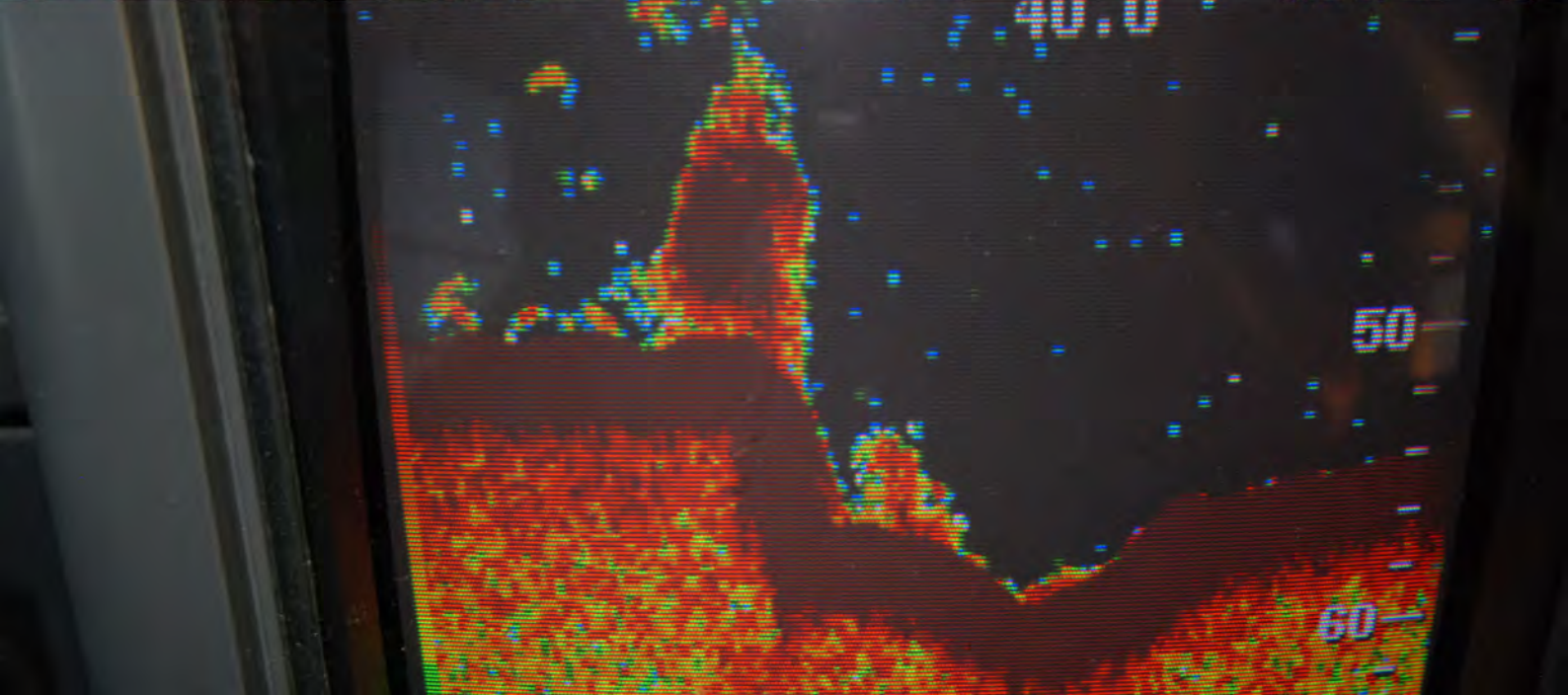




# Australia's Unappreciated and Maligned Fisheries

Walter Starck



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A Report for the



May 2012

Australian Environment Foundation

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## About Walter Starck

Walter Starck grew up on, an island in the Florida Keys and began catching fish in saleable quantities off the family dock at age five. At age six he helped his grandfather build his first boat with which he began diving using a face mask. He started scuba diving in 1954 (before scuba was a word). In 1964 he completed a PhD degree at the Institute of Marine Science of the University of Miami. In the process he determined that the world of academia was not to his taste so started his own business as well as a private research foundation. In 1968 he took delivery on a purpose built 150 ton research vessel, *El Torito*, and spent the next two decades exploring widely from the Caribbean to the Western Pacific. He arrived in Australia before boat people became unfashionable and in 1979 established a home base on a 164 acre rainforest property on the north shore of the Daintree River.

His main research interest has centred on coral reef biology and has included research grants and contracts from the National Science Foundation, Office of Naval Research and National Geographic Society as well as various private foundations and individuals. He has been a research associate of the Institute of Marine Science in Miami, the Bishop Museum in Hawaii, The Australian Museum in Sydney and the Western Australia Museum in Perth. His wide experience of reefs around the world has encompassed the full spectrum of conditions ranging from heavily impacted to untouched as well as several opportunities for decade or longer familiarity with individual reefs. His views on reef biology derived from direct observation are not always in accord with popular theories.

## *Foreword*

Australian marine waters encompass a vast variety and quantity of marine life encircling the globe's largest island, enabling Australia to lay claim to the world's third largest Exclusive Economic Zone.

Almost without exception, away from coastal and tourist influences, these waters are pristine, rarely visited and are home to the same number of fish species today as at European settlement.

However this is not the story told or believed by most Australians due to campaigns by Australian and international green groups to 'save' our marine waters, reefs and fish species. These campaigns are directed at achieving vast increases in Marine Protected Areas which would see Australia, by itself, creator of about half of the world's marine protected areas. These new MPA's will offer no net benefit from an environmental or economic viewpoint to the Australian people.

Proposals for extraordinary increases to MPA's are currently with the federal environment minister and have motivated the Australian Environment Foundation to request marine biologist Dr Walter Starck to prepare this report on Australia's fisheries and their management and the effects of proposed MPA's.

The report highlights there is no demonstrated need for further protection of marine areas or any justification for further restriction on commercial and recreational fishing based on freely available evidence.

Embracing the concepts of the globally accepted IUCN 'wise use' principles would remove much of the rationale for the large expansion of MPA's. As this report shows, the fisheries harvest in Australian waters is very low and declining, not from a paucity of fish stocks, but from management seemingly intent on reducing the Total Allowable Catch for which the main beneficiary will be other countries.

Harvesting seafood is the most environmentally sustainable means of food production, with none of the impacts of terrestrial livestock or cropping production. For this reason alone management should be charged with providing the maximum sustainable yield from a resilient resource.

Fisheries management and marine protection in Australia need a new vision.

This vision should embrace increased sustainable seafood harvesting to ease the demands on terrestrial food production, provide leadership in sustainable use of natural resources instead of placing an increasing environmental burden, by default, on other countries and provide an economic benefit from management costs.

The environmental benefits of such a vision are tangible.

Overwhelming evidence suggests that the desired results from the sustained juggernaut of environmental campaigning that has brought us to this point is not in the national interest and clearly produces perverse global environmental outcomes.

The assemblage of facts and evidence by Dr Starck present a compelling and disturbing overview of the incremental dissembling of a vital primary industry over the last four decades through increasingly unnecessary 'green tape' that is producing little or no additional environmental benefit.

Max Rheese,  
Executive Director  
Australian Environment Foundation

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## EXECUTIVE SUMMARY

The prevailing perception of Australian fisheries is one of a heavily exploited resource. The evidence presented in this report is not just “my” evidence but is rather “the” evidence. It comes from a variety of easily verified sources. It irrefutably indicates that Australia’s marine resources are in reality much greater, healthier and more under-utilised than is widely imagined.

### Australia’s Exclusive Fishing Zone

Australia has the largest *per capita* fishing zone and lowest fisheries harvest rate in the world at about 1/30<sup>th</sup> of the global average. We also have the most restrictive and costly marine resource management. Two-thirds of our seafood consumption is imported. All of these imports come from much more heavily exploited resources elsewhere.

### Australian Fisheries Production and Economic Value

The production, value and profitability of Australian fisheries are all in long term decline. Seafood imports currently cost about \$1.7 billion annually and must be paid for by mineral exports or add to a chronic deficit.

Well managed reefs can sustain an average harvest rate of 15,000 Kg/Km<sup>2</sup>/yr. The average harvest rate for the Great Barrier Reef is 9 Kg/Km<sup>2</sup>/yr.

### Australian Fisheries in Context

In discussions of Australian fisheries words like *sustainability*, *precaution*, *delicate*, *threatened*, *endangered* and *biodiversity* are applied liberally; but, the simple truth is that no marine fish or invertebrate has ever been exterminated by fishing and none in Australia are even remotely threatened in this regard.

Thailand supplies 25% of our seafood imports and their fishery zone is about 1/20<sup>th</sup> that of Australia. The Australian catch is about half that of New Zealand or Netherlands and is on a par with Finland, Poland, and Germany.

#### *Some key facts regarding Australian fisheries:*

- No marine species in Australia are threatened with extinction by fishing.
- No severe population collapse due to overfishing has been documented in Australia.
- No reduction in marine biodiversity from fishing has been documented in Australia.
- The overall harvest rate for Australian fisheries is the lowest of any nation.
- The productivity of Australian waters is not unusually low.
- The catch rate of Australian fisheries is indicative of healthy stocks, not of overfishing.

## (EXECUTIVE SUMMARY cont'd)

### MPA Mania

Establishing vast Marine Protected Areas with no clear assessment of need, efficacy or consequences amounts to large scale environmental meddling.

MPAs are an ill-considered and expensive idea which addresses no demonstrated problem.

The Law of the Sea Treaty, under which we claim EEZ rights, provides that exclusive rights to resources are dependent on utilisation. Huge MPA areas and a fisheries harvest rate at 1/30<sup>th</sup> of the global average sets the stage for a future petition by Asian nations for access to our vast underutilised EEZ areas.

Australia has the world's largest MPA area where it is needed least.

The only significant environmental effect of MPAs is to further restrict fishing when we already have the world's most highly restricted marine fisheries.

The proposed Coral Sea MPA is the biggest and most ill-advised of all the proposed MPAs because:

- a. Most Coral Sea islands and reefs are already protected as national parks.
- b. All Coral Sea fisheries are already subject to highly restrictive AFMA management.
- c. The existing GBR National Park already affords protection of all Coral Sea species and biotopes in the world's largest coral reef MPA.
- d. The Coral Sea is one of the world's prime yellowfin tuna fishing grounds. We now produce a few hundred tonnes from the Coral Sea where previously Japanese fishermen had sustainably produced around 30,000 tonnes annually for many years. Meanwhile PNG licenses Asian fishing companies to fish the same migratory stocks in their waters. They currently catch about 750,000 tonnes while all our tuna fisheries only catch about 15,000 tonnes. We then import some \$165 million in canned tuna each year. We "save" our fish for Asian fishermen to catch and then sell back to us.

