Research and Development Corporation. Information obtained from questionnaire replies will be used only for research-related purposes.

Replies to the questionnaire are confidential and anonymous. In reporting results, we will only mention sectors or organisations that respondents come from or discuss combined responses. In the case of small organisations or businesses where there may be few women involved, every effort will be made to avoid reporting information that may identify respondents.

If you would like to receive follow-up reports of research findings, please fill in the reply-paid postcard included with the questionnaire and return it to us separately from your completed questionnaire.

Answering the questionnaire

In this questionnaire, 'fishing industry' refers *only to commercial wild capture fisheries and aquaculture*. It does not include recreational or subsistence fishing.

Please answer the questions as best you can without spending too much time on them. In most cases all you need to do is to tick the appropriate box or circle the appropriate number. In a few places you may need to write a short answer.

Section A: Your role in the fishing industry

These questions ask you about your current role or roles in the fishing industry. 'Role' may include both paid and unpaid work. It may also include time spent supporting or caring for others who have paid work in the industry.

A1 **Please indicate approximately how many years you have had a role in the fishing industry. Please include time spent in previous roles as well as your current role.** (Tick the appropriate box.)

- ❑ less than 1 year
- ❑ more than 1 year but less than 2 years
- ❑ more than 2 years but less than 5 years
- ❑ more than 5 years but less than 10 years
- ❑ more than 10 years but less than 20 years
- ❑ more than 20 years

A2 **How long do you intend to continue to be actively involved in the fishing industry?** (Tick the appropriate box.)

- ❑ intend to leave within 12 months
- ❑ more than 1 year but less than 2 years
- ❑ more than 2 years but less than 5 years
- ❑ indefinitely
- ❑ don't know

A3 **Are any other members of your immediate family involved in the fishing industry?**

❑ no   ❑ yes ⟶ *If yes*, **please indicate their relationship to you.**

- ❑ husband/partner
- ❑ parent
- ❑ brother/sister
- ❑ son/daughter
- ❑ other, please specify: _____

A4 **What types of fishing work do you normally do?** (Tick as many boxes as appropriate.)

- ❑ fishing
- ❑ business planning/setting priorities
- ❑ buying supplies
- ❑ running errands
- ❑ book-keeping/banking/bill paying
- ❑ customer requirements/orders/sales
- ❑ mail/correspondence
- ❑ processing catch
- ❑ packing/dispatching of orders
- ❑ mediation
- ❑ arranging maintenance and repairs
- ❑ membership of voluntary, non-government organisation or association, 'peak body'
- ❑ employee training
- ❑ public relations
- ❑ emotional support
- ❑ net-making/maintenance of fishing equipment

- ❑ occupational health and safety
- ❑ attending meetings
- ❑ research and development
- ❑ fulfilling government licence/quarantine/export requirements
- ❑ filling in when others are absent ('temping')
- ❑ research and development
- ❑ membership of government advisory body, council or committee

- ❑ other, please specify: _____

  _____
  _____
  _____
  _____

A5 **Which of the categories below best describes your main role in the fishing industry now? Your main role will generally be the one in which you spend most time.** (Tick the **single** most appropriate box only.)

- ❏ owner-operator, business partner, company manager or director
- ❏ employee in family business
- ❏ other private sector employee (not owner-operator or employed in family business)
- ❏ commonwealth government employee
- ❏ state government employee
- ❏ voluntary, honorary or advisory role (unpaid or receive honorarium/expenses only)
- ❏ support role for others who work in the industry
- ❏ other, please specify: _____

_____

A6 **How many hours per week do you work in your main role?** (Tick the appropriate box.)

- ❏ less than 10 hours
- ❏ 10-20 hours
- ❏ 21-30 hours
- ❏ 31-40 hours
- ❏ 41-50 hours
- ❏ 51-60 hours
- ❏ more than 60 hours

A7 *If your major role is a paid one*, **what percentage of your family's total income do you estimate you earn in this role?** (Tick the appropriate box.)

