

# FRDC communication of evidence-based information on the healthfulness and sustainability of seafood to Health Professionals



**Nicole Senior**

**February 2020**

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ISBN: 978-0-646-81569-5

## FRDC communication of evidence-based information on the healthfulness and sustainability of seafood to Health Professionals

2018-092

2020

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Researcher Contact Details		FRDC Contact Details	
Name:	Nicole Senior	Address:	25 Geils Court
Address:	Professional Nutritional Services PO Box 667		Deakin ACT 2600
Phone:	Parramatta NSW 2150	Phone:	02 6285 0400
Email:	+61 2 9760 2187 nicolesenior@ozemail.com.au	Fax:	02 6285 0499
		Email:	frdc@frdc.com.au
		Web:	www.frdc.com.au

In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

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# Foreword

The overall goal for this project was to translate, integrate and communicate contemporary scientific knowledge on the performance of fisheries management/status of Australia's fish stocks, and the health benefits of eating seafood, to the Australian community through a partnership between Accredited Practising Dietitians (APDs), primary health care nurses, public health nutritionists, food technologists, home economists and the FRDC.

This research is important because health professionals are an important influencer group on food choice and a key channel for food education.

Both health professionals themselves, and their clients, will benefit from this research. It provides scientific, evidence-based information health professionals can trust when educating patients and communities about seafood for health and sustainability. It provides them with information they need and want, but it also provides information they can share with their patients, clients and communities. Ultimately, it can steer Australians toward more sustainable seafood choices.

The key finding is that providing evidence-based information of seafood for health and sustainability to health professionals fulfilled an unmet need in this group that allows them to better support their patients, clients and communities.

As a result of this project, FRDC and seafood sector stakeholders can consider health professionals an additional influential channel for disseminating information of seafood health and sustainability.

The primary outcome of this project was to raise awareness about the nutritional benefits and recommendations of seafood, and the performance of fisheries management/status of Australian fish stocks via empowering health professionals to relay evidence based information (new resources and the FRDC website) to the wider community. Importantly, these resources were developed according to needs and wants of health professionals and consumers.

# Acknowledgments

Thanks to the project team Gabrielle O’Kane, Shawn Somerset, Michele Walton, and Anna Farmery for their assistance. A big thank you to Carolyn Stewardson at the FRDC for her valuable assistance and Peter Horvat and Patrick Hone for their support. Thank you to the professional representative organisations for their assistance in reaching professional groups: The Dietitians Association of Australia (DAA), Dietitian Connection, The Public Health Association of Australia (PHAA), The Australian Primary Health Nurse Association (APNA), The Australian Institute of Food Technologists (AIFST), the Home Economics Institute of Australia (HEIA) and the Nutrition Society of Australia (NSA). Thank you to Next Media, publishers of Australian Healthy Food Guide, for their assistance with seafood recipes. Thank you to Bite Communications for their support with publishing an article in Food Australia Magazine.

## Abbreviations

**AFCD** The Australian Food Composition Database

**AIFST** Australian Institute of Food Technologists

**APD** Accredited Practising Dietitian

**APNA** Australian Primary Health Care Nurses Association

**DAA** Dietitians Association of Australia

**FSANZ** Food Standards Australia and New Zealand

**HEIA** Home Economics Institute of Australia

**NSA** Nutrition Society of Australia

**NGO** Non-government Organisation

**PHAA** Public health Association of Australia

**PHN** Public Health Nutritionist

# Executive Summary

## About this report

This project was conducted in partnership with the FRDC and dietitians to educate health professionals about scientific knowledge on the performance of fisheries management/status of Australia's fish stocks, and the health benefits of eating seafood. The project was initiated by research with dietitians that found they felt conflicted in recommending seafood consumption because of sustainability concerns, despite the benefits of seafood for health. This is the first time FRDC has collaborated with health professionals and their professional organisations in this way, which has provided national reach. The educational resource was produced by health professionals for health professionals and designed to meet their expressed needs. The resource was made available online on a new 'health professionals' section of fishfiles.com.au in April 2019. The resource was disseminated widely via professional organisations and has been positively evaluated.

## Background

Previous research with dietitians has shown that while they want to promote seafood for health, they felt compromised by sustainability concerns.

## Aims/objectives

The aim of this project was to produce an evidence-based education resource to meet health professional needs and expectations, and to boost their confidence in talking to their patients/clients and communities about the importance of including seafood in the diet and how to identify more sustainable seafood choices.

## Methodology

A needs assessment was performed with key health professional groups to discover what information they needed and the format they preferred.

## Results/key findings

The health professionals wanted an online resource that included information about health aspects of seafood as well as sustainability. They also wanted recipes to share with patients, clients and communities. A new web page for health professionals was added to the fishfiles.com.au website to house the resource, and a collaboration with Australian Healthy Food Guide Magazine to re-use selected seafood recipes with modification to include sustainable species.

## **Implications for relevant stakeholders**

This project is the first time the FRDC has targeted health professionals to deliver evidence-based messages in this way. It has raised awareness of the FRDC as a source of scientifically based information of relevance to the provision of healthy and sustainable eating advice. It has enhanced the confidence of health professionals giving dietary advice about seafood. The project has also formed connections - especially with dietitians and the Dietitians Association of Australia (DAA) - that may be utilised in any future collaborative activities. The advice contained in the resource directs seafood choices toward Australian species and this has the potential to increase demand for local catch.

Population seafood intake levels are currently below recommendations. The information contained in the resource adds to the existing advice about the importance of regular seafood consumption for health and wellbeing and thus has the potential to increase intake and improve public health outcomes.

This resource provides useful information to educators, academics, health education program managers and public health policy makers. The Dietary Guidelines for Australians are due for review and this resource provides an opportunity for the FRDC to provide useful input.

The expansion of the target groups to food technologists in the food industry encourages positive decisions throughout the seafood supply chain. The inclusion of home economists as a supplementary target group encourages evidence-based messages about seafood in the education and food media sectors.

## **Recommendations**

- Further enhance share-ability of recipes on fishfiles.com.au
- Optimise fishfiles.com.au for mobile devices
- Produce a simplified handout for professionals to give to consumers.
- Consider an influencer event to enhance reach of the resource
- Present project resources at health professional conferences

## **Keywords**

Fish, seafood, Status of Australian Fish Stocks (SAFS), health professionals, sustainable seafood, seafood nutrition, seafood education, dietitian, nutritionist, public health, primary health care, nurse, home economics

# Introduction

## Need for the project

The FRDC commissioned an independent project of Status of Australian Fish Stocks (SAFS) 2018 under project “*2016-143 Status of Australian Fish Stocks (SAFS) reports 2016 and beyond: audit*” (PI: Peter J. Neville) to ensure continual improvement of process. The audit indicated that a more targeted communication and extension strategy was needed to transfer information and knowledge on aspects of fisheries management to a wider group of end users. This communication strategy should apply simpler and targeted messages to a more diverse range of users in the community on an on-going basis. It needed to take advantage of any and every opportunity to promote its functionality and story on an ongoing basis, while at times also react to issues by emphasising the factual information now available across Australia’s fisheries. In response to the SAFS audit, the FRDC and dietitians with an interest in seafood sustainability have been addressing various avenues to help transfer information and knowledge on the performance of fisheries management/status of Australian fish stocks, and the health benefits of eating fish, to a wider community.

