

Enmeshed

In a bureaucratic delusion

Walter Starck

The need for a more comprehensive and engaged policy for Australia in regional fisheries management is proposed in a new publication from the influential Lowy Institute for International Policy. It is entitled *Enmeshed, Australia and Southeast Asia's Fisheries*. The author, Dr. Meryl Williams is a senior resource manager having an impressive list of executive positions with various state, federal and international bodies in her accompanying CV. Her extensive administrative experience and the consistency of her opinions with those expressed by other high level resource administrators make it reasonable to think she reflects prevailing thinking in this area.

The main thrust of her study is that the fisheries of our near neighbours in S.E. Asia and PNG are overexploited and headed for collapse. These fisheries are said to support the livelihood of some 100 million people and Australia faces increasing problems from illegal fishing and management of shared stocks. Development of a more comprehensive and engaged policy aimed at improved regional fisheries management is strongly recommended. A short synopsis of the fishery situation for each country is provided. The high quality of our own management is asserted. The suggestion is that with due diplomacy we can show them how to do it right.

The publication and a recorded talk given at the launching may be downloaded from the Lowy Institute website <http://www.lowyinstitute.org/>. Both are well presented and would be convincing to those knowing little about the actuality of these fisheries. The reality is that while our neighbours do have little or no management of their fisheries they have a large and thriving industry while we have only a relatively tiny one in serious decline that is the most heavily and expensively regulated in the world.

The disconnect of our management from both the resource and the industry, here as well as there, is repeatedly exemplified in this study. Such disconnect goes beyond simple misunderstanding or difference of opinion. Belief that has little or no basis in fact and is overwhelmingly conflicted by readily accessible uncontested evidence can only be described as a delusion. When a delusion is unique to an individual it can easily be dismissed but delusions sometimes have a way of striking a chord of broad appeal and becoming widely accepted as truth. They can then become highly resistant to reason and evidence despite inflicting very real and obvious damage.

Our fisheries management is currently in the thrall of a multifaceted delusion that explicitly and implicitly contradicts obvious reality. Examination of the *Enmeshed* study from this standpoint is revealing. Specifically, let's look at what I will call:

The Seven Deadly Delusions of Australian Fisheries Management

1. Our fisheries are outstandingly well managed.
2. Our management is based on sound science.
3. Unmanaged fisheries are doomed to collapse.
4. The productivity of our waters is much lower than other nations and our extraordinarily low catch is already above sustainable limits.
5. Ongoing growth in domestic seafood consumption will be supplied by imports.
6. High quality fisheries management can be effected through remote control by office based “experts”,
7. Our management is a valuable model we should encourage others to adopt.

- 1. Our well managed fisheries** – On a number of management authority websites one can find the claim that we have the best managed fisheries in the world. Last year the managing director of the Australian Fish Management Authority (AFMA) described their management as “...actually leading the world in this stuff.” and “It is cutting edge.” Williams more modestly says, “Australia has established its place in the world as a very small fish producer, but a savvy one, endowed with valuable species, generally well managed fish stocks and with a good track record in research and management.” But is even this more moderate claim true?

Current management emphasises protection, precaution and sustainability; but, in itself this is a no-brainer. All it requires are high levels of restriction. Good management, however, also entails productive utilisation of resources and maximising their socio-economic value not just locking them up to “protect” them. Viewed in this perspective our management begins to look more like the worst in the world than the best.

Consider the following facts. With the third largest fishing zone in the world, and by far the largest on a per capita basis, we cannot even meet our own small domestic demand but must import most of the seafood we consume. All of these imports come from areas far more heavily fished than our own. Most of them come from SE Asia. This is easily verified by visiting any supermarket to see the overwhelming predominance of imported seafood and where it comes from.

Our fleet has been reduced by almost 75% over the past three decades. While management has steadily increased production and profitability in the industry are in ongoing decline. To confirm this just go to any fishing port and see the empty berths and unkempt vessels with “For Sale” signs on them.