- ❏ less than 10%
- ❏ 10-25%
- ❏ 26-50%
- ❏ 51-75%
- ❏ 76-100%

A8 **This question asks how satisfied you are with your main role in the industry. On a scale of 1 to 5, please circle the number that indicates how satisfied you are. Are you:**

very dissatisfied	somewhat dissatisfied	neither satisfied nor dissatisfied	somewhat satisfied	very satisfied
1	**2**	**3**	**4**	**5**

A8a *If you circled 1 or 2*, **please write the main reason/s you are dissatisfied.**

_____

_____

A9 **What do you think are the three most valuable skills or areas of knowledge you bring to your current role? Please write them below:**

1 _____

2 _____

3 _____

A10   **Thinking about your main industry role, please circle the number corresponding to the degree of influence you think you have on decision-making in the areas listed below.** (1 is 'no influence' and 5 is where you are 'sole decision-maker'. If the area is not applicable to your main role circle 'N/A'.)

	no influence				sole decision maker
equipment purchases ....N/A	1	2	3	4	5
safety ....N/A	1	2	3	4	5
introducing new techniques/approaches.......N/A	1	2	3	4	5
hiring staff ....N/A	1	2	3	4	5
training staff ....N/A	1	2	3	4	5
managing staff ....N/A	1	2	3	4	5
managing finances ....N/A	1	2	3	4	5
environmental management ....N/A	1	2	3	4	5
production levels..N/A	1	2	3	4	5
quality control ....N/A	1	2	3	4	5
public relations...N/A	1	2	3	4	5
marketing and promotion ....N/A	1	2	3	4	5
policy making or planning ....N/A	1	2	3	4	5
major investment decisions ....N/A	1	2	3	4	5

A11   **From the list below, please rank what are the THREE most important sources of information for you in keeping up to date with developments affecting your main role, starting with 1 for the most important.**

☐ fishers themselves

☐ friends, informal networks

☐ voluntary organisations, organised networks

☐ attending meetings, workshops or seminars

☐ workplace supervisor/manager

☐ electronic mail

☐ print media – newspapers, popular magazines

☐ electronic media – television, radio

☐ specialised publications – trade, scientific journals etc.

☐ government fisheries staff/expert consultants

☐ formal education/training courses

A12   **Do you have any skills or knowledge that you think are under-utilised in your current role?** (These might be, for example, your decision-making ability, social networking skills, computer skills or negotiation ability.)

❏ no   ❏ yes ⟶ *If yes*, **please indicate these skills below:**

_____

_____

Section B: Your needs in the fishing industry

This section asks about your needs in relation to your main role in the fishing industry at present.

B1   **Would you like to make any changes to your main role in the fishing industry?**

❏ no   ❏ yes ⟶ *If yes*, **what kind of changes would you like to make?**
(Tick as many boxes as appropriate.)

     ❏ work in a different area or sector of the industry
     ❏ put more time into current role
     ❏ exit the industry
     ❏ gain better status and recognition for current role
     ❏ receive better pay
     ❏ achieve a promotion
     ❏ gain more responsibility
     ❏ gain a position on a decision-making body or committee
     ❏ other, please specify:_____

If no, **go to question B6**

B2   **Are there any barriers preventing you from making these changes at the moment?**

❏ no   ❏ yes ⟶ *If yes*, **what are these barriers?**
(Tick as many boxes as appropriate.)

     ❏ lack of time/too many other commitments
     ❏ lack of money
     ❏ lack of training, skills or experience
     ❏ lack of confidence
     ❏ lack of contacts/support networks with other women in the industry
     ❏ lack of mentors (wise and trusted advisers)
     ❏ lack of role models
     ❏ lack of encouragement or support from key people e.g. partner, other family members, friends, supervisors
     ❏ discrimination on the basis of gender
     ❏ organisational rules and regulations
     ❏ other, please specify:_____

If no, **go to question B6**

B3   *If you identified lack of time as a barrier for you*, **is there anything (within reason!), that would help you put more time into your current role? Please specify:**

_____

_____

B4   *If you identified lack of money as a barrier for you*, **what sort of financial assistance would help you overcome this barrier?** (Tick as many boxes as appropriate.)