Australians are paying a high price for gross resource mismanagement in our cost of living, our health, our freedom and in the broader wellbeing of the nation. The proposed MPAs will only contribute to these costs with no benefit to the environment at all.

### Management

The management of Australian fisheries is the most expensive, restrictive and least productive in the world. Every year increasing management costs are delivering only further decreases in production, participation and profitability.

The fundamental purpose of management for utilisation is to deliver increased productivity, efficiency and profitability. In this regard our management has failed abysmally.

Self-proclaimed excellence by managers is always bolstered by assertions it's all based on sound science; however; if actually examined, the available scientific evidence either does not support the claims being made or even refutes them.

The extensive use of computer modelling in fisheries management is poorly founded, unverified, highly uncertain and often grossly misleading.

## (EXECUTIVE SUMMARY cont'd)

The management of Australian fisheries is overwhelmingly by office workers with little or no real world experience of the fisheries they oversee. With only a few years classroom training in generalised and largely untested theories about complex and poorly understood natural systems they are charged with authority over multimillion dollar industries.

Management of our fisheries has become divorced from the realities of the industry, the real nature of the resource and any factual consideration of its actual condition and dynamics.

Ecology is above all holistic. Every organism must have effects in order to exist. We are no exception. Aiming to maximise our beneficial effects and minimise our detrimental ones requires trade-offs and balances in which we seek to spread our demands across our whole resource base within the bounds of sustainability.

Every resource we lock up puts more pressure on others and makes balance more difficult. An unnecessary restriction in one place becomes an increased impact somewhere else. Of all major means of food production, fisheries have the least impact on the natural environment. Any food not produced by fishing must come from the land and come with greater environmental impact.

### **In the management of Australian fisheries three key points are apparent:**

- Claims of widespread overfishing at our levels of harvest are absurd.
- Fisheries are robust resources. There is little risk of irreversible damage from dealing with problems as they actually develop rather than invoking elaborate precautionary measures to avoid every imagined hypothetical possibility.
- Management which delivers orders of magnitude less productivity than no management at all requires a severe overhaul.

### **Recommendations**

1. Benchmark fisheries management and research budgets to industry production. Link salary bonuses to improved production.
2. Base management decisions on empirical data not predictive modelling.
3. Proposals for additional Marine Protected Areas must be based on demonstrated needs and provide measurable balanced benefits.
4. Direct involvement of fishing industry representatives in decision making processes on fisheries management.



## Introduction

The prevailing perception of Australian fisheries is one of a heavily exploited resource under threat from over fishing, pollution, habitat destruction and climate change. This view is widely shared not just by the general public but also by scientists, fisheries managers and even many fishermen. Suggesting that the real nature of the resource might be far larger, healthier and much less exploited than is widely believed immediately raises the objections that so many experts couldn't be wrong and why should anyone believe just one person's dissenting opinion.

One of the most important lessons from history is that most people most of the time are wrong, not about everything but often about some very important things. Much of what is believed to be unquestionable truth at any time is later viewed as ignorance; and, there is nothing to indicate we have now finished that process. Rational evidence based science has been our most powerful means of better understanding the world we live in and avoiding nonsense beliefs. Genuine science is not determined by opinion, no matter how expert. The evidence is the final arbiter.

The evidence presented in this report is not just "my" evidence but is rather "the" evidence. It comes from a variety of sources and is easily verified. It includes peer reviewed primary research journals plus reports from various government bodies, NGOs and international agencies such as the UN and OECD. It clearly and irrefutably presents a very different picture of Australia's marine resources which are in reality much greater, healthier and more under-utilised than is widely imagined.

If so, how could so many people be so wrong? Actually, the answer is not hard to understand. The marine environment is out there; underwater and largely out of sight. In truth we really don't actually know much about it at all and most of the purported "experts" are in fact office workers dealing mainly in estimates, assumptions and theories.

Another misperception about overfishing that is prevalent even among many fishermen rests on the fact that intensive line fishing makes fish wary and harder to catch. A common example of this occurs around many docks and piers, where one can often find dense schools of resident fishes exposed to almost constant fishing, but which are extremely difficult to catch. At the other extreme, on isolated oceanic reefs that have rarely or never been fished, fish are very easy to catch. Any small object dropped in the water will attract attention and may be mouthed by curious fish. Under such circumstances, fish may even be caught with a bare un-baited hook.

In areas that are relatively frequently fished, underwater surveys often reveal surprisingly abundant fish populations. It is worth noting also that it is these same relatively few areas that are frequently fished which tend to be the basis of many fishermen's perception of overfishing. Reduced catchability then, rather than actual decreased abundance, is often mistaken for overfishing.

Interestingly it is widely known among fishermen and fishing lure manufacturers that new techniques and lures that are at first highly effective tend to become much less so as they are more widely used. Good fishermen are always experimenting with new methods, baits, and lures. Less skilled fishermen do nothing different until they see everyone else doing it. They remain behind the curve and blame their poor catches on a lack of fish.

If some of my criticism of current marine management seems overly harsh or perhaps even intemperate it is because the claims being made are not just arguably incorrect but grossly and sometimes even dishonestly so. Nor is this matter only an academic dispute. It has had devastating effect on hundreds of honest hard working fishing families and it has sentenced millions of Australians to an impaired quality of life by depriving them of the many proven health benefits of an increased consumption of seafood.

### Australia's Exclusive Fishing Zone

Australia, with the third largest fishery zone in the world and the largest by far *per capita*, has the lowest harvest rate of any nation at only 3% of the global average.

If the EEZ area and catch of Australia is compared with that of other nations in the region, it is readily seen that the Australian fishing zone is the largest and the catch the smallest, with the differences being in orders of magnitude.

Until a few years ago low productivity was not even mentioned. It became a convenient explanation only after I pointed out in public debate that claims of widespread threats from overfishing were grossly inconsistent with a harvest rate that is only about 3% of the global average and less than half of 1% that of Thailand, our biggest supplier of imports.

Suddenly, an inexplicable black hole in oceanic productivity was proclaimed and the Commonwealth Minister announced that "... *Australia is in the middle of, you might say, a fish desert.*" Strangely, oceanographic science seems never before to have noted this remarkable phenomenon until it was needed to explain dubious claims of overfishing despite having only tiny harvest rates.

I then pointed out that global marine primary productivity measurements from satellite monitoring showed no unusually low productivity around Australia. Amazingly, the initial response to this was a claim that the most productive fisheries are on the continental shelves and we had only a small shelf area. This argument was equally uninformed because Australia has the second largest shelf area of any nation. Australia also has about 10 times the shelf area of our nearest neighbours N.Z. and PNG but less than half the fisheries catch of either.

The shelf area nonsense was also quickly shelved and the claim then became that the productivity figures were only averages and a large area of exceptionally high productivity in the north meant that the productivity of most of our waters was very low. This argument is just as ill-founded and smacks of desperation. Productivity everywhere varies widely with time and place, and ours is not in any way unusual in this respect nor is it even particularly low at its lowest. It also raises a further question regarding the absence of major fisheries associated with the area of highest productivity.

If, indeed, Australian waters were so poor it would be obvious to any fisherman with experience elsewhere and would be reflected in a very low catch per unit of effort. On the contrary, above average abundance is clearly apparent. If the fish in our waters were as few as is being claimed they would literally have to come from miles around to dive into fishermen nets and traps or onto hooks to account for the rates at which they are caught.

The ill-informed and shifting arguments used to defend the idea of a meagre over exploited resource make it clear that there is no genuine scientific basis for the claims being made. The lack of interest

in and even angry rejection of good evidence to the contrary also makes it apparent that the real agenda is not actually a concern for the resource itself but rather the pursuit of other agendas for which environmental concerns provide a convenient moral and pseudo-scientific cloak.

## Australian Fisheries Production and Economic Value

### Commercial fishing -

The following thumbnail overview of Australian fisheries comes from the most recent ABARES report, *Australian fisheries statistics 2010*.

In 2009–10

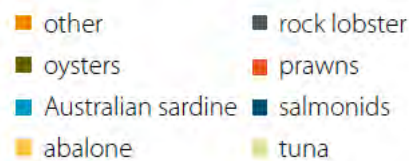
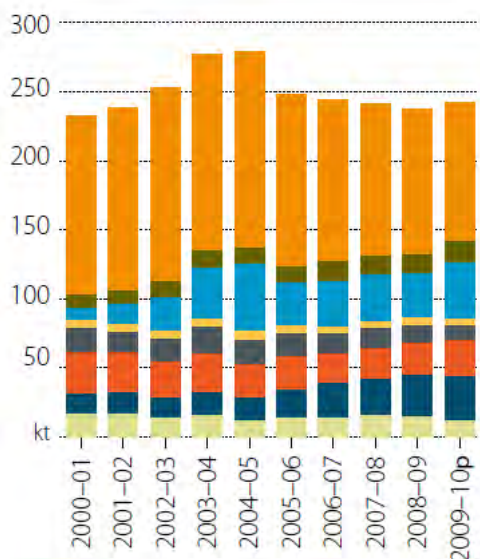
*“Tasmania accounted for the largest share of gross value of production (26 per cent),....”*

*“The value of farmed salmonids rose by 13 per cent to \$369.1 million in 2009–10. Farmed salmonids continue to be the largest aquaculture species group produced, and also the most valuable fisheries product in Australia. Salmonids accounted for 42 per cent of the total value of Australian aquaculture production and 17 per cent of the total value of fisheries production.”*

*“In volume terms, the largest species produced is Australian sardines. However Australian sardines are a relatively low value product, mainly for use as baitfish.”*

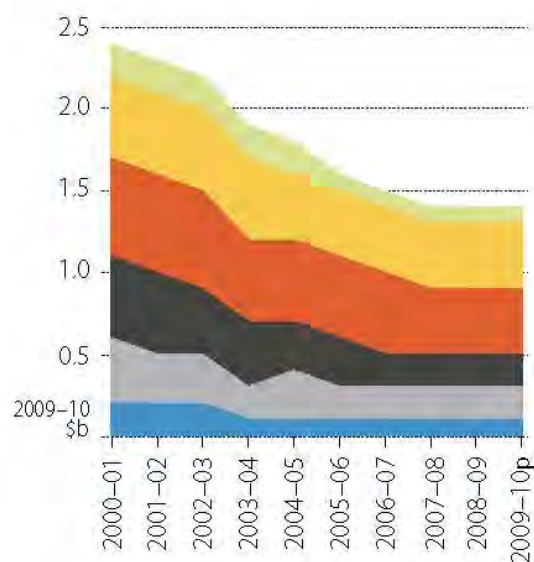
The estimated employment in the Australian fishing industry in 2006 from Australian Bureau of Statistics census data was 15,939.

