



## 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

consume around 16 kg per person per year. Domestic supply is 236,803 tonnes – made up of 166,022 from wild catch fisheries and 93,965 from aquaculture.

Despite Australia's good management and diverse range of species, the reality is our production is actually very small. This means the majority (70-75%) of seafood we eat is imported, made up of mostly frozen fish fillets and prawns and canned seafood. There is significant room to increase our consumption of local catch, both from growing aquaculture production and better utilising our wild fisheries.

### Seafood and health

Seafood, including fish is a nutritious core food providing quality protein,

omega-3 long chain fatty acids, selenium, zinc and vitamins A and D. It is 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 common is a reduced risk of cardiovascular disease but including seafood regularly 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.

### Seafood consumption

It is a public health challenge to increase seafood consumption across the population, and especially in socially disadvantaged groups.

The Dietary Guidelines for Australians recommend including around two serves of fish or seafood a week, which is around 230g raw/200g cooked. The most recent survey of consumption by the Australian Bureau of Statistics (ABS) shows most Australians don't eat near that amount. In fact, as a nation the National Health and Medical Research Council (NHMRC) says we need to increase our seafood consumption by 40% to meet recommendations.

### How do we lift seafood consumption?

Australian research has found the leading drivers of seafood consumption are health, taste and convenience. The main barriers are price, availability, concerns about quality and a lack of confidence in selecting and preparing seafood (Christenson JK *et al* 2016). Socio-economic status (SES) also plays a role; people of higher SES are more likely to eat seafood and consume species with higher omega-3 fat levels (Farmery *et al* 2018).

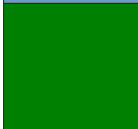



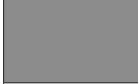

### Is there enough seafood to support recommendations?

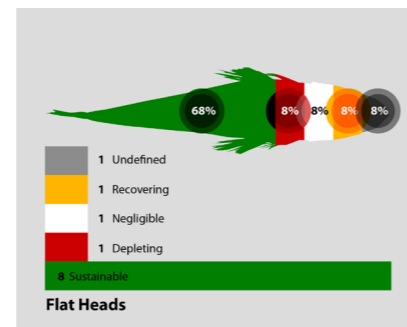
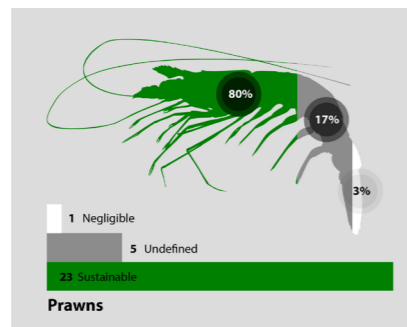
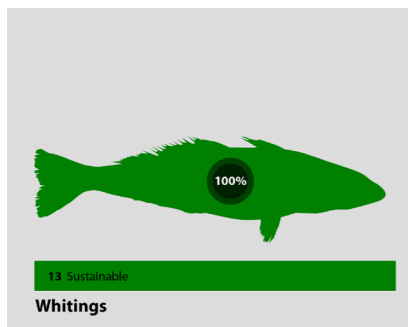
According to the *EAT-Lancet Commission on healthy diets from sustainable food systems* (Willett *et al* 2019), 196g seafood per person a week is globally sustainable – roughly equivalent to the two serves a week widely recommended (200g). Its healthy reference diet for an intake of 2500 kcal/10,500kJ per day includes 28g of seafood a day, with a range of 0-100g to account for regions without access to seafood and higher amounts for added health benefits.

