

Green Paper Submission

A pariah speaks out from an advanced operative location that Australia's agricultural food production should no longer be restricted to farming on land.

The farming of Australia's ocean waters, mariculture on land as well as sea must combine with land agriculture production if this Nation aspires to increase its produce farming ability to its potential limit.

I will bet a plate full of machine processed cultured scallop meat to a plate full of cultured barramundi that the Australian aquaculture industry members would agree. I therefore proffer the following analysis in support of this submission.

In contrast with the majority of submissions that are written from lifetimes of inside participation in the industry that is the subject matter of their suggestions; this outsider only entered the maritime world through a request by the Qld fishing industry to design and manufacture a mechanised alternative to the costly manual methods of processing scallop meat.

Given I had zero interest in the 'sport' of fishing and therefore no knowledge of the fishing industries commercial or recreational activities, I asked to be shown the manual method that I was to replace. My immediate impression when watching 30 plus people shucking scallop shells was that it was a simple task. I therefore asked why it had not been automated like all other labour demanding toils have been.

The quick response from those who asked for my help was that 'if we knew that, we would not be asking you to make a machine, we would have made a machine ourselves'. I was also told that after decades of world-wide endeavours along with their own attempts there still was no machine that combined an acceptable quality meat product with a viable production rate; it was one or the other.

I then began a global market research through Austrade, which confirmed the truth of what I had been told. Consequently as I did have expertise in special application machine design, manufacture and commercialisation and was a born and bred grain and livestock farmer, cognition began on the fishing industry's request.

The concept that resulted has proven to be the breakthrough that I was asked to discover and is a world first with an eager global market.

Mindful that Barnaby Joyce has asked for new ideas to be put forward in his Green Paper Submission, I thought the above success in solving a 40 year dilemma to reduce a significant world food source to below present Asian manual costs, would be worth consideration as an example of what can be derived from the amalgamation between agriculture and mariculture that is proposed in this submission.

Notwithstanding this Australian success is a world triumph, I consider the solution had nothing to do with genius or being smarter than others, but was the result of empiric experience in machinery use and design concept blending with a farmer's knowhow of handling animals.

This knowledge has now combined with being a 'new boy on the block' uninhibited by previous thinking that had led all others in the opposite direction. That began over a decade ago and I still do not have a fishing rod or an amour for the act of recreation fishing. I concede I am indeed a pariah.

Australia's land area size is inconsistent with its food productive capacity by the acute shortage of fresh water and its lack of arable top soil, which consequently limits it as a huge global 'food bowl'. However the United Nations Convention on the Law of the Sea prescribes a state has special rights over the exploration and use of EEZ marine resources, which in Australia's case is over 1.3 times its land mass.

From the perspective of a broad-acre grain and livestock farmer as well as being an engineer, I believe that Australia's Exclusive Economic Zone (EEZ) has a like capacity for food production as our land area, which is restricted mainly to a narrow coastal belt that is being diminished by urban sprawl. Notably there are exceptions scattered around the States such as the rich black soil of the Qld Darling Downs, but the vast remainder is marginal grassland or desert, which severely limits future expansion. Please refer to the map of Australian page 5 of soil types that illustrate this matter.

Importantly Australia's EEZ does not have the limitations imposed on this island's dry land, for one example it is drought free. It is well known globally that Australia's marine area is presently vastly under-utilised and with minor exceptions unpolluted. Also that the Exclusive Economic Zone is a 'special right' to use, and is not an ownership. The adage – 'use it or lose it' is apropos.

There are two pre-eminent advantages this outsider to the fishing industry has observed, one of which has been granted by Nature and the United Nations in a plentiful supply of fertile ocean water. The second is more mundane in that Australia is the birthplace of the long sought cost reduction to convert bi-valve shellfish into a food product with equal quality of what is achieved by manual methods.

In mercenary terms this world-first reduces scallop meat processing costs from \$5.00 per kg [\$5000 per tonne] to \$500 per tonne. This cost reduction is consistent with all automation of manual labour and will be applicable to most other bi-valves and double this food's production savings of only scallops.

Moreover there is a more altruistic benefit in that the 2.5 million tonnes live weight of scallops alone that is annually consumed globally has now become within the price range of all the world's populations and not just the affluent and middle class people. This significantly relieves world starvation.

The original machine that was designed and operated for local scallops has recently been modified to process all world species. This has created an international enterprise that is Australian owned and based. When the entire global scallop species are brought into this equation, the global market is far too large for a single entity to cope with in the time frame allowed to fulfil the demand for machines.

