

**Inquiry into the impacts of climate  
change on marine fisheries and  
biodiversity**

**Submission to the Australian Senate Environment  
and Communications Reference Committee**

<http://www.australianenvironment.org/>

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## Environment and Communications Reference Committee

### Inquiry into the impacts of climate change on marine fisheries and biodiversity

#### Summary

Australia's fishing industry has greatly underperformed both in the catch of wild fish and in aquaculture. Australia could easily accommodate a tenfold expansion of aquaculture, currently worth \$1 billion a year. It is prevented from doing so by the regulatory intrusions.

It is barely conceivable that human induced climate change, if it is taking place, could have an effect on fish numbers in the oceans – fish swim and plants also migrate in response to changing conditions. If there were to be any net effect of climate change it would be a shift in the locations of different species.

#### 1 Addressing concerns about climate change and the oceans

According to some authorities<sup>1</sup>, 90 per cent of the human induced global warming that has taken place in the 50 years since this phenomena has been said to occurring has gone into the oceans. On this basis, the warming of the oceans that has taken place and the associated incursions into the land mass, 3.2 mm per year (one third of a meter a century), will continue well into the future<sup>2</sup>.

The New York Times<sup>3</sup> has given graphic relief to this claiming that “The Greenland ice sheet is studded with meltwater streams, rivers and lakes. The rate of melt is alarming many scientists. Both ice melt and thermal expansion are causing a significant rise in global sea levels.” Stories of scientists apparently watching in horror at the collapse of the Antarctic ice sheet<sup>4</sup> are accompanied by others expressing puzzlement that the southern hemisphere ice is growing<sup>5</sup>.

Scientific “certainty” about the effects of global warming have been the midwife of many embarrassing statements and actions. With regard to the latter, they led to a “ship of fools” being stranded in the Antarctic, which was supposedly melting so fast that its waters would be navigable and the unintended refutation of this being pilloried by, among others, Mark Steyn<sup>6</sup>. Proving that zealots learn little from experience brought a second ship of fools seeking a way through the northern passage, which also had to be rescued<sup>7</sup>.

A more sober picture for the Arctic is illustrated by the following<sup>8</sup>

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<sup>1</sup> <http://www.telegraph.co.uk/news/2016/09/05/global-warming-making-oceans-sick-scientists-warn/>

<sup>2</sup> <https://www.theguardian.com/environment/2015/jul/16/warming-of-oceans-due-to-climate-change-is-unstoppable-say-us-scientists>

<sup>3</sup> <http://www.nytimes.com/interactive/2016/09/12/science/earth/ocean-warming-climate-change.html>

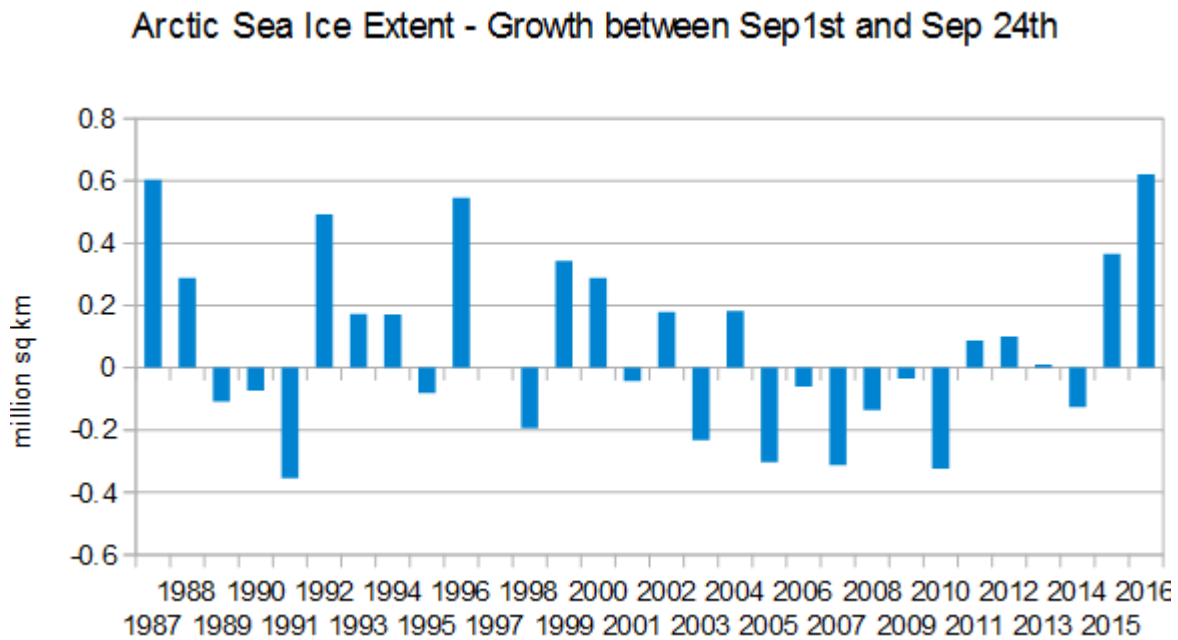
<sup>4</sup> <http://news.nationalgeographic.com/2016/04/160412-ice-sheet-collapse-antarctica-sea-level-rise/>