## Background

This project builds extensively on the previous nutrition research of Somerset and Bowerman by engaging health professionals in evidence-based and practical communication material which they can use to assist consumers in integrating seafood towards more healthy and sustainable dietary choices. Dr Gabrielle O’Kane, a previous board member of the Dietitians Association of Australia (DAA), has also been conducting multi-disciplinary research focusing on the barriers and drivers of fish consumption in Australia. On the 18 May 2017, Dr O’Kane gave an oral presentation ‘Aligning sustainability and nutrition goals in Australian seafood consumption’ at the 34th National DAA conference in Hobart, reporting on the findings of the advice related to seafood consumption provided by Accredited Practising Dietitians (APDs) and Public Health Nutritionists (PHNs) to their clients. The findings showed that APDs and PHNs are uncertain as to where to find reliable evidence-based information on sustainable seafood stocks. The conference had over 600 delegates and there was keen interest in the Nutrition in Public Health, Community and the Environment stream of concurrent sessions, of which this presentation was a part.

Dr Carolyn Stewardson was able to assist Dr O’Kane with sourcing clear, summarised information on the status of Australian wild fish stocks in advance of the conference, which was well-received by delegates. One of the key take home message of Dr O’Kane’s presentation was to utilise the evidence-based sites [www.fish.gov.au](http://www.fish.gov.au) and [www.fishfiles.com.au](http://www.fishfiles.com.au).

There is a clear gap in the provision/communication of evidence-based information on (i) performance of fisheries management/status of Australia’s fish stocks, and (ii) the health benefits and recommendations around eating fish, to this sector. Dietary recommendations for fish intake represent a conflict between desired outcomes for environmental sustainability and health.

As part of a more targeted communication and extension strategy for SAFS, it is important to ensure that evidence-based information on (i) performance of fisheries management/status of Australia’s fish stocks; and (ii) the health benefits of eating seafood, is made available to Accredited Practising Dietitians (APDs), Public Health Nutritionists



(PHNs), and primary health care nurses (also known as practice nurses) around Australia to enable these health professionals to provide accurate, up-to-date, consistent advice to their clients and the wider population.

### **Health professional groups**

There are several representative organisations of health and food professionals working with the Australian public that can help influence consumers. The peak body for dietitians in Australia is DAA (Dietitians Association of Australia), a not-for-profit member organisation. DAA represents an important opportunity to reach dietitians, who in-turn can influence their patients, clients and communities. There are just over 7000 financial members of the Association working in a variety of contexts, including hospitals, community health centres, primary care, industry and private practice. The Public Health Association of Australia (PHAA) has a membership of 2000 and is recognised as the principal non-government organisation for public health in Australia, working to promote the health and well-being of all Australians, through policy development and advocacy. The Australian Primary Health Care Nurses Association (APNA) is the peak professional body for nurses working in primary health care and represents a significant and rapidly expanding workforce; primary health care nurses account for around one in eight of the 640,000 registered health professionals in Australia.

# Objectives

1. Gather evidence-based information about the nutritional benefits and recommendations of seafood, and the performance of fisheries management/status of Australian fish stocks
2. Translate this into a credible educational resource for health professionals according to their expressed needs and wants
3. Effectively disseminate this resource to nutrition professionals and practice nurses in Australia for distribution into the wider community

Objective number three was amended during the project to extend to other influential groups: food technologists and home economists. Food technologists are influential in the food industry and it is hoped can steer seafood ingredient choice towards health and sustainability. Home economists are influential in the education sector and can steer secondary and tertiary students toward seafood choices toward health and sustainability.

## Performance indicators

### 1. CONTENT

- Needs and wants of health professional groups collected
- Evidence reviewed and content developed
- Resource(s) developed according to the needs of APDs, PHNs and PNs
- Resource gains endorsement by at least one organisation (DAA as a priority, but ideally also PHAA), including permission to use logos.

### 2. DISSEMINATION

- Resource(s) distributed via the DAA, PHAA and APNA
- Reach to APDs, PHNs and PNs measured via a practitioner awareness survey (see Appendix 17)
- Digital resource downloads from DAA, PHAA, APNA and FRDC websites.

### 3. EVALUATION

- Participant satisfaction with resource measured through feedback from at least 20 APDs and 20 PHNs using quantitative (surveys) and qualitative methods (focus groups)
- End-user satisfaction with resource measured in at least 20 end-users using qualitative methods (focus groups).

### 4. MANAGEMENT

- Delivery of outputs by agreed deadlines and within approved budget.

Evaluation activities were limited to a single professional survey due to budgetary restraints.

# Method

Description of methods used, including justification

The development of appropriate educational resources for health and food professionals to use with their clients and communities requires several key elements:

1. the content is accurate and evidence-based
2. the content is relevant to the issues and concerns identified by both community members and health professionals
3. the content is accessible and useable by both stakeholder groups

## 1. Development of accurate and evidence-based content

### *Seafood and health*

In order to create a solid evidence base to support the health and nutrition advice provided in the professional resource, an evidence review on seafood and health was conducted by Dr Shawn Somerset. This review took a strengths-based approach, which encourages consumption of fish and other seafood for healthy growth and development. This approach offers a range of advantages over the deficit (disease)-based approach most commonly used. It constructs a positive health promotion framework for fish and other seafood consumption. While the evidence base is largely disease-focussed, any available strength-based literature was included.

This document was peer-reviewed by a group of academics/nutritional experts.

### *Fish Stock Status*

The 2018 Status of Australian Fish Stocks (SAFS) reports were used to underpin the seafood species recommendations.

### *Nutrient data*

The Australian Food Composition Database (AFCD) from Food Standards Australia and New Zealand (FSANZ) was used to source data on nutrients in seafood. For data on the omega-3 fatty acid content of seafood specifically, the AUSNET database was supplemented by more recent analysis from Dr Peter Nicols from CSIRO. This information was integrated with stock status information from the FRDC 2018 Status of Australian Fish Stock reports to produce a table of omega-3 content.

### *Recipes*

Rather than develop new recipes, existing recipes were used under license from Australian Healthy Food Guide Magazine. This Magazine is highly regarded by nutrition professionals and has a dietitian editor. The recipes are created to meet healthy eating guidelines and are trusted by nutrition professionals. This strategy allowed the recipes to be generally healthy as well as including seafood and helped to meet project budget limitations. The recipes were modified to include seafood species rated green in the SAFS 2018 reports.