### What is seafood sustainability?

There is no singularly agreed definition of seafood sustainability. However, at its simplest, sustainability means to be able to continue

## Stock status classifications used in the FRDC Status of Australian Fish Stocks (SAFS) reports

DESCRIPTION	POTENTIAL IMPLICATIONS FOR MANAGEMENT OF THE STOCK
 SUSTAINABLE	Fish stock size (biomass) is above a minimum level (limit reference point) for the stock, and fishing pressure is adequately controlled (there is no overfishing)
 DEPLETING	Fish stock size is above a minimum level (limit reference point) for the stock, but fishing pressure is too high
 RECOVERING	Fish stock size is too low but fishing pressure is adequately controlled and stock is recovering
 DEPLETED	Fish stock size is too low and fishing pressure too high, or fishing pressure has been reduced but recovery not yet detected
 UNDEFINED	Not enough information available to make a reliable assessment
 NEGLIGIBLE	Catches are so low as to be considered negligible



production into the future at a rate that the environment can replenish the system, while having limited negative impacts on the environment.

The FRDC, with stakeholders that included fishers, government and environmental groups, agreed to a common set of definitions for ecologically sustainable wild seafood. Its framework looked at ensuring impacts across five key elements were at acceptable levels. These are: target and by-product species, bycatch species, threatened, endangered and protected species, aquatic habitat, and aquatic ecosystems. Of course, not all of these apply to aquaculture production. However, similar principles still apply around environmental

impact, further aquaculture operations look at animal health and welfare.

### Australian fisheries are being managed sustainably

Every two years the FRDC produces Status of Australian Fish Stocks (SAFS) reports, to assess sustainability of our fish supply. The reports look at whether there are enough fish to meet current and future needs and are based on a consistent national reporting framework developed by fisheries scientists across Australia. They bring together all the available information on Australia's key wild catch fish stocks and give a rating (and colour) to each species.

The 2018 SAFS report is the largest

and most comprehensive report on the sustainability of Australia's fish stocks ever undertaken. The report shows the majority of assessed stocks are sustainable – 85% were sustainable or recovering. Species assessed as sustainable include all five prawn species, all four lobster species, and all five whiting species. Southern Bluefin Tuna is now rated as recovering from depleted. Only seven per cent of stocks are overfished and management plans are in place to rebuild the stocks.

The sustainability status of a seafood species can vary state by state, therefore ensure you check the data is relevant to your location or the source of the catch. The latest



SAFS report is available at fish.gov.au and the FRDC has also created a phone app for easy reference. The SAFS Sustainable Fish Stocks app is available from the App Store and Google Play.

### What about Aquaculture

Over 40 species of seafood are commercially farmed in Australia, with Atlantic salmon making up the largest proportion at around 55% of total farmed volume. Other species include oysters, prawns, mussels, barramundi, silver perch and Murray cod.

Australian aquaculture is tightly regulated. The FRDC and key industry sectors have in place ongoing research programs to improve practices and sustainability. Like all forms of farming food production, they require constant monitoring to ensure best practice is maintained. One key area that is very important to aquaculture is water quality. Government monitors run off, algal blooms and discharge from farms –

all that can affect the environment and seafood production.

To reinforce their sustainability credential Australia's major aquaculture companies have sought to have their farms certified by independent third party certification – this includes Aquaculture Stewardship Council (ASC), Best Aquaculture Practice and Global G.A.P. (Good Agricultural Practices). The World Wildlife Fund (WWF) reports 61% of the Australian salmon market is now ASC certified.

### New resources for health professionals

In 2018 the FRDC commissioned resources to better equip health professionals to support their clients and communities to eat the recommended amounts of seafood and encourage them to choose Australian sustainable seafood. These are also useful for food industry professionals. The suite of resources includes an evidence review of seafood and health, an online

brochure and a collection of family-friendly recipes using Australian sustainable seafood species. The resources can be accessed at [www.fishfiles.com.au](http://www.fishfiles.com.au)

### References

- Farmery AK, Hendry G, O'Kane GM, McManus A, Green B. Sociodemographic Variation in Consumption Patterns of Sustainable and Nutritious Seafood in Australia. *Front. Nutr.* 2018;5:118
- Christenson J, O'Kane G, Farmery A. The barriers and drivers of seafood consumption in Australia: a narrative literature review. *Int J Consum Studies* 2017;1-15
- Willett W, Rockstrom J, Loken B et al. Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet Commissions* 2019

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