Williams acknowledges, “Maintaining profitability in the competitive fishing sector is a constant struggle. In 2004, an ABARE study of Commonwealth-managed fisheries showed that, once all costs were included, several fisheries made no net economic returns to the country and that some were even a net economic drain.” However, no attempt is made to examine the reasons for this. The lack of net economic return in these fisheries is not because of overfishing but because of massive increases in management costs and multiple layers of demands and restrictions that have made efficient operation impossible. It is indeed true that

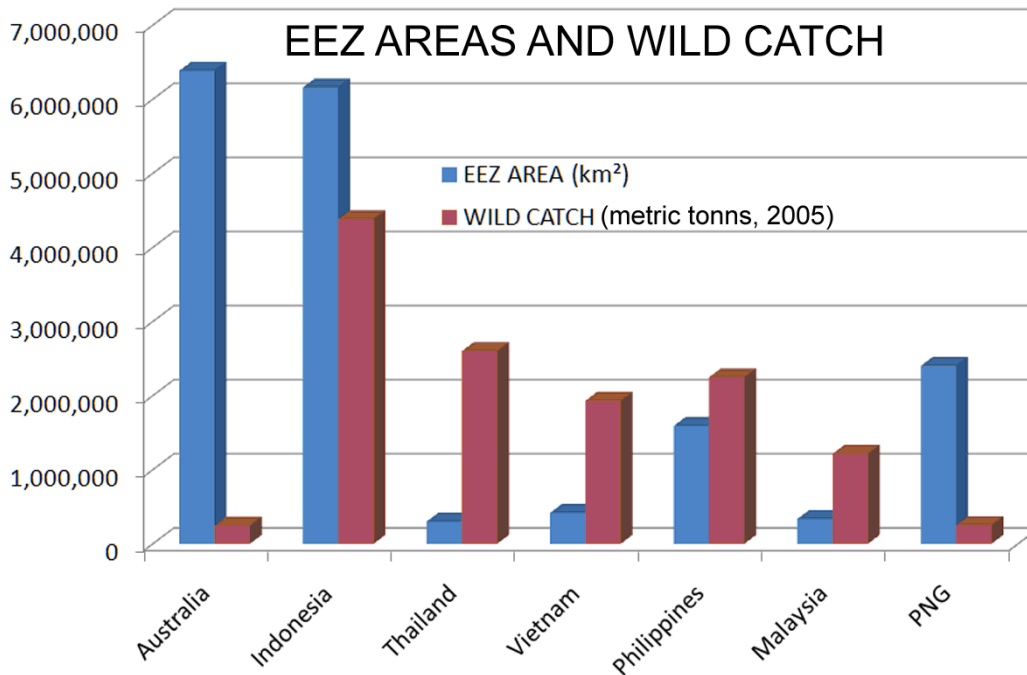
with several small fisheries more was and is being spent on “management” than they produce. Excessive management is the problem, not a declining resource or inherently uneconomic production.

Management of commonwealth fisheries is vested in AFMA. Their budget for 2006 was \$44 million. The Commonwealth licensed fleet they manage totals some 300 odd vessels, almost all relatively small by world standards. On a per vessel basis the cost of this management amounts to over \$100,000 per vessel.

The most recent ABARE statistics (2005-06) indicate the cost of AFMA management to be 16% of the gross value of the fisheries production. They also report that the value and volume of Commonwealth fisheries’ production has been declining since 2000. The value in 2005-06 of \$278 million was 48% less than the real value in 2000-01. They further estimate that that total employment in fishing, processing and wholesaling to be just under 20,000 persons based on 2001 census figures. In contrast, Williams estimates that 100 million people are dependent on fisheries in SE Asia.

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

<u>COUNTRY</u>	WILD CAUGHT (Metric Tonns)	AQUACULTURE (Metric Tonns)	EEZ AREA (km ²)	SHELF AREA (km ²)	PRIMARY PRODUCTIVITY (mgC/m ² /day)	HARVEST RATE (kg/km ² /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



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. The bottom line for our management to date has been a massive increase in cost and a declining industry. In view of cost and results the idea of Asians adopting our advice in this area seems improbable.