## 2. The content is relevant to the issues and concerns of the community and professionals

In order to meet the needs and expectations of health professionals, a needs assessment survey was conducted. This information added to existing findings by Dr Gabrielle O'Kane and Dr Shawn Somerset in previous studies that showed health professionals were concerned about seafood sustainability but lacked confidence in what to recommend.

In order to enhance the credibility of the resource, endorsement by the Dietitians Association of Australia was sought. This required a review process.

### Needs assessment

The project surveyed members of three health professional representative bodies using an electronic survey link to determine their preferred content and format of resource.

1. The Dietitians Association of Australia (DAA)
2. The Australian Primary health care Nurses Association (APNA)
3. Public Health Association of Australia (PHAA)

### Summary of survey responses

- We received 92 responses, with 68% of responses coming from Dietitians/Nutritionists and the remainder from primary health care nurses, public health practitioners and others.
- When asked about the most relevant issues for seafood and health, using a Likert scale from 'highly relevant' to 'not important at all', there was a reasonably even spread of responses, but the most relevant was **cardiovascular disease**, and the least relevant of the seven issues was weight control.
- The most important barriers to eating seafood was deemed to be **cost**, followed by lack of cooking skills/confidence and the least important barrier was safety.
- Amongst this group of health professionals, approximately 64% indicated that they were either **very confident or quite confident in choosing, preparing and cooking seafood**, while only 5% indicated that they were not confident undertaking these tasks.
- There was strong endorsement from this survey in the **usefulness of having recipes** available as part of the suite of resources.
- The most preferred format of information about sustainable Australian seafood was a **printable pdf document**, followed by a **webpage**, a phone app and lastly, a printed pamphlet or brochure.
- Approximately 75% of the respondents thought that an **educational webinar** or recording on the fish stock status of Australian wild-caught seafood would be either quite useful or very useful.
- In the free text section of the survey, suggestions were for **simple, easy to prepare recipes that were also affordable** and to possibly emphasize the use of canned, sustainable seafood, for food safety and affordability.

### **3. The content is accessible and useable by both stakeholder groups**

The needs assessment survey revealed a preference for online information rather than hard copy, as well as a diverse scope of content, including recipes. To host the large amount of information that met stakeholder needs, a separate Health Professional page of the Fishfiles.com.au was developed.

An online evaluation survey was conducted to determine professional user views about the resource.

# Results

## Deliverables (web pages)

The deliverables of this project can be divided into three main components:

1. Review of the evidence around seafood and health
2. Online brochure for health professionals
3. Recipe collection

### Project component 1: review of the evidence around seafood and health

This task was led by Dr Shawn Somerset and is titled, *The Current Evidence Base for the Promotion of Fish and Other Seafood as Part of a Healthful Diet*. It is a strength-based approach based on the promotion of healthy growth and development and offers a positive health promotion framework for FAOS (Fish and Other Seafood) consumption. This evidence review is used as a base for formulating the messages in the health professional brochure (component 2).

### Project component 2: online brochure for health professionals

This online resource is available on a newly created health professional section of the fishfiles.com.au website. It provides information for health professionals around the health benefits of seafood, the importance of choosing sustainable species and how to identify these, as well as other relevant issues around promoting seafood consumption to their clients and communities. This brochure has been developed with the needs of health professionals in mind, and after seeking their input. As part of this, a table of Omega-3 content table of Australian species was produced.

### Project component 3: recipe collection

Health care professionals felt strongly that recipes would be a useful resource in their practice. After reviewing existing recipes on the FRDC website, the project team determined that a new collection of fit-for-purpose recipes was required to address the needs and wants of health professionals for simple, easy to prepare and affordable recipes. We undertook a partnership with Healthy Food Guide Magazine to provide 24 seafood recipes in which we could substitute local and sustainable species. Healthy Food Guide is well regarded by health professionals because of their focus on health, and because the editor is a dietitian. Their recipes are also well regarded because they are simple, provide costings per serve, use everyday ingredients, and suitable for everyday family meals. We selected recipes that were easy, familiar, multicultural and used a variety of cooking methods/styles. Our intention is to suggest recipes that could be included in the family meal repertoire. We aimed to provide seafood variations on the most common meals in Australian households such as pasta, stir-frys and grills/BBQ (meat-and-three-veg). Healthy Food Guide agreed to provide these 24 selected recipes for the FRDC website for a small fee.

### Quality assurance

Endorsement of web resource by Dietitians Association of Australia was achieved.

## **Communications/Dissemination**

### ***Media/publications***

Journal article published in Food Australia, April-May 2019 (see Appendix 4)

Article in Fish Magazine (FRDC News), June 2019 (see Appendix 5)

FRDC stakeholder briefing, June 2019 (see Appendix 10)

GI News, February 2020 (see Appendix 15)

### ***Social media***

World Ocean's Day FRDC Facebook post (see Appendix 12)

Social media reach via Linked In, Facebook, Twitter and Instagram (via @NicoleMSenior) (see Appendix 16).

Facebook posting by Nutrition Australia (NGO) (see Appendix 9)

### ***Professional education***

Addition of seafood content to Home Economics Institute of Australia (HEIA) textbook, titled Nutrition - The inside story (3rd edition) to be published 2020. Target audience is high school students, beginning tertiary students and the general public (see Appendix 13).

Chapters to be included are:

- Australian Food: Seafood
- Sustainable Food Futures
- Dietary Guidelines

Webinar for dietitians hosted by DAA with guest expert Dr Anna Farmery, Understanding Sustainable Seafood, November 2018 (see Appendix 14)

Abstract accepted to HEIA 2020 national conference (Future activity) (see Appendix 2)

Research paper based on HEIA conference presentation will likely be published in *Journal of the Home Economics Institute of Australia* (subject to selection). (see Appendix 3)

### ***Communication of resource directly to end users***

Email to members of health/food professional groups:

- Dietitians Association of Australia (DAA)
  - Posting to DAA Food and Environment Interest Group
  - Posting to DAA Public Health and Community Nutrition Group
  - Addition of resource to DAA professional Interest Portal.
- Dietitian Connection (dietitians portal) (see Appendix 7)
- Public Health Association of Australia (PHAA) (see Appendix 8)
- Australian Primary Health Care Nurses (APNA)
- Home Economics Institute of Australia (HEIA)
- Australian Institute of Food Science and Technology (AIFST)
- Nutrition Society of Australia (NSA)

## **Project component 2: online brochure for health professionals, evaluation**

### **FRDC Health Professional Sustainable Seafood Resource Evaluation Results Report**

#### **METHODS**

A seven-question evaluation survey was completed by twenty-five respondents via the online Survey Monkey platform. Participants were invited to complete the survey via a link sent via email to DAA, PHAA, HEIA and Nutrition Australia. The APNA declined to distribute the evaluation survey.

