Ocean’s influence runs deep

Seaweeds have been a food source and important to human nutrition for 14,000 years. Nutrition from shallow coastal waters and the ocean has been a part of our evolutionary history and is entwined in the makeup of our minds and bodies.

For example, Omega-3 oils that contribute to the development of the human brain, and essential trace elements, such as iodine, are important to our body.

These essential components of our diet are provided for at the bottom of the ocean food chain through seaweeds and microalgae; regardless of whether you eat the seaweed, or the other seafood that ate the seaweed for you.

Scientific literature reveals such an overwhelmingly large suite of biologically functional molecules in seaweeds and other seafood close to our shore and evidence suggests that we aren’t getting enough of what we need for our health from the oceans.

More attention is being given to a particular group of biologically important molecules from seaweeds known as the sulfated polysaccharides, or sea gels, which have been linked to biological activities as diverse as prebiotic, antiviral, antibacterial, antifungal and anti-inflammatory activities.

In studies of livestock it has been shown that it is actually an interaction of multiple biological activities like these that contribute to much healthier animals and also quality of meat.

In Europe, seaweeds in livestock feeds are being used as part of the strategy to overcome dependence on antibiotics and to stimulate better health of animals overall.

Our research is being driven by the evidence for the importance of seafoods, including seaweeds, to human health. There are two dilemmas however.

First is the public perception of seafood, and in particular seaweeds. Although Australia is a nation girt by sea we are low per capita consumers of seafood and particularly poor consumers of the $7 billion dollar seaweed food industry.

The potential for an increased seafood intake to contribute to the prevention of chronic diseases must be understood by both the public and health institutions and has let to increased research into the topic.

The rise of the famous Sydney Rock Oyster industry in the mid-1970’s and the plummet to production levels at less than 50% of that today is evidence enough.

This follows in the footsteps of similar global patterns.
In some cases we have contaminated supply, and the condition of commercial fish in our own coastal shores is no exception. In other instances, we have reduced the capacity for the coast to provide for us.

Our need for more seafood, amid a reduced capacity to produce it, is a confronting challenge.

Even if we accept the arguments that a complete diet was achievable from terrestrial sources, a decline of nutrients in our once fertile soils means we will have to look to the oceans to deliver the essential nutrition we need.

A key driver at our research centre is to address this dilemma and prevent the demise of the key seafood sources that exist and to develop sustainable new industries for coastal Australia.

Instead of looking at what we don’t know, we have looked at what we do know and identified that we can do something about it.

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