2. Sound science – Claims of excellent management are bolstered by claims that it’s all based on sound science. Examination of global fisheries management literature presents a different picture. Development of fisheries management here is relatively recent and little in the form of widely regarded studies or positive results has been forthcoming. There has however been a great deal of claim to alleged scientific findings which if actually examined either do not support the claims being made or even refute them.

Mostly, however, the scientific facade 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*, *computer models*, *precautionary*, *overfishing*, *threatened* and *endangered* all do have defined technical meanings they have also become ill-defined colloquialised terms of emotional index. This ambiguity provides an aura of scientific sophistication along with an element of emotive appeal. This style of eco-speak, bureau-blather, and techno-gibberish sounds impressive, means little and misleads without outright lying. *Enmeshed* is liberally sprinkled with such terms.

Sustainability is frequently referred to, particularly in the context of our neighbour’s lack of management resulting in dire threats to the future sustainability of their fisheries. It is interesting to note that in the graphs of wild caught production presented for each nation all save Australia and Thailand show clearly increasing trends in annual production. Remarkably,

even Thailand has only flattened despite a harvest rate some 220 times greater than Australia's.

Biodiversity preservation is another oft stated concern of our fisheries management however, not a single species of marine fish or invertebrate anywhere has ever been lost through fishing. When you have the world's lowest level of fishing pressure, worrying about something that hasn't ever happened anywhere seems unduly pessimistic.

Ecosystem based management is a currently trendy idea in fisheries management and *Enmeshed* does not fail to mention it. As an ideal it appears reasonable. Commercial species are part of complex interactive ecosystems and management should include wider ecosystem considerations. However, our understanding of and information about these ecosystems is very limited while our ability to control most important parameters is non-existent. In practice ecosystem management is more a delusion of grandeur than anything real. However, it does afford immense potential for claims of expanded managerial responsibility and concern.

Computer models are currently also much in vogue with scientific fashionistas. They go well with the idea of ecosystem management. In complex interactive systems such as ecosystems small differences in inputs or relationships often have large consequences over time. No accurate models of complex natural systems have ever been achieved. In the case of marine populations and ecosystems our knowledge is very sketchy. Current models might at best provide limited insight into possible influences of a few relevant factors. That such models may appear sophisticated and run on powerful computers in no way alters the fact that they are only crude and highly uncertain approximations of the real world. Ascribing undue credence to them is neither good science nor competent management. Basing management decisions on them displays a naive and profound lack of appreciation of the real nature of these systems. The appeal of modelling is chiefly that they can be done in an office, have an aura of high tech sophistication and without open access to the actual models anything can be claimed with little risk of critical examination.

Precautionary has become a blank cheque justification for almost anything desired by environmental management, especially when it can't really be substantiated. Properly employed it should only apply in situations where a reasonable probability of serious and irreversible environmental damage may exist. In fisheries this would be vanishingly rare. In actual practice, however, the precautionary principle is regularly applied to any hypothetical threat regardless of probability, seriousness or reversibility. It is simply another open cheque for management to fill in as they please. AFMA even uses it to impose catch restrictions where the only deemed "threat" is their own lack of knowledge about the resource. Lack of evidence for a proposed restriction thus becomes grounds for a restriction (Catch 22).

Overfishing in SE Asian fisheries is the central theme in the *Enmeshed* report. Even more amazingly it is also a major concern of our management here. Rarely is it ever defined. To animal rightists any fishing is overfishing, to many environmentalists and much of the general public it's any apparent reduction in the abundance of natural populations. In traditional

fisheries science it's harvesting beyond the maximum level of ongoing sustainability. More recently management consideration has also been given to economic factors with an aim to maximise economic yield.

Because most marine fishes and invertebrates are fast growing and individuals produce thousands to millions of offspring per spawning the breeding population necessary for ongoing recruitment is relatively small. As a rule of thumb maximum sustained yield usually only requires about 30% of the unfished population size. Maximum economic yield is generally accepted as requiring a somewhat smaller harvest resulting in a larger stock size. However, determining an economic optimum is problematic and the performance record of bureaucrats in making this kind of economic decision is poor.