Equity interests and channel partners are therefore sought and where better than from Australian agriculture farmers whose business it is to know the vicissitudes of food production. There has been a transformation underway in agriculture in recent years where farming is no longer regarded as an individual occupation that competes against each other in the same industry.

Importantly there is a growing realisation that is being put into practice that internal competition is both unnecessary and self damaging and is being replaced by joint cooperation of members that creates the strength to focus on export/import competition from other countries.

This provides a united force to be reckoned with that does not have to individually beg for assistance. Indeed I can recall over 50 years ago there was a survey conducted, from memory by the CSIRO, of costs from the farm gate to retail outlet prices. There was a discrepancy of 40%, no mistake 40% of cost that could not be accounted for. It was not pursued and left as a mystery, or so we were told.

Time has gone by and we know now who grasped that 40% and where it eventually finishes up. That historic story forms the crux of this submission as its purpose is to emphasise the power of a united block, agriculture/mariculture.

This amalgamation will create the strength to prevent being pushed around by overseas owned businesses operating in Australia that are sending the profits of Australian farmers back to their home companies. This situation is a major cause of Australian agriculture's current financial circumstance.

Combining agriculture with mariculture would truly double the influence that could be exerted on the greed of overseas retailers and large banks. It is in the hands of the primary producer of essential nourishment where the 40% belongs and unities clout will be able to seize it back to its rightful place. Without the farmer the world starves, as no one outside the farm gate is capable of producing this food.

This submission centres on scallops as indicative of how the farming of marine food production is being conducted in Australia and around the world. Scallops are also singled out as this marine mollusc is the only fish species I have empiric experience of dealing with, all other knowledge gained is from others and through observation that I cannot categorically confirm.

Since the beginning of recorded time there has been mention of mankind using scallop meat for food and their shells for symbolic purposes. However it was not until the 1970's when Japan began the culturing of that country's native *Patinopecten yessoensis*, commonly known as Yesso scallop that the world has moved from wild catch scallops to farming as the main supplier of this nutritious marine food.

Of the world's annual scallop production of just over 2.5 million tonnes of live weight, the mariculture of scallops surpassed wild catch in 2003 and now accounts for just under 70% of current supply. This is indicative of the global consumers demand for scallop meat. The three dominant producers are China, Japan and Chile in that order of volume. Re: United Nations Food and Agriculture Organisation (FAO).

Today's Australian environmentalist's principle objection to the harvesting of scallops is the damage they allege trawling does. This bias became evident in the deception by slick but questionable consultation practice by the Great Barrier Reef Marine Park Authorities who were advising the Gov during the multitude of so called 'port call' talks with fishermen in the lead-up to Federal regulation.

This chicanery was used prior to the final legislation of fishing grounds when the fishermen answered truthfully when asked where their best scallop grounds were, with the expectation they would then remain available to them if nominated. Somehow these most fertile and productive scallop producing regions ended up designated either no-go zones or Marine Parks, which can now no longer be fished.

This analysis is based on firsthand knowledge as I had attended 'port calls' and witnessed this charade as a neutral observer by invitation from the fishing industry. The 'saviours of the oceans' perfidious triumph is only temporary as the hanging net culturing method that the Japanese perfected and adopted almost universally, has rendered wild catch trawling problematical.

Furthermore, the environmentally beneficial automated method now developed and used to process scallops in Australia has totally removed any doubt of the viability of culturing of marine bi-valve mollusc over wild catch trawling. This will result in the self-righteous seeking groups without a credible reason to further block out the use of Australia's EEZ as a food source. See dot points below.

It should also be noted that while the saucer scallop is the fastest growing scallop species it is the butterfly of the scallop kingdom in that it only lives for 2 to 3 years; whereas other scallop species used for meat production live much longer. A particular example is the Canadian and US Atlantic sea scallop fished from the Georges Bank that takes 5 years to reach market size but lives up to 20 years.

Consequently when Australian 'experts' lock out fishermen from an area for 3 years most of the saucer scallops have died of old age and therefore were a total loss with no environmental benefit whatsoever; such is the wisdom of bureaucracy who govern from a distance!

The most important but least known and understood of this source of marine food is the long term sustainability of the provision for scallop meat as a beneficial food for the future world populations. This aspect is summarised by the following dot points sourced from FAO statistics and is universal in all scallop species used for food production -

- Scallop meat is as nutritious as red meat.
- Scallop culturing is far less demanding of water than the production of red meat.
- Scallops culture requires far less space than cattle, the prime source of red meat.
- Scallops are environmentally *beneficial* as they are filter feeders and cleanse their habitat water therefore do not require additional food supply that can pollute oceans.
- Scallops are sedentary by nature and do not pose any threat to other marine creatures.
- Global food production on land is in decline through urban spread so the focus must now be on the oceans that cover over 70% of the world's surface, to provide world's future food needs.