<sup>5</sup> <https://insideclimatenews.org/news/31052016/why-antarctica-sea-ice-level-growing-while-arctic-glaciers-melts-climate-change-global-warming>

<sup>6</sup> [https://www.amazon.com.au/Climate-Change-Dr-John-Abbot-ebook/dp/B00S5L5Y0W/ref=sr\\_1\\_5?s=digital-text&ie=UTF8&qid=1475652317&sr=1-5](https://www.amazon.com.au/Climate-Change-Dr-John-Abbot-ebook/dp/B00S5L5Y0W/ref=sr_1_5?s=digital-text&ie=UTF8&qid=1475652317&sr=1-5)

<sup>7</sup> <http://realclimatescience.com/2016/08/ship-of-fools-discovers-that-there-is-ice-in-the-arctic/>

<sup>8</sup> <https://wattsupwiththat.com/2016/09/27/inconvenient-record-arctic-sea-ice-growth-in-september/>



As with other aspects of climate change, there is considerable hysteria regarding the oceanic implications of increased greenhouse gases. Ivo Vegter<sup>9</sup> has noted some of these, including

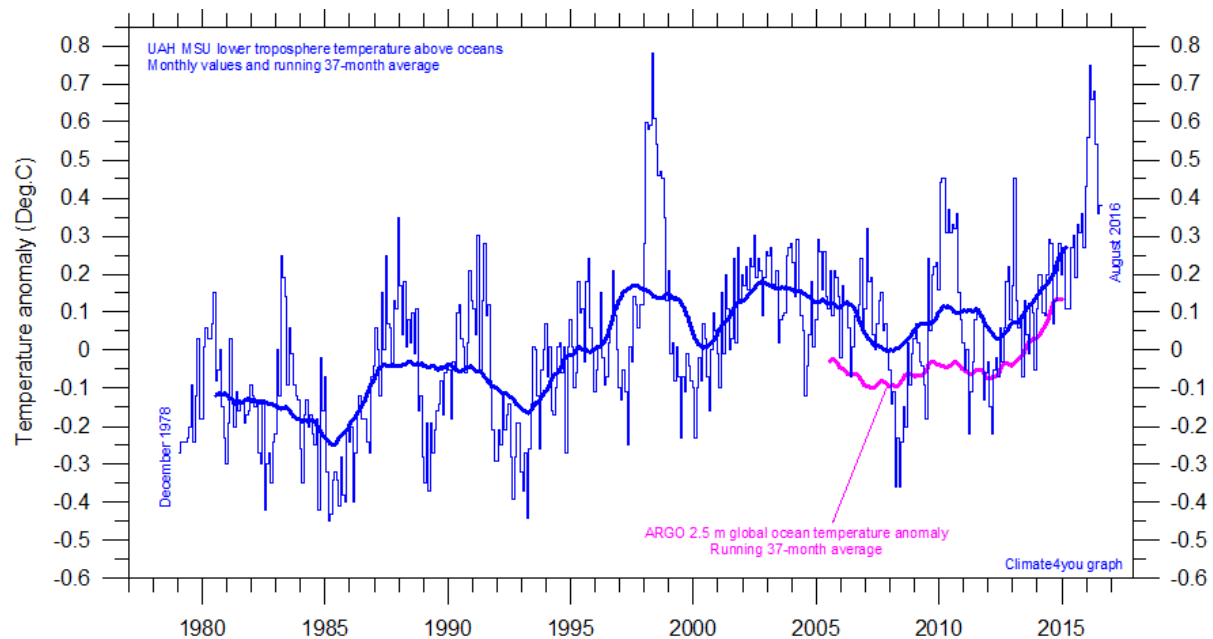
“Former UK Prime Minister Gordon Brown in 2009 said that we had “50 days to save the world” from climate catastrophe. Five years later, in 2014, the French foreign minister declared that we have “500 days to avoid climate chaos”. When Barack Obama became president, James Hansen, who now is a self-described climate activist, said that he had “four years to save the Earth”. A few years later, Tim Wirth, the head of the UN Foundation, said that Obama’s second term was “the last window of opportunity” to avert a climate catastrophe.