#### **RESULTS SUMMARY**

Respondents found the resource useful and are likely to use it in their practice. They rated their trust in the information as very high (84/100), and their confidence in promoting sustainable Australian seafood after using the resource as moderately high (66/100). This is an important indicator of success of the resource as previous research conducted with dietitians found they lacked confidence in making recommendations around sustainability.

#### **RECOMMENDATIONS**

Several respondents found the online resource was not optimized for mobile devices. Doing this would improve usability.

Several respondents requested information suitable for sharing with clients/patients and the need for the information to be simplified for this purpose. More consumer-friendly resources in easily share-able format would meet this need. (Some respondents did not appear to be aware the resource was designed for health professionals). (For example, perhaps print, email and social media sharing buttons could be added to the recipes?)

Several respondents requested information about canned seafood, brands to look for and more information about sustainability logos to help when shopping.

Several respondents requested more detailed information about mercury content of Australian seafood species.

For full evaluation report, see Appendix 17.



## SUMMARY OF PROJECT PRODUCTS, COMMUNICATION AND DISSEMINATION.



# Discussion

## Objective 1.

Gather evidence-based information about the nutritional benefits and recommendations of seafood, and the performance of fisheries management/status of Australian fish stocks.

This objective was met by meeting the performance indicators for CONTENT:

- Needs and wants of health professional groups collected
- Evidence reviewed and content developed
- Resource(s) developed according to the needs of APDs, PHNs and PNs
- Resource gains endorsement by at least one organisation (DAA as a priority, but ideally also PHAA), including permission to use logos.

## Objective 2.

Translate this into a credible educational resource for health professionals according to their expressed needs and wants.

This objective was met by meeting the performance indicators for CONTENT.

Resource(s) distributed via the DAA, PHAA and APNA

- Reach to APDs, PHNs and PNs measured via a practitioner awareness survey.
- Digital resource downloads from DAA, PHAA, APNA and FRDC websites.

## Objective 3.

Effectively disseminate this resource to nutrition professionals and practice nurses in Australia for distribution into the wider community.

This objective was met by meeting the performance indicator for DISSEMINATION, and exceeded the performance indicators by disseminating via more, similar organisations: Dietitian Connection, Nutrition Australia, Home Economics Institute of Australia and the Nutrition Society of Australia.

Objective number three was amended during the project to extend to other influential groups: food technologists and home economists. Food technologists are influential in the food industry and it is hoped can steer seafood ingredient choice towards health and sustainability. Home economists are influential in the education sector and can steer secondary and tertiary students toward seafood choices toward health and sustainability. Home economists also work in food media and this provides an additional channel of influence.

The project also met EVALUATION performance indicators, although evaluation activities were restricted by budget restraints.

- Participant satisfaction with resource measured through feedback from at least 20 APDs and 20 PHNs using quantitative (surveys) and qualitative methods (focus groups)
- End-user satisfaction with resource measured in at least 20 end-users using qualitative methods (focus groups)

Evaluation activities were limited to a single quantitative survey due to budgetary restraints. Response rate was low to the quantitative survey despite repeated follow ups to encourage participation.

MANAGEMENT performance indicators, and the delivery of outputs by agreed deadlines and within approved budget, were met.

# Conclusion

This project has filled a need in health professionals for evidence-based information upon which to base their dietary advice to patients, clients and communities. It has promoted awareness of the FRDC as a source of trustworthy information about seafood sustainability. It provided reassurance about the health benefits of regular seafood consumption. The online resource provides useful information in an accessible form, and the creation of a new 'health professional' page of fishfiles.com.au further reinforces the strategic importance of this group in achieving FRDC's communication objectives, and the value the FRDC places on this group. Important connections have been made with professional groups that can be leveraged for any future activities. New professional groups were added to the groups targeted: home economists and food technologists, and this further expanded the spheres of influence for the resource content and the FRDC itself. The resource has been positively evaluated, and useful feedback provided for further development.

# Implications

## **Implications for health and food professionals**

Health and food professionals now have a source of credible, evidence-based information on seafood and health, and most importantly Australian seafood sustainability assessment. This resource will support professionals to provide trustworthy advice to their patients, clients and communities.

The resource has the potential to increase demand for sustainable Australian seafood, improved dietary intake of seafood toward recommendations and improved public health.

# Recommendations

- Enhancements to the resource web content is recommended to enhance usability and shareability: (a) optimise for mobile devices; and (b) add social media share button to recipes.
- In addition to the materials produced for health professionals by health professionals (FRDC app, recipes), an additional summary online printable 'handout' suitable for health professionals to give to consumers would be useful.
- To further disseminate to health professional stakeholders, an influencer event inviting key opinion leaders in the nutrition and health space with active social media profiles is recommended. Social media is an important communication channel to achieve increased reach and awareness. Engaging a professional communication agency would enhance communication outcomes.
- Presence at health professional conferences would further enhance awareness of the resource and its key messages, such as the national conferences of the DAA, PHAA, APNA and AIFST.

## Further development

While the health professionals surveyed agreed this was a great initiative, they did suggest more simplified resources be developed for use by consumers. They would be happy to pass these on to patients/clients.

They also suggested the existing health professional resources could be made more useful by allowing them to be printed and/or shared via email and social media from the web pages. This was specifically requested for the recipes. Adding social media share buttons to the Health Professional Content may also facilitate sharing between professionals and other stakeholders.

# Extension and Adoption

The online resource will continue to be used as a tool to assist professionals when giving dietary advice and education. Professionals were also advised of the new SAFS mobile phone app which they can pass on to their patients, clients and communities. This project has made professionals aware of the FRDC and their scientific approach, which enables them to utilise other FRDC information and resources.

Several reviewers and health professionals are in academic positions within universities that educate future health professionals and informally supported using the resource in education and training.

As an outcome of this project the Home Economics Institute of Australia (HEIA) sought input from the FRDC to update their textbook to be used in secondary and tertiary education.

Nicole Senior has successfully submitted an abstract to the 2020 National Conference to share the content of the resource and this will provide additional uplift in awareness of the resource in this group. A research paper based on the presentation is also likely to be published in the *Journal of the Institute of Home Economics Australia*.

## Project coverage

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Somerset, S, O'Kane, G, Senior, N and Walton M. 2019. *Evidence Review on Fish and Seafood and Health*, pp 1-18. Fisheries Research and Development Corporation.