### 1 Volume of Australian fisheries production



p Preliminary

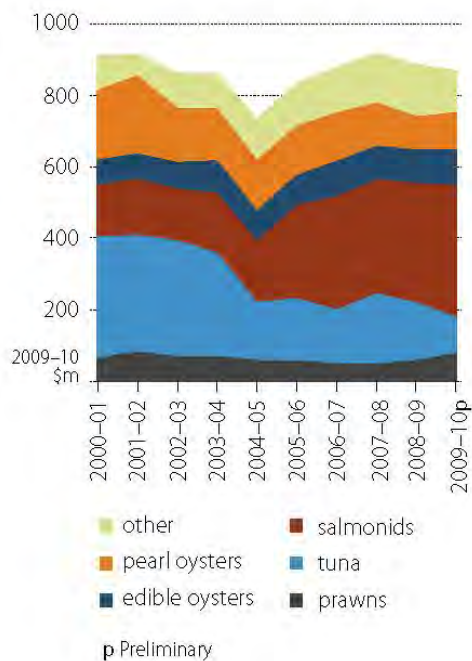
### 10 Real value of Australian wild-catch production



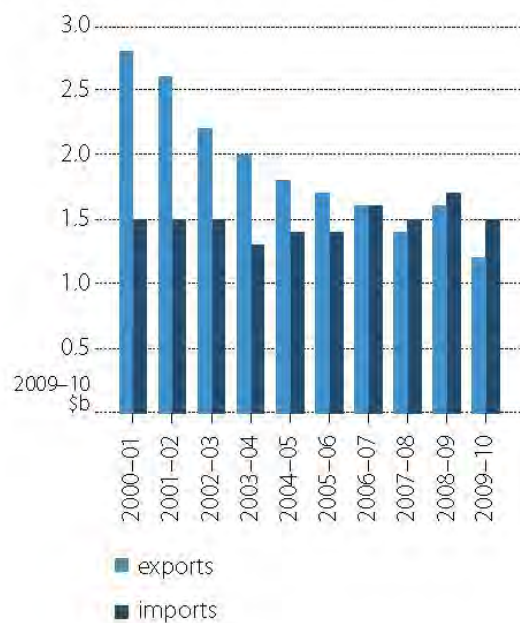
p Preliminary

It is readily apparent that apart from salmon farming in Tasmania the overall trend in Australian fisheries and aquaculture is one of declining production and value.

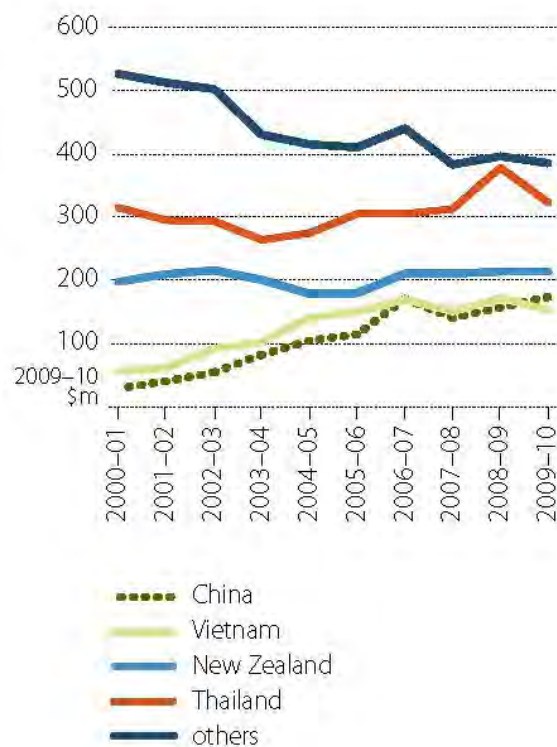
## 11 Real value of Australian aquaculture production



## 12 Real value of Australian fisheries exports and imports



## 18 Real value of Australian imports of edible fisheries products (excluding live), by source



Note – The above graphs numbered 1, 10, 11, 12 and 18 above are from ABARES report *Australian fisheries statistics 2010*

### *Recreational and Indigenous Fishing -*

The most recent National Recreational and Indigenous Fishing Survey (NRIFS) was conducted in 2000–01. The 2010 ABARE report summarises as follows:

*“The ABS (2003) estimated that more than 5 million Australians participate in recreational fishing in Australia and that the sector supports about 90 000 Australian jobs. Ridge Partners (2010) estimated that about 3.4 million Australians engage in recreational fishing each year, directly contributing an estimated additional \$2.5 billion to national and regional economies.*

*“The NRIFS indicated that Indigenous fishers in northern Australia harvested approximately 900,000 finfish, 1.1 million molluscs, 660,000 prawns and yabbies, 180,000 crabs and lobsters and smaller numbers of other species during the survey year.”*

*“Based on the NRIFS, Henry and Lyle (2003) estimated that 186,200 Indigenous people (excluding those living in the Torres Strait) participated in non-commercial fishing during the survey year and that a total expenditure of \$22.52 million was incurred by these fishers.”*

Two items of note in the NRIFS report not mentioned by ABARE were the indigenous dugong and turtle harvest and the recreational catch figures for Murray cod. Indigenous fishing harvested 1,600 dugong, 6,000 saltwater turtles, 14,000 freshwater turtles and 40,000 turtle eggs. These numbers seem remarkable in view of the alleged “threatened” status of these animals and the level of concern expressed over their occasional accidental catch by commercial fishermen.

The Murray cod is another “threatened” species. A widely cited NSW Fisheries survey in 1995-96 reported that: *“A telling indication of the condition of rivers in the Murray region was the fact that, despite intensive fishing with the most efficient types of sampling gear for a total of 220 person-days over a two-year period in twenty randomly chosen Murray-region sites, not a single Murray cod or freshwater catfish was caught.”* The Murray cod commercial fishery was closed in 2001.

The Recreational Fishing Survey estimated that during the survey period recreational fishers caught 483,284 Murray cod of which 374,932 were released and 108,352 weighing 144,222 Kg were kept. As is so often the case the claims and concerns of devout environmentalists and even fishery biologists bear no relation to real world evidence. The astounding disparity between the catch of the expert biologists and that of the recreational anglers underscores the problem faced in biologists having sole responsibility for management of a fishery.

## Social and Health Values

### *Social values-*

The social value of recreational fishing tends to be greatly overlooked and undervalued. It is a healthy outdoor activity which is enjoyed by millions of people of all ages and socio-economic backgrounds. It not only provides entertainment but is also an all too rare opportunity for different generations to share in a mutually enjoyable experience involving a whole range of differing skills and knowledge.

### *Health benefits-*

While lifestyle and environmental contaminants are important contributors to health problems, the biggest and most readily addressed factor is what we eat. The modern diet loads us with an excess of saturated fats, trans-fats, sugar, salt and refined starch in the form of highly processed food products laced with a cocktail of additives to enhance flavour, texture and colour and to retard

spoilage. What is missing is a host of essential vitamins, minerals, trace elements, antioxidants and other nutrients lost in processing and depleted in the products of industrialised agriculture and animal husbandry. Also missing are the synergies which arise from the combinations of nutrients found in whole natural foods.

Like animals raised on formulated pellets, we grow fast, big and fat but are prone to old-age disorders beginning in early mid-life. Studies of human populations who have exceptional longevity and health in old age repeatedly find consumption of low levels of processed food, high levels of fresh vegetables, low levels of red meat and often high levels of seafood.

Water is the universal solvent. All of the trace elements and minerals necessary to life are in sea water. Every one of the ninety-two naturally occurring elements is there and, except for a few inlets and bays, human pollutants remain at far lower levels in the sea than are present in most agricultural and grazing land.

Recent large-scale clinical and epidemiological studies published in the world's leading medical journals have reported a broad range of health benefits associated with seafood. Of especial importance are those associated with omega-3 fatty acids which are low in most foods from the land but are abundant in seafood.

Regular consumption of seafood (two or more meals per week) has been found to provide significant health benefits in three broad categories. These are cardiovascular; immune system related; and conditions involving neurological development and functioning. Regular seafood consumption correlates with low levels of heart disease as well as reduced incidence of asthma, arthritis, osteoporosis, diabetes, multiple sclerosis, hypertension, migraine headaches, certain cancers, age-related maculopathy and some kidney diseases. It has also been shown to enhance brain development and has indicated significant cognitive and behavioural benefits for children. In adults it has been found to be significant in reducing aggression, depression and moderating schizophrenia as well as enhancing cognitive functioning in old age. The old wives were right. Fish really is a brain food and mismanaging our fisheries is quite literally stupid.

The difference in incidence of these disorders between countries with high levels of seafood consumption and our own population would save billions of dollars each year in our health care system and contribute hugely to a greatly improved quality of life for millions of people if only we would realise this and implement it.

The Japanese have much higher rates of smoking than we do. They also eat a lot of salt and have higher levels of hypertension, but nevertheless, they still have much lower rates of heart disease and lung cancer. This pattern also occurs in other countries with high levels of seafood consumption; but, Japanese Americans living in Hawaii and eating a more Western diet have much higher levels of heart disease. Epidemiologists think that the most likely explanation is the protective effect of high levels of seafood consumption.

Although government and health care professionals are aware of the desirability of greater seafood consumption and some efforts are being made to promote this, no formal cost-benefit assessment has been conducted and there is little appreciation of the actual magnitude of potential benefits either financial or societal. It seems highly probable that increased seafood consumption in Australia

could save billions of dollars every year in health care costs while at the same time hugely improving the quality of life for millions of people.

## Aquaculture

Aquaculture is the fastest growing sector in world food production. Since 1970 global aquaculture production has increased by over 1200% at an average compound growth of over 9% per annum. Australia, with some 60,000 km of mostly undeveloped coastline well suited for aquaculture, a benign climate and unpolluted waters, clearly has vast potential, yet development of the industry has been weak. Globally aquaculture production now equals some 60% of wild caught fisheries. In Australia it is only half that proportion and the wild caught fisheries themselves are extremely low compared to other nations.