When one adds overfishing to concerns about biodiversity, ecosystem management, precaution and outcomes from models not much room is left for a viable fishing industry in Australia.

In Asia the situation is very different. The alleged overfishing has not so much collapsed fisheries as it has changed them. Intense fishing has greatly reduced top level predators allowing lower level prey species to flourish. These are then harvested in what is more like farming than traditional "wild caught" fishing. Whether one considers this desirable or not it has resulted in large increases in fishery production that show no evidence of decline. While profit per boat would increase with fewer boats the total socio-economic benefit of the current industry to 100 million people makes greater profit for fewer a doubtful objective.

Threatened and *endangered* are two more emotionally charged terms that are regularly misused in fisheries management discussions Both are mentioned in *Enmeshed* as 'hot issues' between Australia and regional countries. Properly applied an "endangered" species is one that is in danger of extinction throughout most or all of its range. A "threatened" species is one is likely to become endangered in the foreseeable future. No commercially harvested species in Australia is either threatened or endangered. This is a non-issue for Australian fisheries management. In SE Asia a very few might be arguable but concrete examples other than dugongs and turtles are not apparent.

In the final analysis science is above all evidence based. Authority, credentials, theories and models mean nothing when contradicted by evidence. The big problem with fisheries management is that it's out there and it's underwater. Anything can be claimed with little chance of being refuted. Many of the claims being made about our fisheries are supported by little or no evidence and where evidence exists it often doesn't support the claims. Our fisheries management is primarily driven by environmental ideology, political pandering to the green vote and bureaucratic empire building. Science plays only a secondary role as a supplier of authoritative claims to support the primary agendas. Evidence isn't considered or even revealed unless it supports these agendas.

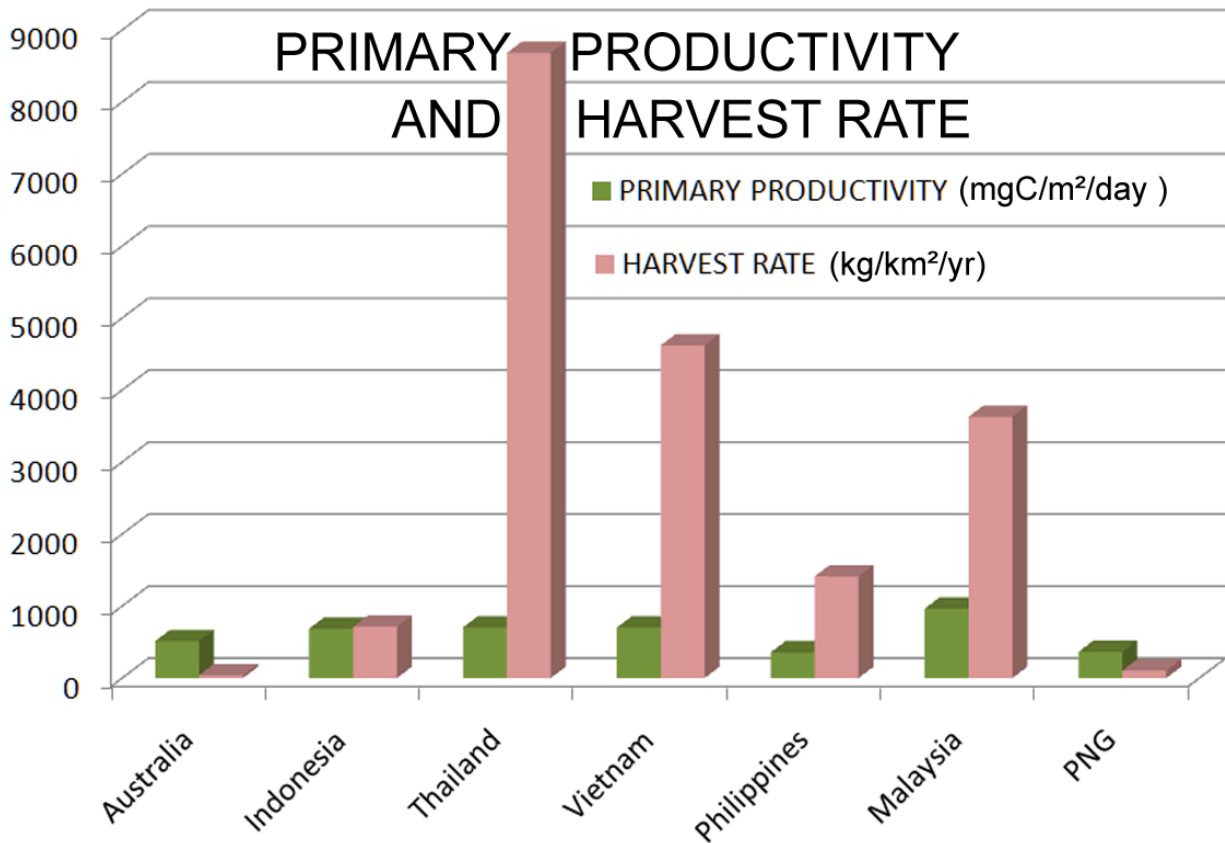
3. Unmanaged fisheries collapse – Although *Enmeshed* makes this claim and predicts the imminent collapse of SE Asian fisheries they shows little evidence of this happening. With little or no management their industry has boomed constrained only by economics and resource limits. Contrary to popular belief the result has not been a collapse but rather a change. Populations of higher level predators have been replaced by fishermen harvesting vast