# Project materials developed

The deliverables of this project can be divided into three main components:

1. Review of the evidence around seafood and health
2. Online brochure for health professionals
3. Recipe collection

These can be found at <https://www.fishfiles.com.au/experts/healthprofessionals>

Below is a screen capture of the Online Brochure for health professionals, and the family friendly recipes collection

The screenshot shows the Fishfiles website interface. At the top is a navigation bar with the Fishfiles logo and links for About Fishfiles, Species, Consuming, Preparing, Experts, Fisheries & Farms, and Media. Below this is a breadcrumb trail: HOME > EXPERTS > HEALTHPROFESSIONALS. On the right side of the header, there is a 'Share this' button with social media icons for Facebook, Twitter, Google+, Pinterest, and Email. The main content area is divided into a left sidebar and a right main panel. The sidebar, under the 'Experts' heading, lists several topics: Experts and Partners, Health Professionals (which is highlighted with an orange background and an upward arrow), Seafood and Health the Evidence, Consumption recommendations, Nutrition, Omega-3 content of Australian seafood, Seafood sustainability, Practical seafood tips, Seafood safety, References, Healthy family-friendly recipes, and Resources. The main panel displays the title 'Promoting Sustainable Australian Fish and Seafood - a guide for Health Professionals' followed by 'Produced by Health Professionals for Health Professionals'. The text below the title states: 'Seafood is a nutritionally important food and part of our culture. However, uncertainty about sustainability has left health professionals unsure what to recommend (Farmer et al/2017). This guide provides health professionals with the latest information based on research from the Status of Australian Fish Stocks Reports, and information on the health benefits of eating seafood. The good news is Australian fisheries offer a wide variety of seafood species, managed to ensure there is an ongoing supply and sustainability. Plenty of information is available on Australian seafood to help us choose the most sustainable species. Eating seafood is a good choice for our health, but sustainable, locally caught seafood is also good for the environment and supports our local fishing industry. Choose sustainable species of seafood, ideally locally caught!'. At the bottom of the main panel is a logo for the Dietitians Association of Australia (DAA).



[About Fishfiles](#)[Species](#)[Consuming](#)[Preparing](#)[Experts](#)[Fisheries & Farms](#)[Media](#)[HOME](#) > [EXPERTS](#) > [HEALTHPROFESSIONALS](#) > [HEALTHY FAMILY-FRIENDLY RECIPES](#)

Share this



Each recipe has been chosen because it is healthy, simple and suitable for everyday meals. A cost per serve helps those on a budget. Importantly, each recipe includes suggestions for sustainable fish species.

These recipes are from *Healthy Food Guide* magazine and used with permission.



Baked fish with beetroot and mint salsa



Baked seafood with tomatoes, butter beans and feta



Creamy fish and fennel pot pies



Fish and fennel stew



fennel-pot-pies



# Appendices

## Appendix 1: List of project staff

### ***Principal Investigator***

Nicole Senior, Accredited Dietitian and Nutritionist, Professional Nutrition Services

### ***Co-Investigator***

Associate Professor Shawn Somerset

Associate Professor of Public Health, Canberra University

Dr Gabrielle O'Kane, Dietitian

### ***Co-Investigator***

Dr Anna K. Farmery

Visiting Fellow, University of Wollongong (UOW)

### ***Co-Investigator***

Michele Walton, consultant

### ***Co-Investigator***

Professor Alexandra McManus, Curtin University

### ***Project Manager, Financial Admin***

Nicole Senior, Accredited Dietitian and Nutritionist, Professional Nutrition Services

### ***Staff Member***

Dr Carolyn L. Stewardson, Research Portfolio Manager, FRDC

### ***Expert Academic Reviewers (Evidence Review)***

Dr Gilly Hendrie, CSIRO, Canberra

Dr Joanna Russell, University of Wollongong

### ***DAA Representative Reviewers (for DAA endorsement)***

Dr Sandra Murray, University of Tasmania

Barbara Radcliffe, Queensland Institute of Technology

Liza Barbour, Monash University

### ***Expert Reviewers (online resource)***

Stefanie Carino

Dr Anne McMahon

Deborah Doyle

Kathy Faulkner

Kylie Markow

Rosemary Stanton

Deanne Wooden

Kaye Mehta

Dr Anna Farmery

## Appendix 2: The Home Economics Institute of Australia (HEIA) conference – accepted abstract



### Senior N, Stewardson C. Seafood sustainability in Australia: situation critical or hopeful?

Seafood is a nutritionally important food and part of our culture. However, consumers are often unsure what seafood to eat for a range of reasons including not knowing the differing species and how to prepare and cook them, and sustainability concerns. Media discourse around seafood sustainability is often gloomy, however much relates to International fisheries. Australian fisheries offer a wide variety of seafood species, managed to ensure there is an ongoing supply and sustainability. There is research available on the status of Australian seafood to help us choose the most sustainable species. The not-so-good news is the majority of seafood we eat is imported.

Fish and seafood are nutritious core foods providing quality protein, omega-3 long chain fatty acids, selenium, zinc and vitamins A and D. They are a major source of iodine in the Australian diet (especially saltwater species), an excellent source of fluoride, and fish with edible bones contribute significant amounts of calcium. From a health perspective, there are many reasons to recommend regular seafood consumption. The most well-known is a reduced risk of cardiovascular disease. Furthermore, including seafood regularly in the diet is also associated with healthier ageing and longevity, better pregnancy and birth outcomes and reduced risk of depression, type 2 diabetes and some cancers. International guidelines consistently recommend consumption of at least two fish meals each week

Encouraging Australians to consume seafood twice a week and to choose sustainable Australian species would have benefits for both public health and the environment.

### Appendix 3: The Home Economics Institute of Australia (HEIA) conference research paper likely to be published in the HEIA Journal

A three thousand-word research paper based on the 2020 conference presentation will be available on the conference website after the event and is likely to be selected for publication in the *Journal of the Home Economics Institute of Australia*, subject to approval by the editorial board.



FEATURE



## Promoting Sustainable Australian Fish And Seafood

Words by Nicole Senior and Carolyn Stewardson

Seafood is a nutritionally important food and an inherent part of Australian eating culture. However, consumers are often unsure which seafood to eat. This is for a range of reasons, including not knowing enough about the defining features of differing species or how to prepare and cook them, as well as concerns about sustainability.

Fortunately, fisheries in Australia are focussed on ensuring ongoing

sustainability of our seafood supplies. The Fisheries Research and Development Corporation (FRDC) invests in research and development (R&D) related to fishing and aquaculture providing a knowledge resource covering fishing and aquaculture issues for the public, industry and government. It is now investing in consumer education via Australian health and food science professionals to support clients and communities to eat the


recommended amounts of seafood and encourage them to choose Australian sustainable seafood.