“Sixteen years ago, a major British newspaper ran an infamous story declaring that snowfalls are now just a thing of the past. Snow will become “a very rare and exciting event”, the article said, quoting Dr David Viner of the Climatic Research Unit at East Anglia University. “Children just aren’t going to know what snow is.” Of course, the UK has seen several winters of record snowfalls since 2000.”

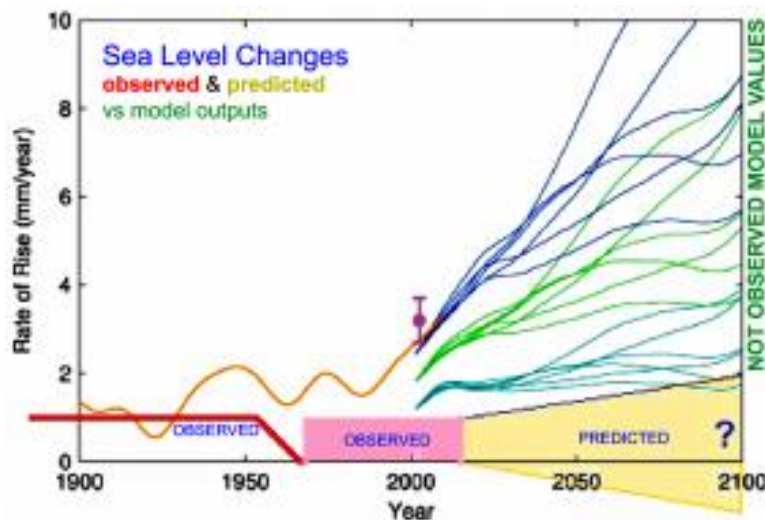
Climate4you superimposes data measured rigorously only in the past ten years on the global lower troposphere temperature trend from the University of Alabama. The ocean data has closely followed that of the satellite measurements for the atmosphere. While these show the earth warming in the period 1980-1995, (following an apparent cooling in the period 1940-1970<sup>10</sup>) the temperature has shown no significant trend since then –and this comes at a time when greenhouse gas emissions were growing strongly.