quantities of smaller fast growing prey species further down the food chain. Environmentalists and our managers condemn this as fishing down the food chain and view it as a definite No No for environmentally correct ecosystem management. With every step down the food chain however, available biomass increases an order of magnitude and the huge catch being harvested shows no sign of declining.

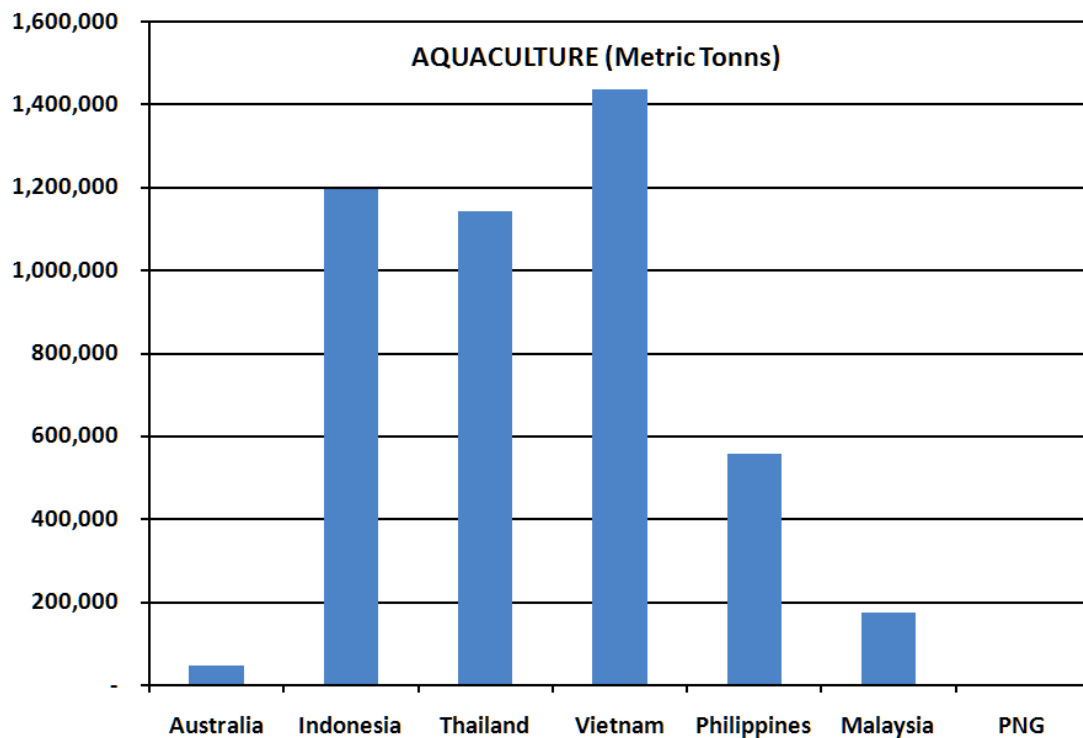
A rising standard of living, higher labour costs and ongoing increases in fuel prices will likely impose effective restraints on SE Asian fisheries regardless of any policy effort we make.