### Seafood supply in Australia


Australia produces an amazingly diverse range of seafood. Underpinning this production is a fisheries management system that is rated among the top four worldwide. The Australian Bureau of Agricultural and Resource Economics (ABARES) has reported that Australians



## Appendix 5: FRDC News - Fish magazine article



About UsResearchFRDC StakeholdersServicesEnvironmentIndustryIssuesMedia-Publications



FISH Vol 27 2

Prawn venture heralds aquaculture step-up

In brief

Science briefs

New RD&E plan in the works

Spotlight on Australian Salmon

Deep dive to new ocean frontiers

Aquaculture focus for science stars

Australia's shark status update

Seafood Directions to make community connections

Survey sets northern benchmarks

Fisher conversation helps shape industry pledge

Pitching in for a better seafood future

Future at your fingertips

Scat DNA reveals what a bird eats

Largest foreign seafood market in trade talks

Lessons from across the seas

New guides to future fisheries

Connecting health professionals with sustainable seafood

Australia's fish 'n' chippers step back up to the plate

Connecting health professionals with sustainable seafood

**Combined information on the health benefits and sustainability of Australian fish stocks will help health professionals confidently recommend that clients eat more Australian seafood**

By Catherine Norwood




Photo: Shutterstock

Want to protect your brain, heart, eyesight and bones? Evidence from a growing body of international research shows that eating fish and other seafood has a powerful role to play in doing just that.

But confusion over which species are sustainable has often stymied Australian healthcare professionals who want to recommend that their clients eat fish.

To address this issue the FRDC has worked with dietitians to create new resources specifically for health professionals that combine information on both health benefits and sustainable Australian species.

The Status of Australian Fish Stocks (SAFS) reports already provide a publicly accessible and rigorously tested scientific benchmark for the sustainability of commercially wild-harvested fish species.

The reports are updated every two years, and the latest release, in March 2019, includes 120 species that make up the bulk of available Australian seafood.

Supplementing this is the FRDC's new Health Care Professionals Resource on Sustainable Seafood, prepared by dietitian and nutritionist Nicole Senior, from Professional Nutrition Services in Sydney. In preparing the resources, she worked with fellow dietitian Shawn Somerset from the University of Canberra; and independent consultants Gabrielle O'Kane, who has researched sustainable seafood recommendations in nutrition professionals, and Michele Walton, who specialises in nutrition communications. The resource package has three elements: a review of available evidence about the health

## Appendix 6: DAA Weekly email to members highlighting the FRDC resource and its endorsement by DAA

Your Weekly Member Update: Corporate Nutrition Interest Group share their insights on roles and career pathways



Dietitians Association of Australia <info@daa.asn.au>  
To: Nicole

If there are problems with how this message is displayed, click here to view it in a web browser.



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[Back to top](#)

### From our partners and friends



#### Education in Nutrition July Presentations

July 5 – Legumes, Natalie Figueira, APD

July 12 – Dietary recommendations to increase muscle mass for the general and athlete population, Simone Austin, President SDA

July 16 – Positive ageing, Associate Professor Christina Bryant

July 26 – Practising as an eating disorder dietitian, Maureen O'Connor, APD

Check [our library](#) of over 200 webinars and case studies on a huge variety of CPD topics!

### Resources



#### New DAA Endorsed Sustainable Seafood Resource

Unsure what seafood to recommend? *Promoting Sustainable Australian Fish and Seafood – a guide for Health Professionals* is now available [online](#). Developed by APDs, peer reviewed and endorsed by DAA, the resource includes evidence-based information and recipes. Produced by the Fisheries Research and Development Corporation (FRDC).



#### New PEN® Content: Mental Health

Mental Health is one of the newest knowledge pathways in PEN. This pathway covers the role of dietary supplements in the prevention and treatment of numerous mental health conditions including disruptive, impulse-control and conduct disorders, psychotic disorders, bipolar, personality disorders and more. Read the key points in the [Mental Health Summary of Recommendations and Evidence](#).

[Back to top](#)

## Appendix 7: Dietitian connection email featuring FRDC resource



Dear Nicole

### In this week's newsletter

- [Why are our clients removing entire food groups?](#)
- [FIVE \\$50 gift cards up for grabs! Complete a quick survey](#)
- [Nutrition in Aged Care](#) - LAST CHANCE TO REGISTER
- [Sustainable seafood - dietitian resource](#)
- [Australia's own Certified TCP Trainer](#)
- [Women with PCOS](#)
- [EOFY savings - Sunday 8 hours only!](#)
- Update to our terms

### Why are our clients removing entire food groups?

Are you **frustrated** with your clients unnecessarily removing entire food groups?

LISTEN to our [latest podcast](#) as we delve into **food group avoidance** and self (or **Dr Google**) **diagnosis**, with the help of a behavioural scientist - **Dr Sinead Golley** from CSIRO, Australia.

We'll investigate the drivers of **self-diagnosis**, and why clients are **prescribing their own nutrition treatment** like **food group restriction**

*Supported by Dairy Australia*



[Click here to listen NOW](#)


### FIVE \$50 gift cards up for grabs! Complete a quick survey

Complete a **quick 5 min survey** about **heart health** to go in the draw TODAY. Please share your perspective with us. You will have the opportunity to win one of five \$50 Amazon gift cards. The survey is **open now** and will close at 5pm AEDT (Syd / Melb)



## Appendix 8: Public Health Association direct email to members

The Pump: Public Health Association of Australia - 4 July 2019

 phaa@phaa.net.au  
To: Nicole Senior



and Tuesday 23 October.

### International Health SIG

- PHAA members Deborah Gleeson, Belinda Townsend and Brigitte Tenni authored an article in *Croakey* last weekend titled [Calls to end secrecy on trade negotiations underway this week, amid public health concerns](#). They argued that the Australian Government should publish the text of a major new trade agreement under negotiation between Pacific economies, amid concerns about its implications for public health, human rights and the environment.


### Food and Nutrition SIG

- A new resource titled *Promoting Sustainable Australian Fish and Seafood - a guide for Health Professionals* has been produced by the Fisheries Research and Development Corporation (FRDC) and [available online](#). Endorsed by the Dietitians Association of Australia (DAA), the resource also includes an evidence review on seafood and health, table of omega-3 content and family-friendly recipes. A 3-minute evaluation survey is [here](#). The FRDC also have a new free app called 'SAFS-Status of Australian Fish Stocks' to help search for species by name to determine if they are sustainable.

### Oral Health SIG

- [Deeble Issues Brief No. 32](#) focusses on funding reforms that will be required to achieve value-based health care for public dental health in Australia. Using Dental Health Service Victoria's learnings from a value-based health care implementation and funding model reform, this Issues Brief draws on local and international examples that provide the rationale and evidence for funding reforms that maximise value and outcomes for patients, funders and the health system.


## Appendix 9: Nutrition Australia Facebook Post



**Nutrition Australia**  
@NutritionAustralia


- Home
- Reviews
- Photos
- Videos
- Posts**
- Events
- About
- Community
- YouTube
- Email signup


Create a Page

 **Jodie Morgan** Yum! Lentils are such clever little legumes, I made a lentil cottage pie for tonight, it smells delicious!