<sup>9</sup> [http://www.dailymaverick.co.za/opinionista/2016-09-19-history-keeps-proving-prophets-of-eco-apocalypse-wrong/#.V\\_nee-B96Hs](http://www.dailymaverick.co.za/opinionista/2016-09-19-history-keeps-proving-prophets-of-eco-apocalypse-wrong/#.V_nee-B96Hs)

<sup>10</sup> Global cooling was the forecast of President Obama’s chief scientific adviser, John Holdren. See <http://www.climatedepot.com/2014/01/08/flashback-john-holdren-in-1971-new-ice-age-likely/>



Morner<sup>11</sup> examines ocean levels against the modelled forecasts and finds a marked difference. Invariably the models have overstated the ocean rise largely because they incorporate assumptions of sea level increases based on the absorption of greenhouse gas emissions. The following chart shows the measurements and the model forecasts.



He concludes “... it is absolutely impossible that present day changes in temperature ever could generate any rise in sea level in the order of a meter or more in a century. Such claims (coming from persons like Hansen, Rahmstorf, Levermann, Horton and others) represent lobbying statements from persons failing proper education in geology.”

<sup>11</sup> Nils-Axel Mörner, Sea level changes in the real world: Models vs observational facts, August 2016  
[https://www.researchgate.net/publication/306103010\\_Sea\\_level\\_changes\\_in\\_the\\_real\\_world\\_Models\\_vs\\_observational\\_facts?showFulltext=true](https://www.researchgate.net/publication/306103010_Sea_level_changes_in_the_real_world_Models_vs_observational_facts?showFulltext=true)

## 2 Changes in fish stocks and marine diversity

### 2.1 Global trends

If there was a systemic change with respect to the oceans and their plant and animal life, we would expect to see evidence of this. One supposed indicator of this elevated to iconic standards is the Great Barrier Reef. The National Coral Bleaching Taskforce headed by Terry Hughes said mass bleaching had killed 35 per cent of corals on the northern and central Great Barrier Reef but this was rejected by the chairman of the Great Barrier Reef Marine Park Authority, Russell Reichelt. Former climate change commissioner Tim Flannery described diving on the Great Barrier Reef near Port Douglas recently as “one of the saddest days of my life”. He added, “This is death, which ever-rising temperatures will allow no recovery from. Unless we act now.” Dr Reichelt said Dr Flannery’s language had been “dramatic” and “theatrical”<sup>12</sup>.

Alarmism is rife in this and other areas of supposed climate change. Thus the New York Times alarmism of September this year, as well as foreshadowing polar melting, also said

#### Marine Species Are at Risk

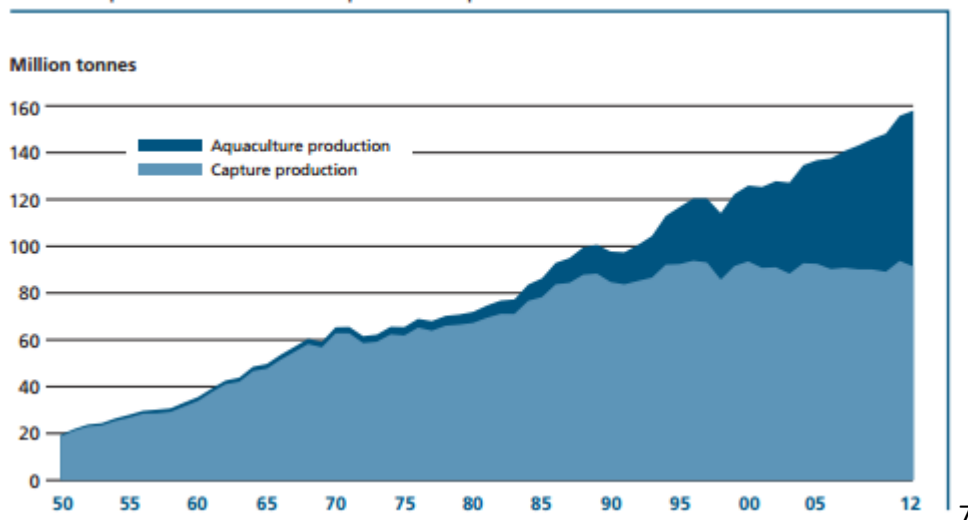
Warmer temperatures are threatening some marine animal and plant species, like these bleached coral on the Great Barrier Reef. Scientists also predict that some birds, like the black-legged kittiwakes in Norway, may soon die off in warmer waters.