     ❏   better pay or financial recognition for current role
     ❏   research or development grants
     ❏   bank or credit union loans
     ❏   scholarships or other financial assistance for training or skills development
     ❏   cheaper or subsidised child care
     ❏   other types of financial assistance, please specify:_____

B5   *If you identified lack of training, skills or experience as a barrier for you*, **what kind/s of training, skills or experience would help you overcome this barrier?** (Tick as many boxes as appropriate.)

- ❑   leadership training
- ❑   assertiveness training
- ❑   financial training
- ❑   computer/internet training
- ❑   business management/planning
- ❑   communication skills
- ❑   marketing training
- ❑   management/supervisory training or experience
- ❑   negotiation and/or conflict resolution skills
- ❑   boating or fishing skills
- ❑   specialised training in scientific or technical areas

- ❑   other, please specify:_____

B5a   Is there anything that currently makes it difficult or impossible for you to do this kind of training or obtain these skills or experience?

❑ no   ❑ yes ⟶   *If yes*, **what makes it difficult or impossible for you?**

_____

_____

_____

_____

B6   Are you currently a member of any women's industry networking group?

❑ yes   ❑ no ⟶   *If no*, **would you be interested in joining a women's industry networking group if one was available in your area?**

                                    ❑ yes ⟶   *If yes,* **go to question B7**

If yes, **go to question B7**

❑ it depends. What might be important in helping you decide whether or not to join?

_____

_____

_____

❑ no. Why are you not interested?

_____

_____

_____

_____

B7   *If you are a member of a women's networking group or interested in joining one*, **there is a range of potential services these networks can offer. Some are listed below. Please rank the top THREE services according to how important they are to you, starting with 1 for the most important service.**

☐ provide a forum to meet other women from the industry

☐ represent women when talking to governments

☐ raise awareness of women's issues in the industry by holding workshops, meetings, conferences

☐ promote industry-related training opportunities for women

☐ offer counselling services for women in the industry

☐ work to gain status for women in the industry

☐ act as an advocate to improve women's working relationship with industry

☐ provide a forum to identify and work to remove barriers to women's advancement in the industry

☐ develop a national focus for representing women's industry issues

☐ develop a data base or information source on women in the industry

B8   **Are there any other services not listed above that you would like to see provided?** (Please specify.)

_____

_____

_____

_____

_____

Section C: Your opinions about women's roles and needs in the fishing industry

This section asks your opinion about women's roles in the industry generally, not just about your personal role.

C1 These statements express some views about women's involvement in the industry. On a scale from 1 for 'strongly agree' to 5 for 'strongly disagree', please circle the number that best reflects your opinion on each statement.

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
Many women need more confidence to try for a better job in the industry	1	2	3	4	5
Men involved in the industry generally acknowledge women's contributions appropriately	1	2	3	4	5
Women need better access to training and education to advance in the fishing industry	1	2	3	4	5
Industry advisory committees and boards generally have enough women members	1	2	3	4	5
Men often believe that women lack the physical strength to take on many industry jobs	1	2	3	4	5
Women are often discouraged by their bosses from taking on more responsible jobs in the industry	1	2	3	4	5
Family commitments do not prevent women from making a greater contribution to the fishing industry	1	2	3	4	5
Men tend to think women have no place in many industry jobs because men have always done those jobs in the past	1	2	3	4	5
Women could achieve more status and recognition for their work if they had leadership training	1	2	3	4	5
Women's skills and abilities are one of the fishing industry's greatest untapped resources	1	2	3	4	5
Women feel welcome in the fishing industry	1	2	3	4	5

C2 What sort of roles do you think women are likely to be playing in the fishing industry in the future?

_____

_____

_____

_____

_____

_____

Section D: About you and your background

The following set of questions will help us to understand what different groups of women think about the issues raised in the questionnaire.