Like · Reply · 30w


---

 **Nutrition Australia** 19 July 2019 · 🌐



**Nicole Senior**  
24 June 2019

Are you concerned about seafood sustainability? The FRDC (Fisheries Research and Development Corporation) have a new app that allows you to look up Australian wild caught seafood species by name so you can choose 'green' (sustainable) species. 'SAFS Status of Australian Fish Stocks' is free from the app store and Google Play. The other great news is that the latest SAFS reports (search for 'SAFS 2018' for more info) show the majority of fish stocks (85%) are sustainable or recovering. If you'd like to learn more about seafood, sustainability and health check out [www.fishfiles.com.au/Experts/HealthProfessionals](http://www.fishfiles.com.au/Experts/HealthProfessionals).  
For good health, aim to enjoy seafood twice a week and choose sustainable seafood!

 You, Lucinda Hancock and 12 others      3 comments 6 shares

## Appendix 10: FRDC Stakeholder Briefing June 2019



FRDC

About Us Research FRDC Stakeholders Services Environment Industry Issues Media-Publications



<https://dfat.gov.au/aid/topics/development-issues/2030-agenda/pages/sustainable-development-goals.aspx>

### *Promoting Sustainable Australian Fish and Seafood – A guide for Health Professionals produced by Health Professionals for Health Professionals*

Seafood is a nutritionally important food and part of our food culture. However, uncertainty about sustainability status has left health professionals unsure what to recommend.

To help resolve this the FRDC has funded a project to provide health professionals with the latest information based on the Status of Australian Fish Stocks Reports. The guide also provides an update on the health benefits of seafood and helps to address barriers to seafood consumption. <http://www.fishfiles.com.au/Experts/HealthProfessionals>.

As part of the project, a [review of the evidence supporting the promotion of fish and seafood for health](#) was undertaken. This review summarises the latest findings on omega-3's and their impact on health including foetal, infant and childhood growth and development, perinatal depression, cardiovascular disease, cognitive function and academic achievement.

In addition to the research, the guide offers seafood recipes that are healthy, simple and suitable for everyday meals. These recipes cater for families and those on a budget or with limited time or confidence. Importantly, each recipe includes suggestions for sustainable species.

The information in the online resource for health professionals has been endorsed by the Dietitians Association of Australia (DAA). "DAA welcomes this collaboration between Accredited Practising Dietitians and the FRDC. We share a commitment to evidence-based information and this resource will help dietitians as well as other health professionals provide trustworthy advice about seafood. This project assists DAA's mission to support our members and build healthier communities," said DAA CEO Robert Hunt.

Also see C. Norwood 'Connecting Health Professionals with Sustainable Seafood', Fish Magazine, Vol 27 (2) June 2019; and Senior N and Stewardson C. 2019, 'Promoting Sustainable Australian Fish and Seafood', Food Australia, April-May: 34-37.

### *Three Stamps of Approval for Sustainability*



## Appendix 11: FRDC Facebook page promoting health professional resource



**FRDC**  
@FRDCAustralia

- Home
- Posts**
- Reviews
- Videos
- Photos
- About
- Community
- Groups
- Events
- Notes

Like Follow Share

 Write a comment...   

 **FRDC**

24 June 2019 · 

Connecting information on health benefits with information on the sustainability of Australian fish stocks will help health professionals confidently recommend their clients eat more Australian seafood. Read more here: <https://www.frdc.com.au/.../Connecting-health-professionals-w...>



 You and 3 others

4 shares

 Like

 Comment

 Share 



## Appendix 12: FRDC World Oceans Day Facebook post promoting Food Australia article



**FRDC**  
@FRDCAustralia

Home

**Posts**

Reviews

Videos

Photos

About

Community

Groups

Events

Notes

Create a Page

Like Follow Share ...

**FRDC**  
8 June 2019 · 🌐

Seafood is a nutritionally important food and part of our culture. To celebrate World Oceans Day the Fisheries Research and Development Corporation and Food Australia would like to share the following article with you Promoting sustainable Australian Fish and Seafood

[http://www.fishfiles.com.au/.../Food\\_Australia\\_April--May-20...](http://www.fishfiles.com.au/.../Food_Australia_April--May-20...)  
(available with permission from Australian Institute of Food Science and Technology - publisher of Food Australia).

Australian health and food science ... [See more](#)



👍 10

1 comment 6 shares



Reynolds, J. (2020) Nutrition The inside story 3<sup>rd</sup> edition (Home economics Institute of Australia). Available from [www.heia.com.au/shop-publications/food-and-nutrition/nutrition-the-inside-story](http://www.heia.com.au/shop-publications/food-and-nutrition/nutrition-the-inside-story)

This cover image is draft as at 26 February 2020 and this third edition is due to be published in mid-2020.

**Appendix 14: Dietitians Association of Australia (DAA) Webinar on sustainable seafood**



The slide features a background image of a school of fish swimming in water. On the left side, there is the logo for ANCORS (Australian National Centre for Ocean Resources & Security), which consists of a stylized blue and yellow wave icon above the text 'ANCORS' and 'AUSTRALIAN NATIONAL CENTRE FOR OCEAN RESOURCES & SECURITY'. On the right side, the title 'Understanding sustainable seafood' is written in large, bold, black font. Below the title, the speaker's name 'Dr Anna Farmery' and her title 'Research Fellow' are listed in a smaller black font. At the bottom of the slide, there is a blue horizontal bar containing the 'ANCORS' logo on the left and the 'UOW' (University of Wollongong) logo on the right.

**Understanding sustainable seafood**

Dr Anna Farmery  
Research Fellow

ANCORS

UOW

Webinar conducted on Tuesday 6<sup>th</sup> November 2018 for DAA members.



## Appendix 15: GI News article on sustainable seafood



# GI News

The Official Glycemic Index Newsletter



1 February 2020

## FOOD FOR THOUGHT

### SEAFOOD: GET HOOKED SUSTAINABLY

**Dietitian Nicole Senior reports.**

If any food could be considered a super food, it's seafood (fish and shellfish). High in protein, and low in saturated fat, it's a major source of healthy long-chain omega-3 fats and rich in nutrients such as iron, zinc, selenium, iodine, and vitamin D. And there is strong evidence eating it is good for the heart. Quality observational studies have shown approximately one to two 100-gram (3½-ounce) servings of fatty fish a week – salmon, herring, mackerel, anchovies, or sardines – reduce the risk of heart disease.



There is also consistent evidence that consuming fish two to three times a week along with leafy greens and other fruit and vegetables daily and low GI carbohydrates can reduce your risk of developing macular degeneration, or help to slow its progression if it has already become established.

**HOW MUCH SEAFOOD?** Nutrition guidelines around the world suggest adults eat two serves of seafood a week. A serving is 100g (3½oz) of cooked (or 115g/4oz raw), which is around the size of your hand, or the amount in a small can. While battered and deep-fried fish 'n' chips are delicious, steamed, broiled/grilled, baked or pan-fried fish are better options. Boost the health benefits and serve with plenty of vegetables or salad.

**WHICH FISH?** There is a huge variety of seafood to choose from but we creatures of habit tend to stick to a limited range of our favourites that are quick and easy to prepare and available all year round. However, globally, overfishing is a big problem. Taking pressure off fish stocks means we need to branch out and try different types of seafood. An added bonus is the less popular species tend to be cheaper.