Although the small size of Australia's industry has been attributed to higher cost structure there is obviously something more to it than this. Certainly Australian costs for land, labour, equipment, power and feedstock are at no great disadvantage to Canada, France, Japan, Norway, the UK, or the U.S. Why then, with more coastal area per capita than anyone else in the world, are we importing 70% of the seafood we consume and why is our aquaculture industry so small?

If you speak to a few people in the industry the real reason soon becomes obvious. In a word, it's bureaucracy. The costs, delays, restrictions and uncertainties imposed on aquaculture are simply unworkable. A growing morass of ill-founded, poorly drafted, overly broad and irregularly applied environmental regulations is becoming an increasing impediment to a broad range of economic productivity. While this imposes a significant burden on already well-established activities, these at least have a background of extensive experience thus focusing regulatory attention mostly on recognized problems that at least have some basis in reality. With new industries such as aquaculture, however, the limitless realm of possibility tends to become the subject of expensive hypothetical solutions to imaginary problems under the banner of the precautionary principle. The resulting costs, delays, restrictions and uncertainties now effectively bars the development of new industries.

Under the illusion we are saving the environment, all we are doing is increasing our impact somewhere else. At the same time we are degrading our own quality of life and with it our capacity to address real problems that do exist.

The ultimate effect is glaringly obvious. Despite having thousands of kilometres of undeveloped coastline ideal for aquaculture, it is said that the State Development Office in Queensland has not had a new application for aquaculture in the past 7 or 8 years.

By far the largest and most valuable aquaculture sector in Australia is salmon farming in Tasmania. This industry has flourished because it became well established before environmental restrictions became too onerous. However, even Australia's largest and most successful aquaculture operation, the salmon farmer Tassal, is now doubtful about the viability of future expansion here. Despite an outstanding environmental record, employment of over 700 people and being named the nation's most respected company in the agriculture, forestry and fisheries sector, bureaucracy and restrictions are forcing them to consider seeking future expansion elsewhere.

## Australian Fisheries in Context

You hear and read a lot of eco-waffle regarding marine resources—words like *sustainability*, *precaution*, *delicate*, *threatened*, *endangered* and *biodiversity* are applied liberally—but the real situation in the ocean is not nearly so dire or dramatic. These are emotive terms dressed up as scientific ones. They lend an aura of importance and urgency to hypothetical speculations when seeking extravagant funding to address imaginary problems. The simple truth is that no marine fish or invertebrate has ever been exterminated by fishing and none in Australia are even remotely threatened in this regard. The only truly endangered marine species in Australia is the Australian commercial fisherman.

Our fisheries management is not about saving endangered species or beneficial use of resources. It is all about bureaucratic empire building, grant-seeking researchers and political pandering for green votes.

All of the prophesying, hand waving, emotive terminology and impressive statistics have little real meaning until they are placed in some context which provides a sense of reality and proportionality. If we start to consider Australian fisheries in the context of real world evidence a very different picture emerges. For example:

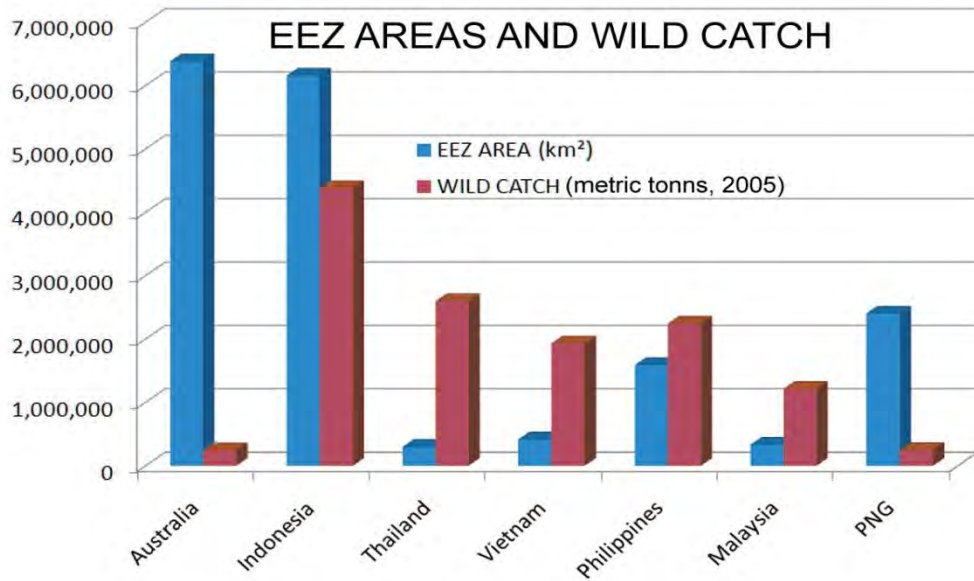
An examination of some comparative fishery statistics for Australia and our northern neighbours is instructive. These fishery production figures are for 2005.

<u>COUNTRY</u>	WILD CAUGHT (Metric Tonnes)	AQUACULTURE (Metric Tonnes)	EEZ AREA (km <sup>2</sup> )	SHELF AREA (km <sup>2</sup> )	PRIMARY PRODUCTIVITY (mgC/m <sup>2</sup> /day )	HARVEST RATE (kg/km <sup>2</sup> /yr)
Australia	245,935	47,087	6,384,731	2,182,962	513	39
Indonesia	4,381,260	1,197,109	6,159,032	2,039,381	685	711
Thailand	2,599,387	1,144,011	299,397	230,063	702	8,682
Vietnam	1,929,900	1,437,300	417,663	365,198	700	4,620
Philippines	2,246,352	557,251	1,590,780	272,921	356	1,412
Malaysia	1,214,183	175,834	334,671	323,412	962	3,628
PNG	250,280	-	2,402,288	272,921	363	104

Note that the PNG wild caught harvest is almost entirely tuna. Their catch in 2010 had risen to almost three-quarters of a million tonnes. This is about 4 times greater than the total wild caught fisheries harvest for all species in Australia. The Australian tuna catch is limited to less than 15,000 tonnes. PNG has about 37% of the EEZ area, 13% of the shelf area and about 70% of the average marine primary productivity of Australia.

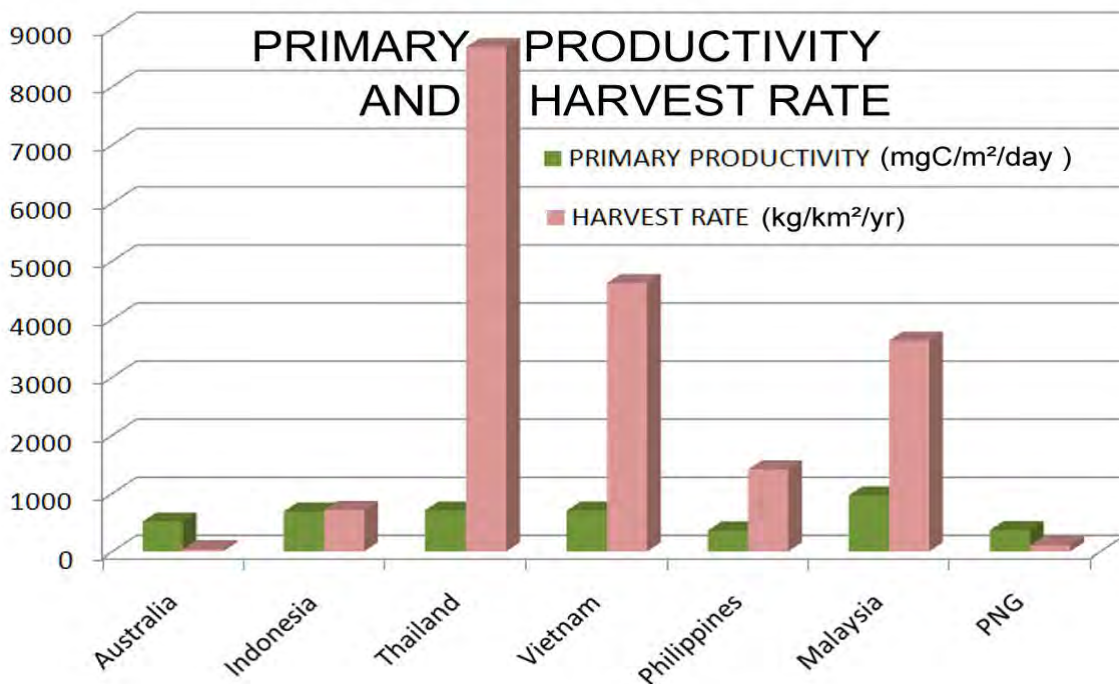
With the largest EEZ area our catch is the smallest. Thailand, our largest source of imports, produces over 10 times our total catch with less than 5% of our EEZ area.



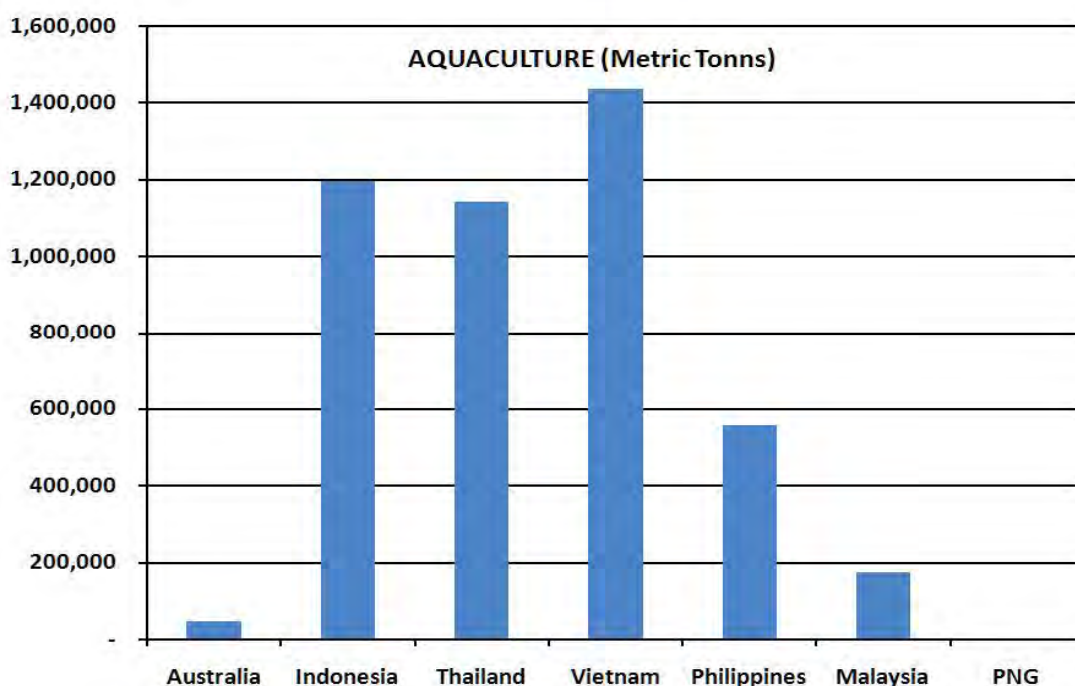


Low productivity waters is perhaps the biggest furphy of our fisheries mismanagement. If indeed our waters were so poor it would be reflected in a very low catch per unit of effort. To the contrary, above average abundance is readily apparent.