- 4. Low productivity waters** – This is perhaps the biggest furphy of our fisheries mismanagement and *Enmeshed* extends it unqualified credence. Up until a few years ago low productivity was not even mentioned. It became a convenient explanation only after I brought up in public debate that claims of widespread threats from overfishing were absurdly inconsistent with a harvest rate that is only 1/30 of the global average and less than 1/200 that of Thailand our biggest supplier. In response to this excuse I pointed out the existence of global marine primary productivity measurements from satellite monitoring which showed no unusually low productivity around Australia. The feeble response to this fact then became that the productivity figures were only averages and a large area of exceptionally high productivity in our north meant that most of our waters were very low. This ignores the fact that productivity everywhere varies widely with time and place and ours is not in any way unusual in this respect. It also raises a new issue regarding the absence of major fisheries associated with the area of highest productivity. One wonders as well how such a remarkable and inexplicable black hole in oceanic productivity as is being claimed could have escaped notice by oceanographic science until needed to justify management claims.

If indeed our 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. To the contrary, in both cases above average abundance is apparent. To believe this codswallop 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 30 or even 200 times more abundant. Anyone who can believe this may find a bright future in Australian fisheries management.



Even if true, low natural productivity does nothing to explain why our aquaculture development is even more feeble than that of our fisheries. It's booming elsewhere all over the world, doesn't depend on natural productivity and we have better natural conditions for it than virtually anywhere else. The excuse offered for this has been our higher costs. Higher than Japan, the EU and the U.S.? Yea sure!. Incidentally, Japan's aquaculture production in 15 times larger than Australia's and the EU's is over 40 times larger. The only reason it isn't thriving here is an impossible morass of restrictions most of which are theoretical precautions for imaginary problems that either don't exist at all or have proved trivial elsewhere. SE Asian aquaculture compared to Australia looks like this:



5. Ongoing imports – In addition to predicting the imminent collapse of SE Asian fisheries the *Enmeshed* report also projects a two to three fold increase in our own consumption over the next several decades and a small decrease from current production to remain “sustainable”. In a remarkable leap in logic it then assumes that our increased consumption will come from SE Asia. Beyond the obvious contradiction of increased imports from fisheries predicted to collapse, this assumption displays an astounding economic naivety. With growth in economic development in Asia their domestic 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 dependant on raw commodity exports. Now our resource managers are recommending we import still more. Selling off non-renewable resources to buy a renewable one we could easily produce ourselves they then call “sustainable management”.

6. Remote control management – Implicit in any endorsement of current management must be acceptance of the idea that competent fisheries management can be effected by academically trained office workers employing theories and models but having little or no direct experience of either the industry or the resource. While this might theoretically be possible with a well understood, well documented industry/resource using proven theories and models the idea that it can be done now with fisheries at our primitive level of real knowledge is beyond naïve or even simple ignorance. That entails just not knowing. Compound pernicious ignorance however, demands not knowing, thinking you do know and knowing so little you can’t recognise your own ignorance.

In addition to the profound ignorance involved in attempting remote control fisheries management the damage is being further compounded by imposing insanely demanding record keeping on fishermen along with continuous satellite tracking, remote cameras and paid observers at fishermen's expense. To top it off the observers cost \$600 to \$1000 per day with any portion of a day counted as a full day. They are after all government employees and must have the full suite of superannuation, holiday, long service and sickness benefits as other government employees. Never mind that those forced to pay for all this, enjoy little or none of it themselves. No price is too steep when it comes to fisheries managers avoiding any first hand experience of fishing.