D1   **What is your age group?**

- ❑ under 21 years
- ❑ 21-30
- ❑ 31-40
- ❑ 41-50
- ❑ 51-60
- ❑ 61-70
- ❑ over 70 years

D2   **What is your marital status?**

- ❑ never married
- ❑ married/de facto
- ❑ divorced/separated

D3   **What is your home postcode?** _____

D4   **What is the *highest* level of formal education or training you have completed?**

- ❑ primary school
- ❑ 1-4 years of high school
- ❑ 5-6 years of high school
- ❑ apprenticeship/technical training/TAFE course (main field of training?_____)
- ❑ university undergraduate degree (main field of study? _____)
- ❑ university postgraduate qualifications (main field of study?_____)

D5   **Are you currently enrolled in any formal education course(s)?**

❑ no   ❑ yes ⟶ *If yes*, **what sort of education or training course(s) are you currently enrolled in?**

- ❑ apprenticeship, technical training or TAFE course
- ❑ university course
- ❑ government training course
- ❑ adult education course
- ❑ commercial education course
- ❑ other, please specify:_____

D6   **How many children do you have?** (Circle the appropriate number.)

    0   1   2   3   4   5   6   7   more than 7

D6a   *If you have children*, **are any of them still dependent on you for care or support?**

❑ no   ❑ yes ⟶ *If yes*, **do you pay for childcare?**

                                      ❑ no   ❑ yes

If no, **go to
question D7**

D6b   *If you have dependent children*, **do you have any friends or relatives who provide unpaid childcare for you?**

❑ no   ❑ yes

D7   **Do you care for or support family members other than your children?** (This could refer to financial support or carers' responsibilities like cooking, shopping, cleaning etc. for that person.)

❑ no   ❑ yes ⟶ *If yes*, **whom do you care for or support?**

                                    ❑ spouse/partner

                                    ❑ parent(s)

                                  ❑ other, please specify:_____

                                            _____

D8   **How many hours per week in total would you spend caring for others (including your children, spouse/partner and/or other family members)?**

- ❑   0-10 hours per week
- ❑   11-20 hours per week
- ❑   21-30 hours per week
- ❑   31-40 hours per week
- ❑   41-50 hours per week
- ❑   more than 50 hours per week

D9   **Were you:**

- ❑   born in Australia?
- ❑   born overseas? *If so,* **please specify in which country you were born:** _____

D10   **Are you of Aboriginal or Torres Strait Islander origin?**

❑ no   ❑ yes

Section E: Additional comments

If you have any additional comments about women's roles in the fishing industry, please write them in the space provided below.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Returning your questionnaire

Thank you very much for taking the time to complete this questionnaire. We appreciate your help! Please return the questionnaire in the reply-paid envelope provided. If your envelope is missing, please hand address your questionnaire to REPLY PAID 82806, WIN Questionnaire, Social Sciences Centre, Bureau of Rural Sciences, PO Box E11, Kingston, ACT 2604. Postage is free if sent within Australia.

The results from this survey will be reported at a conference being organised by the Women's Industry Network to be held in Adelaide from 6-7 December 1999. If you would like a summary of the research findings to be posted to you when analysis is complete, please return the enclosed reply-paid postcard with your contact details.

Thank you once again for your time and effort.

Appendix 7 - Reminder postcard

Bureau of **Rural Sciences**
A U S T R A L I A

POSTAGE

PAID

Women and the Fishing Industry

Dear Industry Member,

Recently a questionnaire concerned with women's roles in the fishing industry was sent to you. If you have already returned the questionnaire thank you very much for your contribution. If, however, you have not yet found the time to complete it we would urge you to do so at your earliest convenience. You are one of a select group of women we have selected and your opinions are important to us.

If by any chance your questionnaire has not arrived or you have mislaid it, please ring me on (02) 6272 3047 or Trevor Webb on (02) 6272 3233 and we will arrange to send another one to you. Once again, many thanks for your help.

Yours sincerely
Heather Aslin
Research Scientist

Appendix 8 – Final reminder letter

12 October 1999

Women and the Fishing Industry

Dear Industry Member

Recently you were sent a questionnaire concerned with women's roles in the fishing industry and a follow-up reminder card. If you have already returned the questionnaire, thank you very much for your contribution. If you have not yet returned it, I would like to stress how important your reply is, and to ask you if you would *please complete the questionnaire as soon as possible and return it in the reply-paid envelope provided*. It is very important that the views of as many women as possible are included in the research, and your contribution will be highly valued.