To believe otherwise one must accept that despite being almost non-existent compared to anywhere else, our fish somehow conspire to be caught at rates higher than where they are supposedly 30 or even 200 times more abundant.



Even if true, low natural productivity does nothing to explain why our aquaculture development is even feebler than that of our fisheries. Incidentally, Japan's aquaculture production is 15 times larger than Australia's and the EU's is over 40 times larger. SE Asian aquaculture compared to Australia looks like this:



### Imports

Over recent years about 70% of seafood consumed in Australia is imported and a CSIRO study projects a 400% increase in consumption over the next one and a-half decades. The largest single source of these imports is Thailand which supplies 25% of the total. Australia's fishery zone (EEZ) is over 20 times larger than that of Thailand and the shelf area, which provides most of the catch, is nine times larger.



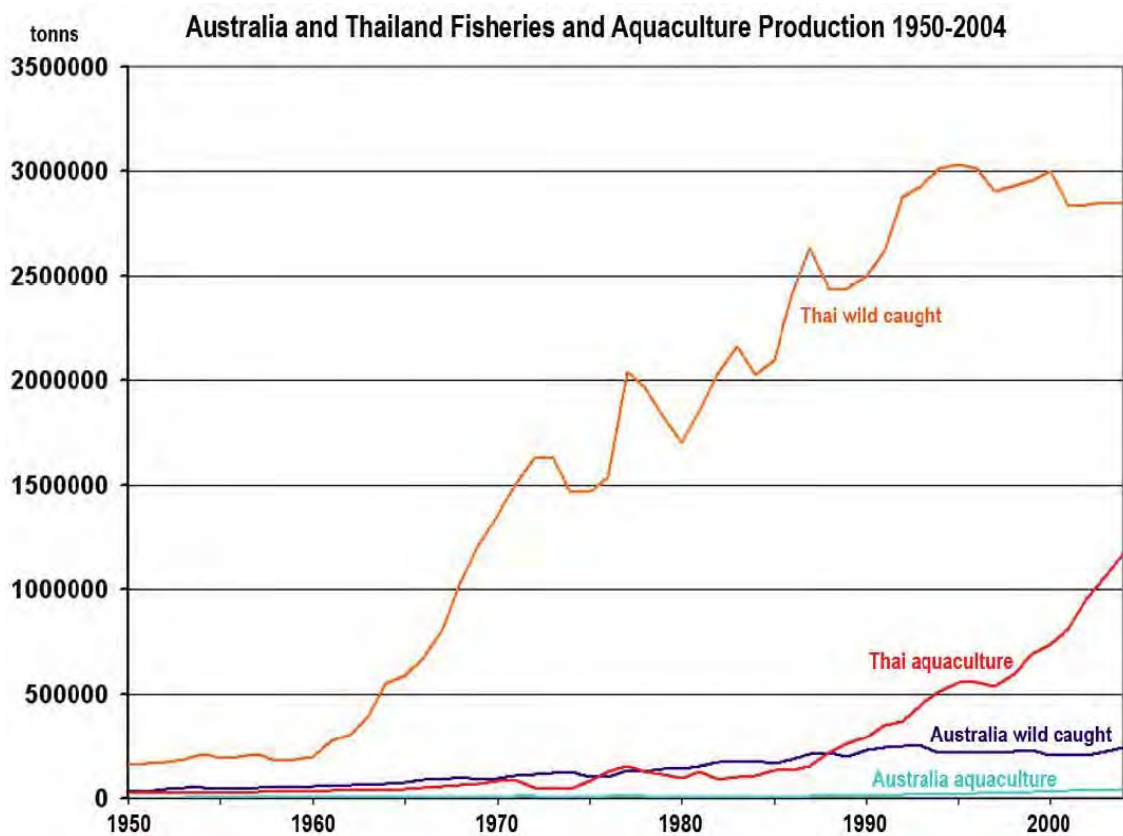
Australian and Thai EEZ areas

In 2004, wild caught Thai fishery production was 11 times larger than Australia's and aquaculture production was 30 times greater. When the size of fishing zones is taken into account the discrepancy is astounding. On an area basis the Thai wild caught production in 2004 was 250 times greater than that of Australia.

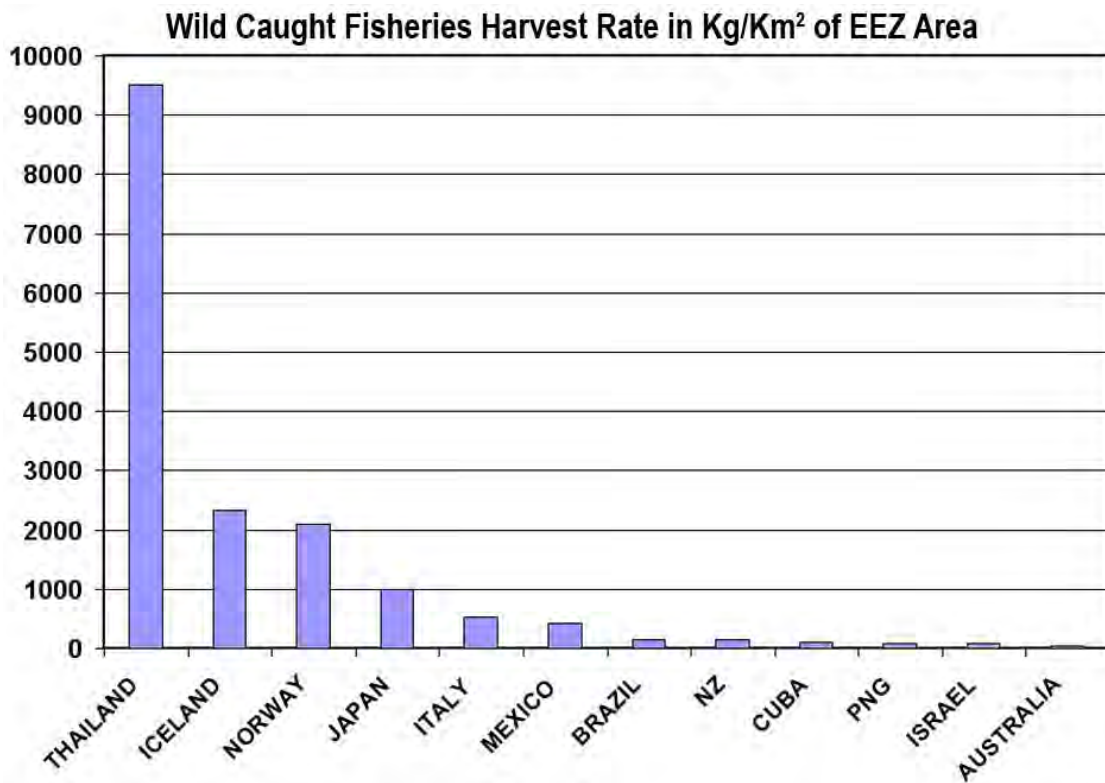
#### Thailand and Australia Fisheries Comparison

- |  |
|--|
| <p>Thailand has:</p> <ul style="list-style-type: none"> <li>• <math>\frac{1}{9}</math>th the shelf area of Australia</li> <li>• <math>\frac{1}{20}</math>th the EEZ area of Australia</li> <li>• 11 times more wild caught production</li> <li>• 30 times larger aquaculture production</li> <li>• 250 times greater harvest rate</li> </ul> |
|--|

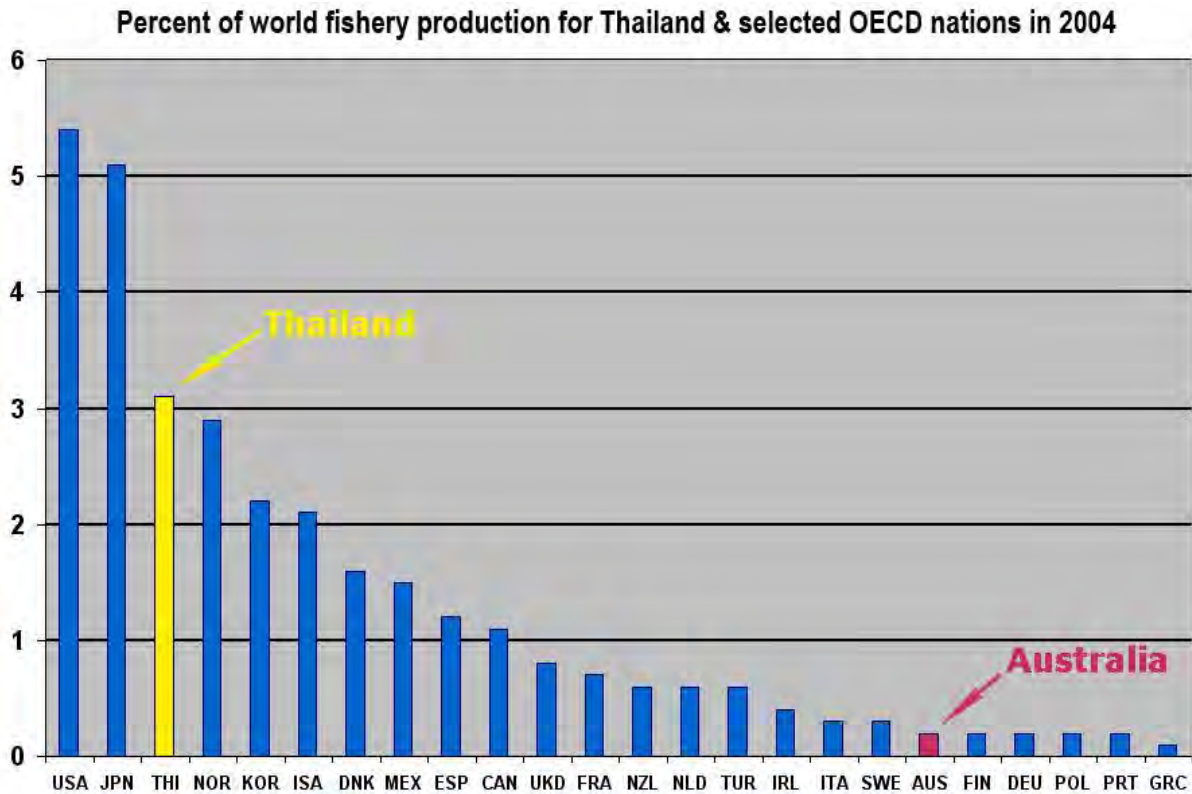
A comparison of Australian and Thai fisheries over time is instructive as well.