These authentic and unequivocal points testify that any objection to using Australia's huge fertile EEZ waters for the production of this particular food is a fallacious argument totally without any factual substance and can no longer be used to prevent the use of Australia's unpolluted ocean water. This is evident in the IPCC present struggle to remain credible and its lack of success in that regard.

The culturing of scallops is not new to Australia as over a decade ago Queensland Sea Scallops Pty Ltd (QSS) was formed by seafood processors, fishermen and other relevant businesses to nursery hatch scallop spat and seed Qld Hervey Bay waters to grow scallops to market size in 12 months. This exercise was aided technically by the Queensland DPI Bribie Island Research Station along with Gov Grants to bolster the fishing industries significant financial input, which is a proven success.

Indeed QSS operations had shown their goal of producing 9,000 tonnes of scallop meat per annum from the Qld Gov allocated 72 sq km of coastal water was able to be sustained.

Regrettably QSS no longer operates due to an event entirely unrelated to the culturing of scallops or the conduct of the operation. QSS had been offered for sale but the chosen buyer was found, after over a year of procrastinations in payments, to have been a bankrupt when signing the purchase papers. This caused a huge loss to QSS original owners, but the technology is now known and is being used.

Finally an insight into the scope of an Australian agri/mariculture combination.

The United Nations Food and Agriculture Organisation (FAO) has recorded that the world's farmed scallop production exceeded wild catch in 2003 and has since increased annually by 10%. Furthermore scallop and other bivalve meats rank highly within the top 10 marine foods consumed globally.

Compare the 72 sq km that QSS proved can produce 9,000 tonnes of scallop meat per annum with the 2,194,008 sq km area of the Australian Shelf (12n mile width of coast water) and there is an unlimited opportunity to become a dominant global producer of a top nutrient valued food source. There are 15 countries that automation will deliver huge benefits in the reduction of scallop meat processing costs.

As time went by the more I learnt about the fishing industry I had entered, the more I realised the similarity of agriculture and mariculture. Indeed from the view point of a primary producer of live stock that used fresh water on land, I can now recognise that the culturing of scallops is only different to dry land farming in that mariculture uses salt water.

This was emphasised during my initial market research a decade ago through Austrade, when I was introduced to Robert Saunders of Island Scallops just out from Vancouver in Canada's east coast British Columbia. At that time Robert was in the first stage of cross breeding the Japanese indigenous Yesso scallop with the Alaskan Weathervane scallop.

Through the years I have kept in contact with Robert and he has succeeded in his cross-breeding, which is tantamount to land livestock cross-breeding of cattle, sheep and other livestock. Robert is now breeding "Island Scallop" spat and supplying this new breed of scallops to farmers to grow. This is one example of things to come.

FAO research shows that the global need to develop our planets future increase of food production will come from the 70% area covered by oceans, which must be included in any Australian planning to contribute to food production in order to supply nutritious sustenance for the growing world populations.

Australia has an almost unlimited sustainable capacity in using its EEZ ocean water with the aid of expertise that has produced quality food on land since settlement at Botany Bay, i e Australian farmers.

There are ample proven and well established mariculture operations in Japan and China to confirm that the QSS hatching and growing to maturity of Australia's indigenous saucer scallop is no longer a hypothetical risk operation but a dependable high growth rate certainty for an international enterprise.

Indeed with such an abundance of suitable water at hand, Australia is assured of being the third largest world scallop meat producer, if not challenging for first or second place.