- 7. Model management** – The final supreme delusion is that having achieved the most costly restrictive management and lowest harvest rate in the world, a rapidly declining industry and ballooning import bill we have something to teach our neighbours about fisheries management. Asians are polite. They won't laugh in our face. They'll just listen, smile and keep on sending us larger and larger bills for ever more expensive imports.

Conclusion

Fisheries are robust resources with little risk of irreversible damage from overfishing. They often undergo large population fluctuations from natural causes. Little is understood or predictable about the dynamics of such fluctuations. At current levels of knowledge claims of ecosystems based management and computer models are a charade, not science. The only genuine management possible or needed is to monitor stocks and set limits on catches when such is indicated. The form of any such limits must be developed in accord with industry input to minimise detrimental socio-economic consequences. Until we can manage our own fisheries profitably, productively and cost effectively we have nothing of value to teach anyone else.

The world faces an immanent energy supply shortage exacerbated by carbon reduction measures. Ongoing increases in fuel prices appear certain. Tighter credit and further rises in interest rates stemming from the sub-prime lending debacle also seem likely as does a further decline in the \$US. A significant long lasting slowdown in the global economy looks highly probable. Mineral commodity markets are notoriously volatile. With any slowdown in demand large price falls can be expected. An economy increasingly reliant on growing levels of imports paid for by raw mineral exports with high carbon coal playing the largest role is highly vulnerable.

On the other hand, Australia's potential as a high quality producer of diverse agricultural, forestry, grazing, fisheries and aquaculture products is highly complementary to developing Asian markets. Better still, these are renewable resources. Unfortunately the development, competitiveness and even viability of much of our primary production is under increasing threat

from misguided environmental management by a bloated, unaccountable, often incompetent bureaucracy.

Independent audits of the expenditures, activities and outcomes of the entire resource management bureaucracy should be a matter of highest national priority and primary producers must be provided a decisive voice in future management. The current approach of leaving it all to civil servants unaccountable for costs or results and often with little real understanding of either the industry or the resource is a travesty of any concept of good management. As a nation we are largely in a state of denial regarding the seriousness of this problem but any primary producer can verify it is very real for them personally. Sorting out this mess won't be easy at any time but will be much harder if we wait until the consequences make it impossible to deny or avoid. Doing it sooner rather than later could make this "recession we had to have" one we managed to avoid.

Just before the recent election Kevin Rudd announced he would take a "meat axe" to the bloated bureaucracy if he wins. Our environmental management agencies and in particular fisheries management deserve to be near the top of his list. 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 very purpose of management. Making bureaucratic budgets and authority subject to outcomes would effect a quantum improvement in governance. If we can do this we really will have something to teach the world.

Further Reading

World fisheries production, by capture and aquaculture, by country (2005) - Summary tables - <ftp://ftp.fao.org/fi/stat/summary/default.htm>

An informative insight into in EU aquaculture can be downloaded from - http://ec.europa.eu/fisheries/cfp/governance/consultations/consultation100507_en.pdf

Australian Fisheries Statistics 2006 - www.abareconomics.com/publications_html/fisheries/fisheries_07/07_fishstats.pdf

Countries' EEZ areas and marine primary productivity - <http://www.seaaroundus.org/eez/eez.aspx>

Global Fisheries Capture Production 1950-2005 (large interactive statistical database) - http://www.fao.org/figis/servlet/TabLandArea?tb_ds=Capture&tb_mode=TABLE&tb_act=SELECT&tb_grp=COUNTRY

The Pros and Cons of Marine Protected Areas in New South Wales: Who's been hoodwinked? - (Address to The Australian Society for Fish Biology, Canberra, 12/9/07) by Bob Kearney PhD, DSc AM, Emeritus Professor of Fisheries, University of Canberra - http://www.recfish.com.au/hot_topics/pdf/Bob%20Kearney%20paper%20Sept%202007.pdf

- Fishy Claims of Overfishing on the Great Barrier Reef - *Professional Fisherman* magazine
- The Status, Importance and Future of Australian Fisheries - *Fishing Boat World* magazine
- Marine Resources and the Growing Cost of Precaution - *Ausmarine* magazine
- Where Our Fish Comes From - *Ausmarine* Magazine

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