#### Habitats Are Changing

The warmer conditions have allowed some jellyfish, like the comb jellyfish, pictured above, in Narragansett Bay, to have longer seasons. Others have expanded their territory. In some cases, United States fisheries have shifted north to cooler waters.

Wild fish catch globally appears to have peaked and, though there is some doubt about this<sup>13</sup>, the official data is illustrated below.

World capture fisheries and aquaculture production



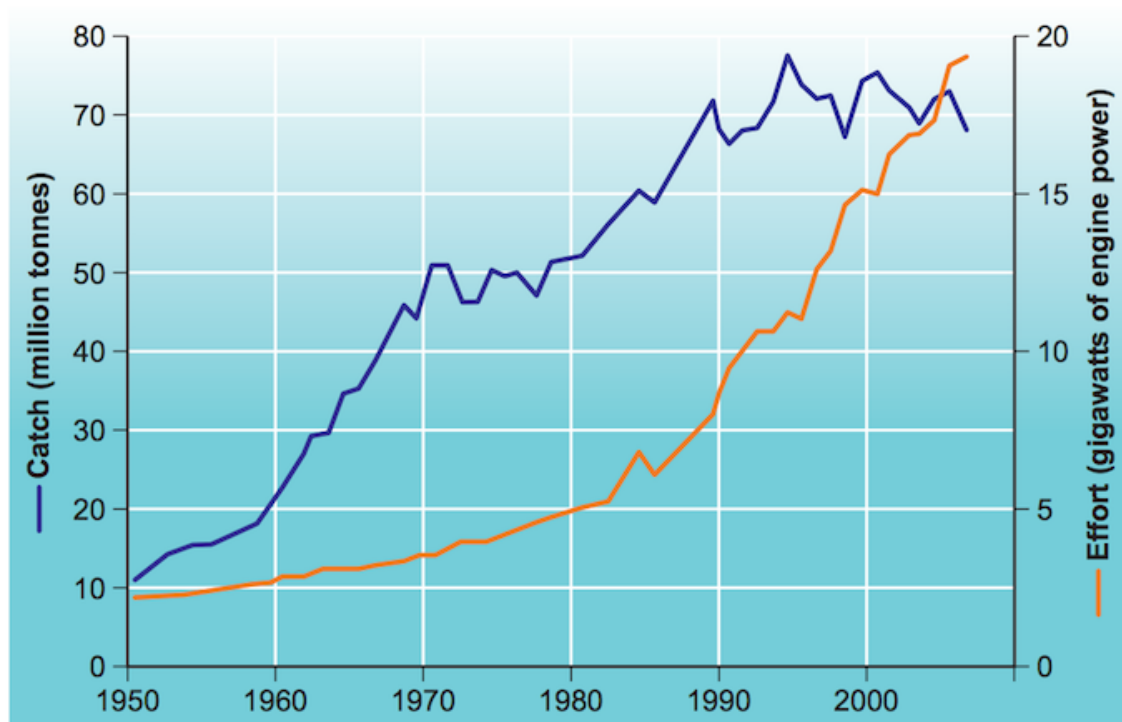
<sup>12</sup> <http://www.theaustralian.com.au/news/nation/great-barrier-reef-scientists-exaggerated-coral-bleaching/news-story/99810c83f5a420727b12ab255256774b>

<sup>13</sup> <http://www.sciencemag.org/news/2016/01/official-statistics-understate-global-fish-catch-new-estimate-concludes>

<http://www.fao.org/3/a-i3720e.pdf> p.3

Aquaculture has continued to increase but the harvesting of wild fish appears to have peaked in around 1990.