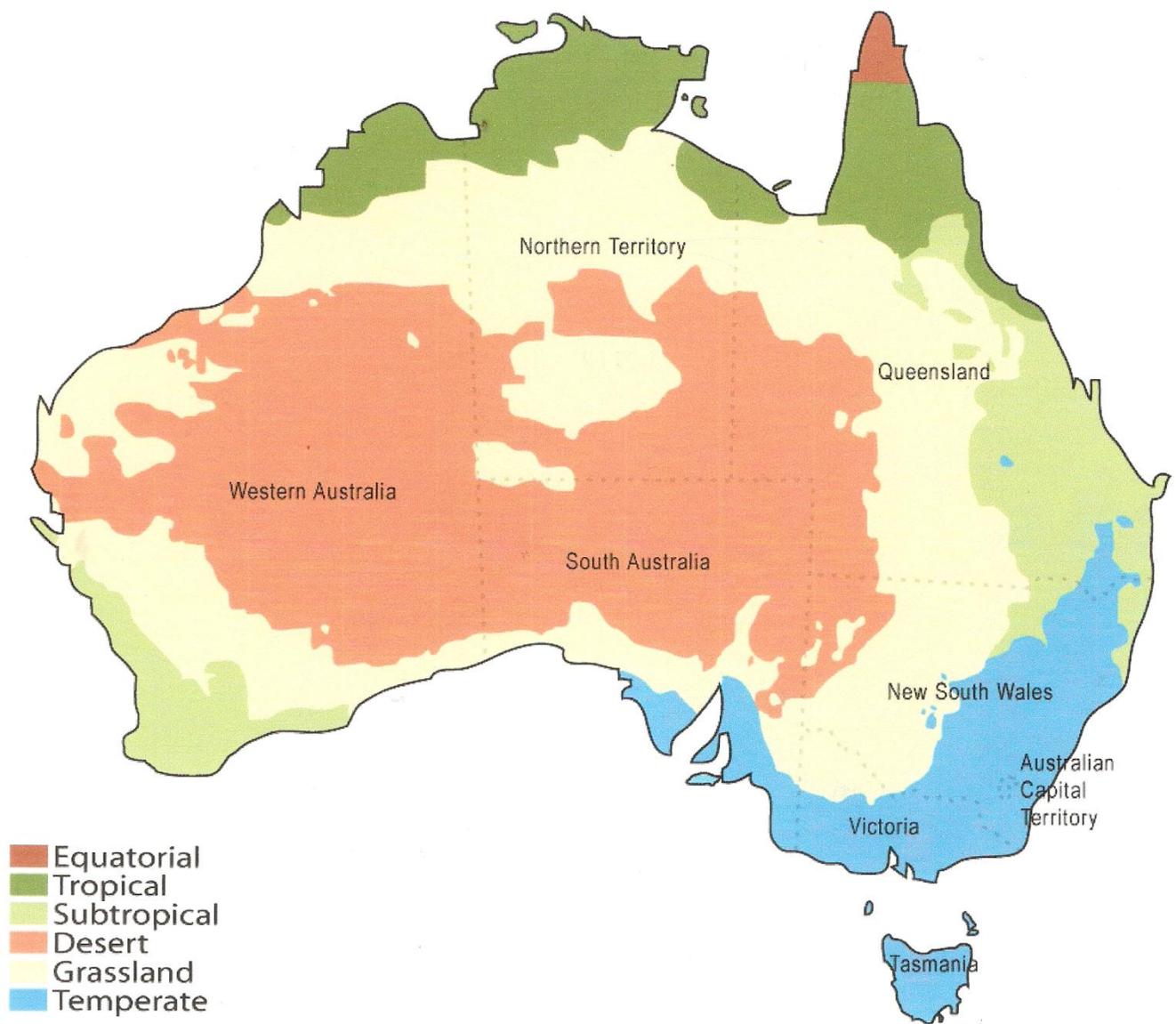
Trusting this is a submission worthy of consideration, I welcome comment and dialogue.

Graeme Boschen a pariah.

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Author's Note – There are many myths believed throughout the world and also in Australia with regards to population and food. It is understandable for overseas people to form a wrong perception when viewing this vast island/continent on a world map. Australia's ability to harbour a huge population and produce enormous volumes of food is indeed incongruous to its land area.

The Grassland shown above would bare other names around the world such as savannas, steppes or tundra, which range from luxurious down to the dry grasslands of Australia with marginal productivity. However, as a farmer who has experienced the productive capacity as well as the limitations of the land areas of Australia over several States, I find the local ignorance appalling and inexcusable.

I have observed that most of the Australians that falsely think we can cope with a huge increase of population and become a gigantic food source for the world are those who have only seen the lush pastures while driving or flying up and down the East Coast and assuming all Australia is similar. I have therefore included the above climate illustration to bring the reality to notice.

However the 200n ml wide Exclusive Economic Zone (EEZ) surrounding the above map, which has been prescribed by the United Nations Convention on the Law of the Sea decrees a State has special rights over the exploration and use of marine resources, which is over 1.3 times Australia's land mass. Importantly Australia's EEZ does not have the limitations imposed on this island's dry land. It is known globally that Australia's marine area is presently largely under-utilised and unpolluted and that it is a 'special right', not an ownership. The adage –'use it or lose it' is indeed apropos!