Search GI News

Search

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[WHAT'S NEW?](#)

[PERSPECTIVES WITH DR ALAN BARCLAY](#)

[DIABETES CARE](#)

[YOUR GI SHOPPING GUIDE](#)

[GOOD CARBS FOOD FACTS](#)

[THE GOOD CARBS KITCHEN](#)

[COPYRIGHT AND PERMISSION](#)

January (8)


2019 (109)

2018 (96)




## Appendix 16: Twitter posts


< Back to NicoleMSenior #Sustainablese...

 **Nicole Senior**  
@NicoleMSenior


Australian health professionals and educators there is a new resource for you on [#sustainableseafood](#). It also includes an evidence review on [#seafood](#) and health, table of [#omega-3](#) content, and family-friendly [#recipes](#) to share. Find it at [fishfiles.com.au/Experts/Health...](http://fishfiles.com.au/Experts/Health...) [#sustainablefood](#)




5:31pm · 3 Jul 2019 · TweetDeck

 View Tweet Activity


1 Retweet 4 Likes

 **Nicole Senior**  
@NicoleMSenior

Australian health professionals and educators there is a new resource for you on [#sustainableseafood](#). It also includes an evidence review on [#seafood](#) and health, table of [#omega-3](#) content, and family-friendly [#recipes](#) to share. Find it at [fishfiles.com.au/Experts/Health...](http://fishfiles.com.au/Experts/Health...) [#sustainablefood](#)



12:49pm · 24 Jun 2019 · TweetDeck

 View Tweet Activity

1 Reply 2 Likes

## **Appendix 17: FRDC Health Professional Sustainable Seafood Resource Evaluation Results Report**

### **Methods**

A seven-question evaluation survey was completed by twenty-five respondents via the online Survey Monkey platform. Participants were invited to complete the survey via a link sent via email to DAA, PHAA, HEIA and Nutrition Australia. The APNA declined to distribute the evaluation survey.

### **Results Summary**

Respondents found the resource useful and are likely to use it in their practice. They rated their trust in the information as very high (84/100), and their confidence in promoting sustainable Australian seafood after using the resource as moderately high (66/100). This is an important indicator of success of the resource as previous research conducted with dietitians found they lacked confidence in making recommendations around sustainability.

### **Recommendations**

Several respondents found the online resource was not optimized for mobile devices. Doing this would improve usability.

Several respondents requested information suitable for sharing with clients/patients and the need for the information to be simplified for this purpose. More consumer-friendly resources in easily share-able format would meet this need. (Some respondents did not appear to be aware the resource was designed for health professionals). (For example, perhaps print, email and social media sharing buttons could be added to the recipes?)

Several respondents requested information about canned seafood, brands to look for and more information about sustainability logos to help when shopping.

Several respondents requested more detailed information about mercury content of Australian seafood species.

### **Results in Detail**

**Q1 To what extent have these resources improved your knowledge of sustainable Australian seafood?** (Response type: Likert scale measured as a percentage from 'not improved at all' 0 to 'very much improved' 100)

Average response was 61/100.

**Q2. How would you rate the effectiveness of the resources?** (Response type: star rating from 'very ineffective' one star, to 'very effective' five stars)

Average rating 3.6/5; 24% said very effective 5 stars

**Q3. How likely are you to use these resources?** (Response type: Likert scale measured as percentage from 'very unlikely' 0 to 'neither likely or unlikely' 50 to 'very likely' 100)

Average response was 68/100

**Q4. How would you rate the level of trust in the information presented?** (Response type: Likert scale from 'highly distrust' 0 to 'neither trust or distrust' 50 to 'trust highly' 100.)

Average response 84/100

**Q5. After accessing the resources, how confident are you to promote sustainable Australian seafood with your patients/clients/communities/students?** (Response type: Likert scale measured as percentage from 'not confident at all' 0 to 'neither confident or unconfident' 50 to 'very confident' 100)

Average response 66/100

**Q6. Is there anything you would have liked included but wasn't?** (Open ended feedback)

"Simple summary tables of fish types and brands/brochure for consumers"

"More details around mercury content especially local fish eg around Sydney"

"More modern recipes that are easy to email/print. Lists of seafood that are more succinct, ie top 5-10 in each category (high-medium-low). Information in a format that is printable or shareable to give to patient/clients"

"Rank brands of canned fish (tuna, salmon) based on sustainability"

"Aquaculture industry"

"Importance of eating sustainable Australian caught fish and crustaceans rather than imported seafood"

"Some resources are hard to follow. I wouldn't give to some clients as they are not written in plain language with a readability of grade 6. I wonder if they have been focus tested with intended audiences"

"A list of all the Australian fish (or at least popular ones) with their sustainability rating next to them. I could only find a way to search fish that I'm already aware of but there are probably other sustainable fish I don't know about that I could start recommending. That list would also be handy to give out to clients"

"How to share the information with clients (strategies to convince them to change)"

"The hyperlinks are great but its not clear what are where the resources I'm looking for are. I'm looking on my phone and tablet so maybe the format doesn't suit"

"Mercury levels of fish"

"I would have liked to see more information displayed using visual content such as pictures and/or infographics rather than words"

**Q7. Do you have any other feedback?** (Open-ended feedback)

"The only reason my increase in knowledge was low is that as a professional fisherman's daughter my knowledge was pretty high to begin with. Great resources and happy to see Australian seafood industry getting the promotion and recognition it deserves!"

"This is an important message and many people are unaware of how much / what is imported and sustainability. Lobbying mainstream markets/fish mongers and supermarkets is important and ongoing efforts to enforce mandatory labelling on cooked seafood purchased at food vendors. Also needs to consider the environmental effects of

fish/seafood farming when making claims and providing advice e.g. more sardines, seaweed and mussels and less pellet fed salmon.”

“Very well compiled & easy to navigate the resource”

“More images to break up large amounts of text.”

“Include brands for consumers to look for at the shops More images of the logos to look for or where to look on the label to determine whether a product is sustainable or not.”

“The resources need to be less detailed, more simple and direct. A lot of info to trawl through”

“There are some NZ sourced fish that are popularly sold in Australian supermarkets. Is there information available on their sustainability? Where does fish rate sustainability-wise when it is from Australian / NZ waters but processed in China / Thailand / Taiwan? I see that on labels frequently.”

“Great work overall”

“Check formatting on multiple devices, PC its clear, mobile devices not so”

“This is a great resource, I am keen to look more closely at the information and incorporate into my practice - I already recommend intakes of oily fish to all clients (that aren't vegan) but will be more confident in speaking about different species, particularly in relation to sustainability which is something that I am concerned about along with my clients. Thank you for putting this together!”

“Love the recipes, but struggling to get the email function to work. It would be great if the recipes could be formatted to be printed straight from the webpage.”