If by any chance you did not receive the original questionnaire or have mislaid it, please ring me on (02) 6272 3047 or Trevor Webb on (02) 6272 3233 as soon as possible and we will send another one to you.

Many thanks for your help.

Yours sincerely

Dr Heather Aslin
Research Scientist
Bureau of Rural Sciences
Phone (02) 6272 3047
E-mail heather.aslin@brs.gov.au

Appendix 9 - Summaries of questionnaire responses

'n' is the number of questionnaire responses in the relevant category.

Table 1 Respondents' major role

Category	n	Percent
owner-operator, business partner, company manager or director	81	41.3%
employee in family business	7	3.6%
other private sector employee	11	5.6%
commonwealth government employee	17	8.7%
state government employee	46	23.5%
voluntary, honorary or advisory role	12	6.1%
support role for others who work in the industry	9	4.6%
research and education	10	5.1%
other	3	1.5%
Total[#]	**196**	**100**

[#]6 missing cases

Table 2 Median age categories (%)

Category	21-30 years	31-40 years	41-50 years	51-60 years	61-70 years	Median age category
owner-operators	4.9 (4)	29.6 (24)	32.1 (26)	24.7 (20)	8.6 (7)	41-50
private sector workers	22.2 (4)	38.9 (7)	33.3 (6)	-	5.6 (1)	31-40
government workers	32.3 (20)	43.5 (27)	22.6 (14)	1.6 (1)	-	31-40
other	12.1 (4)	27.3 (9)	42.4 (14)	12.1 (4)	6.1 (2)	41-50
Total[#]	**16.5 (32)**	**34.5 (67)**	**30.9 (60)**	**12.9 (25)**	**5.2 (10)**	**31-40**

[#]8 missing cases, percentages are row percentages, actual count in parentheses

Table 3 Respondents' highest formal educational qualifications (%)

	primary school	1-4 years high school	5-6 years high school	apprenticeship tech. training TAFE	undergrad. training	postgrad. training
owner-operators	1.2 (1)	38.3 (31)	22.2 (18)	21.0 (17)	13.6 (11)	3.7 (3)
private sector workers	-	11.1 (2)	27.8 (5)	33.3 (6)	11.1 (2)	16.7 (3)
government workers	-	6.3 (4)	4.8 (3)	14.3 (9)	28.6 (18)	46.0 (29)
others	-	27.3 (9)	3.0 (1)	12.1 (4)	21.2 (7)	36.4 (12)
Total[#]	**0.5 (1)**	**23.6 (46)**	**13.8 (27)**	**18.5 (36)**	**19.5 (38)**	**24.1 (47)**

[#] 7 missing cases, percentages are row percentages, actual count in parentheses

Table 4 Respondents' place of residence (%)

	Northern Territory	ACT & New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania
owner-operator	2.5 (2)	8.8 (7)	8.8 (7)	17.5 (14)	51.3 (41)	2.5 (2)	8.8 (7)
private sector workers	-	22.2 (4)	22.2 (4)	5.6 (1)	44.4 (8)	-	5.6 (1)
government workers	4.8 (3)	19.0 (12)	12.7 (8)	20.6 (13)	17.5 (11)	17.5 (11)	7.9 (5)
other	-	3.4 (1)	3.4 (1)	17.2 (5)	58.6 (17)	-	17.2 (5)
Total#	**2.6 (5)**	**12.6 (24)**	**10.5 (20)**	**17.4 (33)**	**40.5 (77)**	**6.8 (13)**	**9.5 (18)**

#12 missing cases, percentages are row percentages, actual count in parentheses

Table 5 Length of time in the fishing industry (%)