A comparison of the harvest rate per Km<sup>2</sup> of EEZ area is even worse.

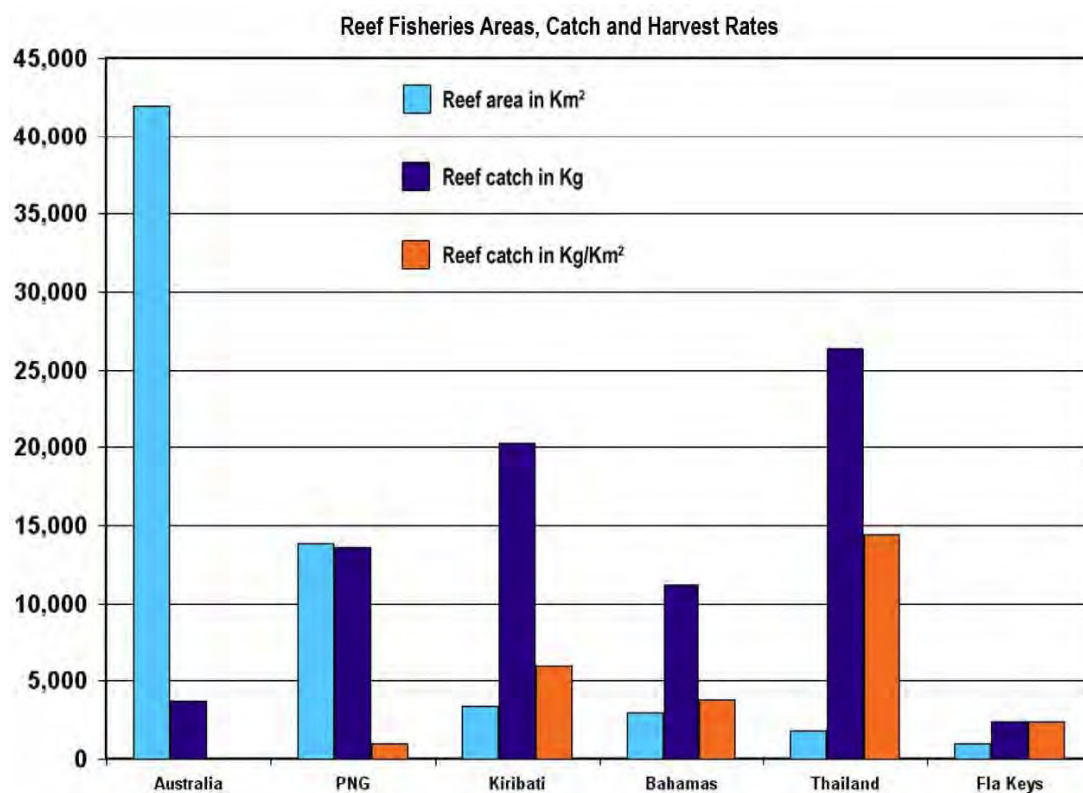
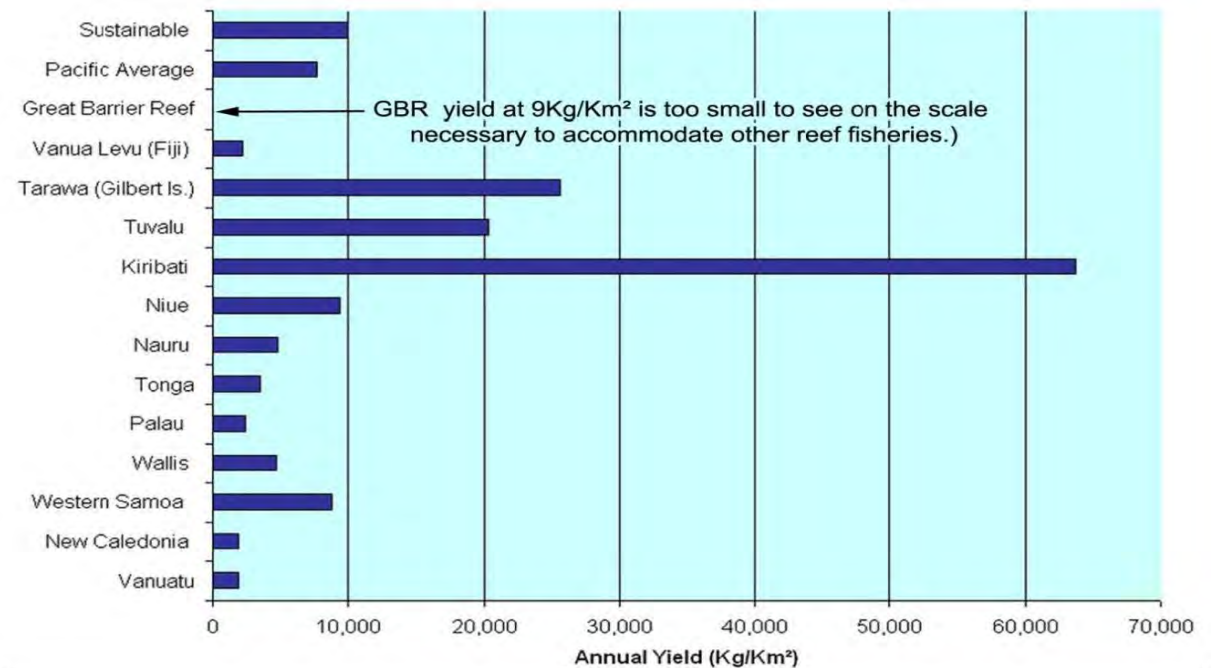


Compared to a broad sample of OECD countries the disparity remains. Total Australian production is half that of New Zealand or Netherlands and on a par with Finland, Poland, and Germany.



Thailand's entire fishery zone is actually only about 85% the size of the Great Barrier Reef park area. Their area of coral reef however is less than  $\frac{1}{20}$ th that of the GBR. Their catch of reef dwelling groupers and snappers (e.g. coral trout and emperor) is similar to the GBR and their catch of mackerel is much larger. In addition to reef fish however their total catch from the same area is about 1000 times greater! A comparison with a sample of other reef areas is equally informative.

### Annual Yield per Km<sup>2</sup> for Various Pacific Reef Fisheries



The reef catch rate for Australia's GBR fishery is too small to be visible on a scale necessary to accommodate the rates common elsewhere.

The World Resource Institute is a conservation NGO which produces a global coral reef status report every few years. Their survey is produced by contributing researchers from the various regions covered. In their latest report published in 2011 they state that well managed reefs can sustain a harvest rate of 15,000 Kg/Km<sup>2</sup>/yr. The average harvest rate for the Great Barrier Reef is 9 Kg/Km<sup>2</sup>/yr. That's only 90 grams per Ha and well below 1% of the sustainable average for reefs elsewhere.

The reality of this situation is readily observable to anyone making an extended reef cruise or a flight over the reef. Away from proximity to the few small population centres, boats are rarely seen and one passes reef after reef with no vessel anywhere in sight. It does not require a PhD and a computer model to figure out that no boats means no fishing.

Still, the "experts" tell us that the GBR is "threatened" by overfishing and a complex morass of restrictions has been created to address this problem.

As a result locally caught reef fish is in short supply and most species sell for prices in the range of \$25-\$50 *per* kilo and, even with the relatively small population in this region; the supply is so inadequate that most fish in local shops must come from elsewhere.

#### *The Northern Demersal Scalefish Fishery*

The NDSF on the NW shelf off Broome in Western Australia is another clear example. It is a small trap fishery limited to 6 boats with a fishing ground of over 200,000 Km<sup>2</sup> or about 30,000 Km<sup>2</sup> per boat. With the number of boats, traps and fishing days permitted it would take some 500 years to fish the entire grounds just one time and there are still larger areas both inshore and offshore that are not being fished at all.

In the 1970s and 80s a fleet of large Taiwanese pair trawlers operated extensively in this region under license from Australia. Based on a widespread sample of over 25,000 hours of trawling using 100 metre wide pair trawls, they estimated a sustainable annual yield of 250,000 tonnes of demersal fish for the same area. All this was published in one of the world's leading peer reviewed marine science journals, *Acta Oceanographica Taiwanica*.

Their estimated sustainable catch is some 300 times more than the 800 tonne maximum yield imposed by current management. It is also more than the current total wild catch of all Australian fisheries.

Could this be possible? Actually, the Taiwanese catch comes to about a tonne *per* square Km or 10 Kg. *per* Ha. This is not extreme at all and is comparable to moderately good trawling grounds elsewhere in the world.

It is also consistent with estimates based on the extensive trap catches. It amounts to a small fraction of 1% of the primary productivity of the area. This is further confirmed by echo sounder, line fishing and video evidence of abundant fish throughout the fishing grounds.

The only thing not in accord is the output from computer modelling conducted by office workers a thousand kilometres away in Perth, who in two decades of management have never even seen the fishery.

The management of the NDSF trap fishery repeated 100-fold around the country is what is wrong in Australian fisheries management. It is simply a fantasy not even credible at first glance if accorded the most rudimentary quantitative examination.

**Some key facts regarding Australian fisheries:**

- No marine species in Australia are threatened with extinction by fishing.
- No severe population collapse due to overfishing has been documented in Australia.
- No reduction in marine biodiversity from fishing has been documented in Australia.
- The overall harvest rate for Australian fisheries is the lowest of any nation.
- The productivity of Australian waters is not unusually low.
- The catch rate of Australian fisheries is indicative of healthy stocks, not of overfishing.