Category	<1	>1 to <2	>2 to <5	>5 to <10	>10 to <20	>20
owner-operators		1.2 (1)	7.4 (6)	22.2 (18)	33.3 (27)	35.8 (29)
private sector workers			27.8 (5)	44.4 (8)	22.2 (4)	5.6 (1)
government workers	4.8 (3)	1.6 (1)	25.4 (16)	39.7 (25)	27.0 (17)	1.6 (1)
other	6.1 (2)	3.0 (1)	36.4 (12)	27.3 (9)	12.1 (4)	15.2 (5)
Total#	**2.5 (5)**	**1.5 (3)**	**19.5 (39)**	**30.0 (60)**	**26.0(52)**	**18.0 (36)**

#2 missing cases, percentages are row percentages, actual count in parentheses

Table 6 Intention to stay in the fishing industry (%)

Category	< 1 yr	>1 - <2 yrs	>2 - <5 yrs	indefinitely	don't know
owner-operators	2.5 (2)		3.7 (3)	65.4 (53)	28.4 (23)
private sector workers	11.1 (2)	5.6 (1)	5.6 (1)	50.0 (9)	27.8 (5)
government workers	4.8 (3)	4.8 (3)	7.9 (5)	46.0 (29)	36.5 (23)
other		3.0 (1)	3.0 (1)	57.6 (19)	36.4 (12)
Total#	**3.6 (7)**	**3.1 (6)**	**5.1 (10)**	**56.1 (110)**	**32.1 (63)**

#6 missing cases, percentages are row percentages, actual count in parentheses

Table 7 Respondents' tasks in the industry

Category	n	% respondents
mail/correspondence	115	57.5
bookkeeping/banking/bill paying	105	52.5
attending meetings	103	51.5
running errands	89	44.5
emotional support	87	43.5
business planning/setting priorities	82	41.0
research and development	81	40.5
buying supplies	79	39.5
public relations	79	39.5
customers/orders/sales	76	38.0
fulfilling government licence/quarantine/export requirements	63	31.5
packing/dispatch of orders	57	28.5
voluntary, NGO membership	57	28.5
processing catch	54	27.0
occupational health and safety	50	25.0
membership of government advisory body	49	24.5
arranging maintenance and repairs	45	22.5
employee training	44	22.0
net making/maintenance of fishing equipment	38	19.0
fishing	36	18.0
mediation	36	18.0
filling in for absent others	36	18.0
other fish work	61	30.5

2 missing cases

Table 8 Weekly hours spent in major role (%)

Category	<10 hrs	10 - 20 hrs	21 - 30 hrs	31 - 40 hrs	41 - 50 hrs	51 - 60 hrs	>60 hrs
owner-operators	8.6 (7)	16.0 (13)	19.8 (16)	9.9 (8)	16.0 (13)	7.4 (6)	22.2 (18)
private sector workers	16.7 (3)	22.2 (4)	-	16.7 (3)	22.2 (4)	16.7 (3)	5.6 (1)
government workers	1.6 (1)	11.1 (7)	6.3 (4)	30.2 (19)	36.5 (23)	9.5 (6)	4.8 (3)
other	44.1 (15)	8.8 (3)	11.8 (4)	8.8 (3)	23.5 (8)	2.9 (1)	-
Total[#]	**13.3 (26)**	**13.8 (27)**	**12.2 (24)**	**16.8 (33)**	**24.5 (48)**	**8.2 (16)**	**11.2 (22)**

[#] 6 missing cases, percentages are row percentages, actual counts in parentheses

Table 9 Contribution to family income

Category	< 10%	10 to 25%	26 to 50%	51 to 75%	76 to 100%
owner-operators	13.0 (7)	14.8 (8)	53.7 (29)	3.7 (2)	14.8 (8)
private sector workers	11.8 (2)	23.5 (4)	23.5 (4)	23.5 (4)	17.6 (3)
government workers	1.6 (1)	1.6 (1)	37.1 (23)	11.3 (7)	48.4 (30)
others	22.2 (4)	16.7 (3)	22.2 (4)	16.7 (3)	22.2 (4)
Total#	**9.3 (14)**	**10.6 (16)**	**39.7 (60)**	**10.6 (16)**	**29.8 (45)**

51 missing cases, percentages are row percentages, actual count in parentheses

Table 10 Satisfaction with current role

Category	very dissatisfied	somewhat dissatisfied	neither satisfied nor dissatisfied	somewhat satisfied	very satisfied	mean score
owner-operators	4.9 (4)	12.3 (10)	13.6 (11)	34.6 (28)	34.6 (28)	3.81±0.13
private sector workers		11.1 (2)	16.7 (3)	50.0 (9)	22.2 (4)	3.83±0.22
government workers	1.6 (1)	7.9 (5)	9.5 (6)	44.4 (28)	36.5 (23)	4.06±0.12
other		6.1 (2)	12.1 (4)	48.5 (16)	33.3 (11)	4.09±0.15
Total#	**2.6 (5)**	**9.7 (19)**	**12.3 (24)**	**41.5 (81)**	**33.8 (66)**	**3.94±0.07**

7 missing cases, percentages are row percentages, actual count in parentheses

Table 11 Respondents' view of women's valuable skills and knowledge

Skill/knowledge area	n
communication/networking/liaison	79
personal qualities	55
scientific/technical knowledge	48
product knowledge/marketing/public relations	44
bookkeeping/accounting/financial	32
fishing industry knowledge	31
general knowledge/experience	31
business experience/human res. management	30
administration/organisational	30
hands-on experience/maintenance/crewing	30
NRM/environmental policy	21
support (family, emotional, general)	20
computing/database	16
government regulations/licences	14
negotiation/mediation/dispute settlement	12
decision-making	6
catch processing	5
other	28

Table 12 Desire to change main role

Category	No	Yes
owner-operators	58.8 (47)	41.3 (33)
private sector workers	44.4 (8)	55.6 (10)
government workers	36.1 (22)	63.9 (39)
other	31.3 (10)	68.8 (22)
Total[#]	**45.5 (87)**	**54.5 (104)**

#11 missing cases, actual count in parentheses

Table 13 Types of changes desired

Type of change	n	% Respondents
gain better status and recognition for current role	44	41.5
put more time into current role	36	34.0
receive better pay	36	34.0
gain a position on a decision-making body or committee	32	30.2
gain more responsibility	22	20.8
work in a different area or sector of the industry	18	17.0
achieve a promotion	18	17.0
exit the industry	10	9.4
other	17	16.0

Table 14 Barriers to changes

Barrier	n	% Respondents
lack of time/too many other commitments	53	50.0
lack of money	44	41.5
lack of training, skills or experience	33	31.1
organisational rules and regulations	28	26.4
lack of mentors (wise and trusted advisers)	21	19.8
discrimination on the basis of gender	20	18.9
lack of confidence	19	17.9
lack of encouragement or support from key people eg partner, etc	16	15.1
lack of contacts/support networks with other women in the industry	15	14.2
lack of role models	8	7.5
other barriers	19	17.9

Table 15 Types of financial assistance wanted

Type of assistance	n	% respondents
research or development grants	26	56.5
better pay or financial recognition for current role	19	41.3
scholarships or other financial assistance for training or skills development	16	34.8
cheaper or subsidised child care	7	15.2
bank or credit loans	2	4.3
other financial assistance	12	26.1

Table 16 Areas of training requested

Type of training	n	% respondents
assertiveness	23	46.9
business management/planning	21	42.9
leadership	19	38.8
computer/internet	18	36.7
financial	17	34.7
management/supervisory training or experience	17	34.7
communication skills	15	30.6
marketing	14	28.6
negotiation and/or conflict resolution skills	14	28.6
specialised training in scientific or technical areas	12	24.5
boating or fishing skills	8	16.3
other skills	7	14.3