### MPA Mania

Marine Protected Areas (MPAs, a.k.a. green zones) are a current fad in marine resource management (and yes, science does have its fads). Where renewable resources are overexploited some form of restriction is desirable. MPAs are but one of a range of restrictive measures that may be employed. Whether they offer any advantage or disadvantage to closed seasons, catch limits, limited licensing or other restrictions has not been assessed.

As one might expect, there is evidence that in heavily exploited regions there are more and bigger fish in protected areas and some of the protected population will spill over into the immediately adjacent area. However, the spill over effect that has been observed has only been apparent over a distance of a few hundred metres. In this respect lots of small reserves might be more effective than fewer larger ones although this is contrary to the current management idea that MPAs need to be much larger.

One would also reasonably expect that the increased populations and spill over effects would be proportional to the fishing pressure. Where only light pressure exists not much effect should be expected and indeed this has been what has been found with the closed reefs on the Great Barrier Reef.

From a fisheries management standpoint a key question is whether the increase in catch just outside a reserve is greater than what is lost by having the reserve itself. Or, to put it differently, is it better to protect a portion of an area and concentrate impact on the remainder or to spread the harvest over the whole and limit it by other forms of restriction. At present we simply don't know and until such assessment has been made the establishment of extensive MPAs amounts to large scale environmental meddling with no clear idea of efficacy or consequences. Ironically, this is in direct disregard to the precautionary principle so often cited as justifying the immediate need for such measures.

Most importantly there is no urgent need for extensive MPA's in Australia and we can afford the time to learn more and know what we are doing instead of imposing costly and un-needed measures that may create more problems than they address.

*20 good reasons why MPAs in Australia are a useless solution to a non-problem*

1. MPAs are an ill-considered and expensive idea which addresses no demonstrated problem. Bypassing full parliamentary scrutiny while permitting a single minister to exercise personal discretion in implementing a vast, costly, unneeded network of MPA's is gross misgovernance.

2. The claim that international treaty obligations require establishment of the planned MPAs is untrue. Pandering for Green votes is the only real purpose.
3. *The UN Convention on Biological Diversity* deals primarily with sustainable development and the agricultural and bio-medical uses of natural resources. It imposes no demand for MPAs or obligation for any specific conservation measures. However, Article 10 (c) of this Convention does require signatories to, "...protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements..." "Customary" and "traditional" in this context is not limited to indigenous peoples. Under this convention the obligation to protect and encourage the customary use of recreational and commercial fishing by non-indigenous Australians is in no way distinct from the obligation to protect such use by indigenous Australians.
4. The *Global Representative System of Marine Protected Areas* is an initiative of The World Conservation Union (IUCN). The IUCN is an NGO based in Switzerland. Their stated mission is to: "*influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable*". One of their objectives is the establishment of a global representative system of MPAs. An objective by an NGO creates no specific obligation under international law or treaty. It should also be noted that even the IUCN has explicitly recognised that trivial increases in environmental protection should not be pursued using highly restrictive and economically expensive measures.
5. The *Law of the Sea Treaty*, under which we claim Exclusive Economic Zone rights to the areas outside 12 nautical miles from land, provides that exclusive rights to resources depends on utilisation. Provision is made that other nations may petition for access to unutilised resources. Huge MPA areas combined with a fisheries harvest rate at 1/30<sup>th</sup> of the global average and excessive demand for seafood imports set the stage for a successful future petition by Asian nations for access to our vast underutilised EEZ areas.
6. Australia already has about 25% of total global MPA area. The Coral Sea and other planned expansions will then comprise about 50% of the global total. Biodiversity protection obligations are already over-fulfilled.
7. MPAs in Australia are not really about preserving marine biodiversity at all. There is no known instance of any marine species in Australia which has been lost through human impacts and none that are now threatened by fishing.
8. At present, no need for or benefit from, extensive MPAs has been shown to exist and it would be prudent to await accumulation of further knowledge to establish them if and when indicated in accord with increasing knowledge. Current scientific understanding is simply not adequate for a soundly based large scale implementation of MPAs. The crash program of MPA implementation amounts to large scale environmental meddling with no proper assessment of need, efficacy or consequences.



9. MPAs do nothing to address pollution or climate change. Their sole effect is to further restrict fishing when we already have the world's most highly restricted marine fisheries.
10. MPAs, closed seasons, size limits, bag limits, quotas, gear restrictions, limited licenses and access restrictions have been imposed willy-nilly on fishing with little or no evidence of any problem and no consideration of socio-economic impacts. It seems that current management has never seen an additional restriction they find unnecessary or superfluous to those already in place.
11. Australia has the largest *per capita* fishing zone and lowest harvest rate in the world at about 1/30<sup>th</sup> of the global average. We also have the most restrictive and costly marine resource management in the world. Two-thirds of our seafood consumption is imported. All of these imports come from much more heavily exploited resources elsewhere. This is unconscionable.
12. Having most of the world's MPA area where it is unneeded does nothing to preserve global marine biodiversity.
13. Seafood imports cost \$1.7 billion annually and must be paid for by mineral exports or add to the chronic trade deficit. Selling off a non-renewable resource to buy a renewable one we have in abundance while adding to an unsustainable deficit is simply bad management.
14. Fisheries have the lowest detrimental impact on natural ecosystems of any food producing sector. Restrictions on fishing only further increase the already higher impact of terrestrial food production.
15. Holders of fishing rights have committed to large investments in both money and years of their lives on the assurance that their rights were, secure, permanent and tradeable. Their licenses are in fact a contract with government and under contract law the terms and conditions of their rights cannot be legally changed without either their full knowledge and consent or fair and just compensation. Compensation for the fishing industry as a consequence of the expanded green zones on the GBR has cost over \$200 million and is still not completed. Similar compensation for the national MPA network could exceed this by an order of magnitude. All that is just to close down productive activity without even considering the ongoing long term economic loss.
16. Over recent years numerous large scale clinical and epidemiological studies published in the world's leading medical journals have found significant health benefits from increased seafood consumption for a broad range of neurological, cardio-vascular and immune related conditions. In particular it affords significant reduction in obesity, heart disease, depression, aggression and age related mental deterioration. It is also important in mental development and functioning in children. Translated into reduced health care costs, it could save Australia billions of dollars per year not to mention the improved quality of life for millions of Australians. We need to be looking at how to expand our underutilised fisheries

and aquaculture potentials, not seeking to find more imaginary reasons to close them down. Imposing more and more restrictions on our fisheries is quite literally contributing to national stupidity and ill health.

17. The proposed Coral Sea MPA is the biggest and most ill-advised of all the proposed MPAs because:
  - a. Most Coral Sea islands and reefs are already protected as national parks.
  - b. All Coral Sea fisheries are already subject to highly restrictive AFMA management.
  - c. The existing GBR National Park already affords protection of all Coral Sea species and biotopes in the world's largest coral reef MPA.
  - d. The Coral Sea is one of the world's prime tuna fishing grounds. We now produce a few hundred tonnes from the Coral Sea where previously Japanese fishermen had sustainably produced around 30,000 tonnes annually for many years. Meanwhile PNG licenses Asian fishing companies to fish the same migratory stocks in their waters. They currently catch about 750,000 tonnes while all our tuna fisheries are only allowed to catch about 15,000 tonnes. We then import some \$165 million annually in canned tuna. We "save" our fish for Asian fishermen to catch and then sell back to us.
  
18. Why, at a time when government is struggling with deficits and trying to stimulate economic activity, do we need to be taking on additional millions of dollars in expenditure to address a problem which does not exist and further curtail productive activity and employment?
  
19. All Australians are already paying a high price for gross resource mismanagement in our cost of living, our health, our freedom and in the broader wellbeing of the nation. The proposed MPAs will only contribute to these costs with no benefit to the environment at all.
  
20. In current economic conditions adding more and more ill-conceived restrictions onto our food producers is tantamount to a betrayal of national interests. It is time that positive outcomes be required, not just meaningless eco-waffle. It is also time for real evidence to be demanded for claims, not just unsupported opinions by a chorus of "experts" seeking more funding. Over the past year there is indication that the electorate has begun to realise that government has not been entirely truthful about climate change and other environmental matters; and, that we are all paying a punishing price to buy the votes of a small minority of ill-informed urban Greens "concerned" about things they have never seen, know nothing about and in which they have nothing invested.

## Management

A browse through the websites and publications of the various state and commonwealth bodies involved in Australian fisheries reveals numerous claims to excellence and even assertions of being the "world's best" in fisheries management.

A few years ago the managing director of the Australian Fisheries Management Authority (AFMA) described their management as "... *actually leading the world in this stuff*" and "*It is cutting edge.*"

In reality the management of Australian fisheries is the most expensive, restrictive and least productive in the world. Every year increasing management costs are delivering only further decreases in production, participation and profitability while managers bask in self-awarded accolades. In a number of smaller fisheries, management costs more than the GDP of the fishery. Money could be saved by just paying the fishermen not to fish and dispensing with management!

The fundamental purpose of management for utilisation is to deliver increased productivity, efficiency and profitability. In this regard our management has failed abysmally. Every significant fishery here has suffered substantially decreased productivity, efficiency and profitability. In all cases the decline is primarily attributable to management imposed charges, restrictions and demands, not any decline in the resource. In no instance has management yielded any improvement to a fishery. Management that delivers only declining productivity, efficiency and profitability is contrary to the very concept of management.

Current management emphasises protection, precaution and sustainability; but, in itself, this is a no-brainer. To achieve these aims, all that is required are high levels of restriction. Good management, however, must also entail productive utilisation of resources and maximising their socio-economic value, not just locking them up to “protect” them.

Claims of excellent management are always bolstered by assertions it’s all based on sound science. Examination of global fisheries management literature presents a different picture. The proliferation of fisheries management here is relatively recent and little in the form of widely regarded studies or positive results has been forthcoming. However, there has been repeated appeal to alleged scientific findings which, if actually examined, either do not support the claims being made or even refute them.

Mostly, this scientific charade consists of “expert” opinions, computer models and a liberal dose of important sounding techno-waffle devoid of any clear meaning. Although terms such as sustainability, biodiversity, ecosystem-based management, ecologically sustainable development, computer models, precautionary, overfishing, threatened and endangered all do have technical definitions, they have also become undefined colloquialised terms of emotional index.

This style of eco-speak, bureau-blather and techno-gibberish sounds impressive, means little and misleads without outright lying. Its real purpose is to provide an aura of scientific sophistication along with an element of emotive appeal without actually committing to anything for which anyone could be held accountable.