Table 17 Belief statement responses

Belief statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Mean score
Many women need more confidence to try for a better job in the industry.	18.2 (36)	48.0 (95)	26.3 (52)	5.1 (10)	2.5 (5)	2.26±0.06
Men involved in the industry generally acknowledge women's contributions appropriately.	3.0 (6)	30.2 (60)	23.1 (46)	35.7 (71)	8.0 (16)	3.16±0.07
Women need better access to training and education to advance in the fishing industry.	21.3 (42)	40.1 (79)	27.4 (54)	9.6 (19)	1.5 (3)	2.30±0.07
Industry advisory committees and boards generally have enough women members.	2.0 (4)	5.1 (10)	32.3 (64)	39.4 (78)	21.2 (42)	3.73±0.07
Men often believe that women lack the physical strength to take on many industry jobs.	19.9 (39)	46.4 (91)	21.4 (42)	7.1 (14)	5.1 (10)	2.31±0.07
Women are often discouraged by their bosses from taking on more responsible jobs in the industry.	5.6 (11)	26.9 (53)	50.8 (100)	14.7 (29)	2.0 (4)	2.81±0.06
Family commitments do not prevent women from making a greater contribution to the fishing industry.	8.0 (16)	20.1 (40)	19.6 (39)	38.7 (77)	13.6 (27)	3.30±0.08
Men tend to think women have no place in many industry jobs because men have always done those jobs in the past.	13.3 (26)	42.9 (84)	25.5 (50)	14.8 (29)	3.6 (7)	2.53±0.07
Women could achieve more status and recognition for their work if they had leadership training.	14.4 (28)	48.7 (97)	27.6 (55)	6.0 (12)	3.5 (7)	2.36±0.07
Women's skills and abilities are one of the fishing industry's greatest untapped resources.	28.9 (57)	44.2 (87)	21.8 (43)	4.1 (8)	1.0 (2)	2.04±0.06
Women feel welcome in the fishing industry.	3.0 (6)	21.7 (43)	45.5 (90)	24.7 (49)	5.1 (10)	3.07±0.06

Table 18 Results of factor analysis

Belief Statement	Factor 1[&]	Factor 2	Factor 3
% Of Variance Explained (Total=59.4%)	**23.3%**	**21.7%**	**14.4%**
KMO Measure of Sampling Adequacy =0.772			
Factor 1: Training and skills (Cronbach's alpha = 0.76)			
Women could achieve more status and recognition for their work if they had leadership training.	.787		
Women need better access to training and education to advance in the fishing industry.	.779		
Women's skills and abilities are one of the fishing industry's greatest untapped resources.	.693		
Many women need more confidence to try for a better job in the industry.	.678		
Factor 2: Gender issues (Cronbach's alpha = 0.73)			
Men involved in the industry generally acknowledge women's contributions appropriately.[#]		.731	
Women feel welcome in the fishing industry.[#]		.690	
Men tend to think women have no place in many industry jobs because men have always done those jobs in the past.		.663	
Women are often discouraged by their bosses from taking on more responsible jobs in the industry.		.636	
Men often believe that women lack the physical strength to take on many industry jobs.		.603	
Factor 3: Representation and family commitments (Cronbach's alpha = 0.72)			
Industry advisory committees and boards generally have enough women members.[#]			.903
Family commitments do not prevent women from making a greater contribution to the fishing industry.[#]			.855

[#] Data reversed prior to analysis

[&] Factor loading scores less than 0.4 are not displayed

Methodological notes: The principal approach to analysis of the Likert-type statements in question C1 was to initially reduce the dimensionality of the data through factor analysis. This method was used so as to identify a number of latent variables to represent the correlation structure amongst the statement responses under consideration. Principal component analysis was used to extract the factors, followed by an orthogonal varimax rotation to increase the interpretability of the extracted factors. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to ensure that correlations between pairs of variables could be adequately explained by other variables, and thus ensured the data set was suitable for factor analysis. Following extraction, the communality of individual variables was used as a guide to ensure all variables were contributing to the factor solution. Summated rating scales were constructed representing the latent variables extracted. Reliability of the scales was tested using Cronbach's alpha as an indicator of internal consistency (Spector, 1992). A scale with an Cronbach's alpha of 0.7 or greater was generally accepted to be reliable (Nunnally, 1978). The score on a scale for a case was the mean score of the variables constituting that scale.