#### *Computer models uncertain*

In the past, maximum sustained yield was the ideal and monitoring the performance of a fishery was the primary methodology of management. Now we have a new generation of biologists schooled in theories and enthralled by sophisticated computer models based on simplistic assumptions about complex and highly variable phenomena of which we genuinely understand very little. Although such models may be of value in gaining insights about the possible dynamics of a resource, their output is fraught with many uncertainties.

Typically they require generous tweaking to yield results that are within the bounds of credibility – and their output tends to reflect more the assumptions, aims and adjustments of the modeller than anything in reality.

From a bureaucratic perspective computer modelling has much to offer. It can be done from an office in office hours. It lends an aura of high tech sophistication and credibility. Results can be adjusted to suit any desired outcome. The methods, inputs and assumptions can be claimed to be intellectual property and so not open to independent examination. What's not to like?

The only thing lacking is the only thing that actually counts for real science and that is verification; but, fortunately for management nobody seems interested in that anymore.

#### *Experts without experience*

Genuine expertise is usually self-evident and needs no claims. Whenever it is self-proclaimed, as is common in Australian fisheries management, it is usually also doubtful. The researchers charged with the management of Australian fisheries are academic office workers most of whom have little or no real world experience of the fisheries they oversee. With only a few years classroom training in generalised theory about complex and poorly understood natural systems they are charged with making critical management decisions determining the viability of multimillion dollar industries. Typically this is done from an office hundreds of kilometres away from the actual activity they are supervising and which in many cases they have never ever actually seen. Worse yet, their decision making power is unilateral, discretionary and final with no accountability for outcomes, no oversight by a board of directors and no answerability to actual stakeholders.

#### *Environmentalism*

On top of all this has come the rise of environmentalism and a growing attitude that primary producers are exploiters who need to be severely curtailed if not stopped altogether.

To many urbanites the environment has acquired a near sacred status. Though themselves voracious consumers, they are divorced from the production that supplies their demands. Those who provide their needs are seen as greedy exploiters and defilers of the sacred. Even more ironically, their own chosen lifestyle is one which has virtually annihilated the natural world in the environment in which they choose to live.

No matter how sound the supporting evidence, any suggestion that an environmental problem may not be as dire as feared receives only angry rejection from environmentalists, never hopeful interest. Their commitment is to the problem, not to a balanced solution, and the stake holding they so righteously claim is one assumed with no investment in money, knowledge or experience.

The reality of a constant struggle for survival in a dynamic ever changing world has been replaced by a romantic notion of nature in a blissful state of harmony and balance: something pure and perfect where any detectable human influence is by definition a desecration. This sacred perspective of the environment manifests itself in language where fragile and delicate become almost mandatory adjectives in describing the natural world.

A peculiar corollary of all this has been the enshrinement of the precautionary principle as mandating that any imagined possibility of an environmental effect must be addressed with full measures to prevent it. Unfortunately this formulation makes no reference to probability, cost, or

consequences of risks and it offers a ready cloak for sundry other agendas. In fact, it would even preclude itself as everything we do or don't do entails risk, including precautionary measures themselves. Amazingly, this vacuous and pernicious piece of nonsense has even been written into the enabling legislation for the Australian Fisheries Management Authority.

#### *Privatisation*

The idea of limited entry fisheries and catch quotas was sold to fishermen on the basis that this would provide valuable, secure and tradable rights that would in effect be their own superannuation fund. Experience has proved otherwise. Once initiated with generous catch quotas to get the mugs into the tent, quotas have typically been reduced to a level where it becomes necessary to either sell out or buy more rights. This has worked well for sellers deciding to take a healthy one-time payment and get out; but, it has saddled the active fishermen with high debts. It has also served to squeeze out independent individual fishermen with more and more of the most valuable fisheries becoming the private property of a few bigger corporate operators and investors who buy rights which they then lease to fishermen who cannot afford to buy any more themselves.

The end result has been the demise of the independent fishermen, a high bar to entry for younger fishermen, monopolisation of a public resource by corporate and absentee owners, shortages of supply and exorbitant prices for consumers.

#### *Management divorced from reality*

Management of our fisheries has become divorced from the realities of the industry, the real nature of the resource and any factual consideration of its condition and dynamics. Fishing is a demanding and uncertain, often even dangerous, business. The ability to bear added costs and restrictions is not unlimited and their imposition should only be imposed with due care.

The marine communities upon which fisheries are based are not fragile and delicate, but rather robust and flexible ones that readily undergo and recover from frequent natural perturbations. There is little risk in monitoring fisheries and addressing problems if and when they become apparent, rather than trying to take elaborate pre-emptive action to avoid an endless array of imaginary possibilities.

#### *Ecology is above all holistic.*

Every organism must have effects in order to exist. We are no exception. Aiming to maximise our beneficial effects and minimise our detrimental ones requires trade-offs and balances whereby we seek to spread our impacts across our whole resource base within the bounds of sustainability. Every resource we lock up puts more pressure on others and makes balance more difficult. An unnecessary restriction in one place becomes an increased impact somewhere else. Any food not produced by fishing must come from the land and come with a greater environmental impact.

The economic and health costs of this mismanagement are already immense and they are increasing. A two to three fold increase in seafood consumption over the next several decades is projected and is expected to come from imports. However, with growth in economic development in Asia their demand for seafood is rapidly increasing as are prices. Meanwhile we have the smallest manufacturing sector in any developed nation, the highest foreign debt (growing at twice the rate of GDP), exploding imports and an economy increasingly dependent on raw commodity exports. Now our resource managers are assuring we will need to import still more.

Selling off non-renewable resources to buy a renewable one we could easily produce ourselves is apparently their idea of “sustainable management”.

This disconnect from reality in our fisheries management would be unbelievable were it not true. Most remarkable of all is that the media, the public and government have swallowed management's self-praise and bogus scientific claims without question despite the obvious ongoing decline in the industry. A succession of Labor, Liberal and National party ministers have presided over this debacle and been a willing mouthpiece for management disinformation. It would appear few have ever bothered to really listen to fishermen, noticed the empty berths and idle deteriorating vessels in fishing ports, wondered about the overwhelming predominance of imported seafood in supermarkets, examined the industry statistics or thought to look at what fisheries everywhere else do produce.

Steadfastness and optimism in the face of adversity are valuable qualities only if accompanied by an ability to assess and address the situation. “She'll be right”, in itself, is not good enough. The first step to effectively dealing with any problem is to recognise that it exists. The situation with our fisheries goes beyond a gross failure in management. It includes a widespread refusal to even consider that such a problem might even exist.

With a global economic slowdown looming and revenue in decline, government is looking for places to cut their budget. Fisheries management deserves to be near the head of their list. It's not just wasted money but is an expenditure that generates a massive negative multiplier. It has strangled an entire industry, created a large and growing bill for imports and is adding an unknown but surely significant amount to health costs. If the total economic cost of current fisheries mismanagement is compared to even a conservative estimate of what our fisheries could sustainably produce, the annual cost would have to be several billion dollars.

*In the management of Australian fisheries three key points are apparent*

- Claims of widespread overfishing at our levels of harvest are contrary to both reason and evidence.
- Fisheries are robust resources. There is little risk of irreversible damage from dealing with problems as they actually develop rather than invoking elaborate precautionary measures to avoid every imagined hypothetical possibility.
- Management which delivers orders of magnitude less productivity than no management at all requires a severe overhaul.

We like to think we are a clever country. This is a test.

## Recommendations

Just before his election as Prime Minister, Kevin Rudd announced he would take a “meat axe” to the bloated bureaucracy if he won office. Our environmental management agencies, and in particular marine management, deserve to be near the top of the list for such attention. Even if our tiny catch were indeed all our waters could sustain the ongoing trend of spending more and more on management where the resulting production and profitability become less and less is the antithesis of the fundamental purpose of management.

- Making bureaucratic budgets and authority subject to outcomes would yield a quantum improvement in governance. If this could be effected it really would be a “cutting edge” achievement in management.

Setting management and research budgets in accord with the production and profitability of the industry would bring a much needed discipline to bear. That is, make the manager’s own funding depend directly on the results of their management. This should also include modest base salaries with good bonuses for improved production and profits.

### *A more empirical approach needed*

A big problem with fisheries is that they are somewhere out there and underwater. Anything can be claimed but who’s to know? Actual knowledge is sparse and the little that is known is usually inferred and uncertain. The absence of real understanding and a proliferation of office based management coming straight from the degree mills with no actual experience of fisheries have resulted in a management approach based largely on theories and models. Empirical assessment of the actual resource is largely wanting and little regard is given the practical realities of the industry. The precautionary principle disposes of any uncertainties while the righteousness of saving the environment justifies any hardships imposed.

- In general a much more empirically based approach is needed. Management decisions should be based on what is actually happening in a fishery, not theories and models. In view of our ignorance and the complexity of the matters involved, it would also be prudent to test measures before applying them on a broad scale and to carefully assess their results when implemented.
- Proposals for additional MPA’s must be based on demonstrated needs and provide measurable balanced benefits.
- Much stronger involvement of the industry in formulating management measures is essential to ensure that the form of demands is appropriate to the practical realities of the fishery. This needs to entail a genuine industry voice in management decision making instead of the phony charade of consultation with government funded “peak bodies” that typically are nothing more than handbags for the bureaucracy to whom they are beholden for funding. Seats on the boards of management agencies for genuine industry representation with authority equal to management would seem highly appropriate.

Remote control management by theory without broad and ongoing assessment of actual conditions and results is a recipe only for continuing decline.

We now face an ongoing global financial crisis, a tightening oil supply crunch and emerging food supply problems. Continuing to add further ill-founded restrictions on our producers is tantamount to betrayal of national interests. It is time that positive results are demanded from management, not just waffle.

- It is also time that real evidence is demanded of researchers, not just unsupported opinions by a chorus of “experts” seeking more funding. Above all, it is past time for the public and government to realise that we are all paying the price of resource mismanagement in our health, in the cost of living and in the general well-being of the nation.

Above all, budgets and authority of management must be related to outcomes. Current fisheries management has become a sheltered workshop for otherwise unemployable academics who pretend to be managing vast and complex marine ecosystems by remote control from air conditioned offices. The science is only a sham. Their real guiding principle is environmentalist ideology aimed at prohibiting fishing, not at improving it.

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Numerous articles on Australian fisheries management by Walter Starck may be downloaded in .pdf format at:

<http://www.goldendolphin.com>