Limits on wild fish catch were long ago reached in most coastal fishing zones around the world and led to their policing and extension from the traditional three mile limit. Diversion of effort to the open seas only delayed the peak output date. As the following chart indicates, the harvesting of wild fish resources has been accompanied by increased fishing effort<sup>14</sup>.



[http://www.seaaroundus.org/wp-content/uploads/2012/07/osd-Chart-770-RC\\_cropped.jpg](http://www.seaaroundus.org/wp-content/uploads/2012/07/osd-Chart-770-RC_cropped.jpg)

This may indicate a possibility of fish stocks being reduced, or rather, since nature abhors a vacuum, the most valued fish stocks being depleted and replaced by others of less worth to humans. The plateauing of wild fish production is most unlikely to be due to climate change. As with the hunting of land based wild animals, at some stage the harvest was bound to peak. On land, this is likely to have happened thousands of years ago and led to the drastic reduction and in some cases extinctions of wild species where these competed for land or posed threats to humans.

In the vast and deeper areas of the oceans diminishing returns from hunting took a great deal longer. Unlike on the land, rivalry of space in the oceans between farmed fish and wild fish will not of itself lead to extinctions except in the highly localised areas where fish farming takes place. The oceans are far too vast to be used like the land where private ownership and fenced stock is the norm.

Governments have often responded to over-fishing within national maritime waters with effort restraints (controlling engine, boats sizes, reducing the days when fish might be taken forbidding

<sup>14</sup> [http://www.seaaroundus.org/wp-content/uploads/2012/07/osd-Chart-770-RC\\_cropped.jpg](http://www.seaaroundus.org/wp-content/uploads/2012/07/osd-Chart-770-RC_cropped.jpg)

certain fishing techniques). These highly inefficient measures are in contrast to vesting of rights to catch based on estimates of the sustainable catch and allocating those rights as individually tradable quotas (ITQs). These allow optimal effort in harvesting without damaging stocks.

Devising an international system of quotas and obtaining agreement on their sharing and the total allowable catch would pose unprecedented issues for the international community.

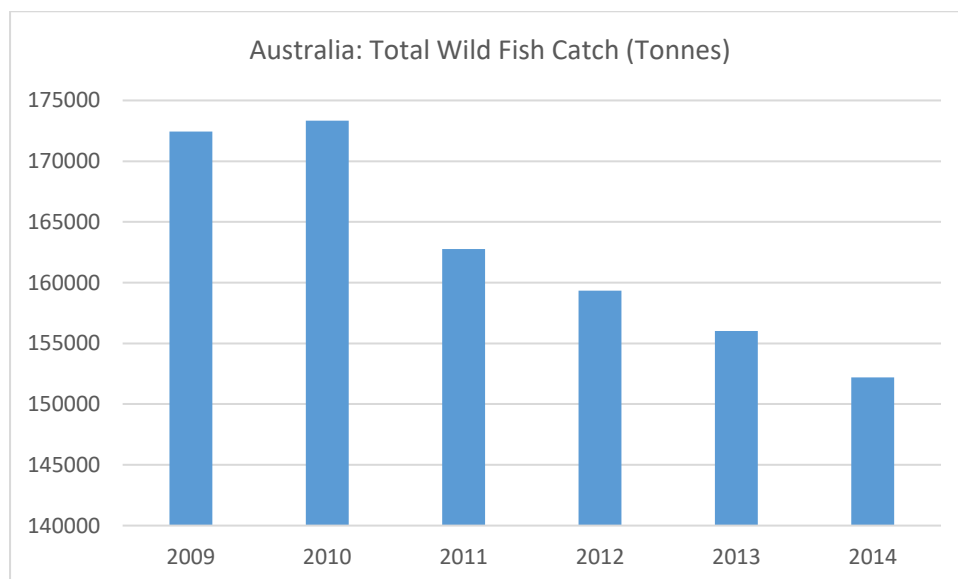
## 2.2 Australian developments

### 2.2.1 *Wild catch*

For Australian fisheries a generally apparently successful picture of sustainable management is evident. ABARES reports

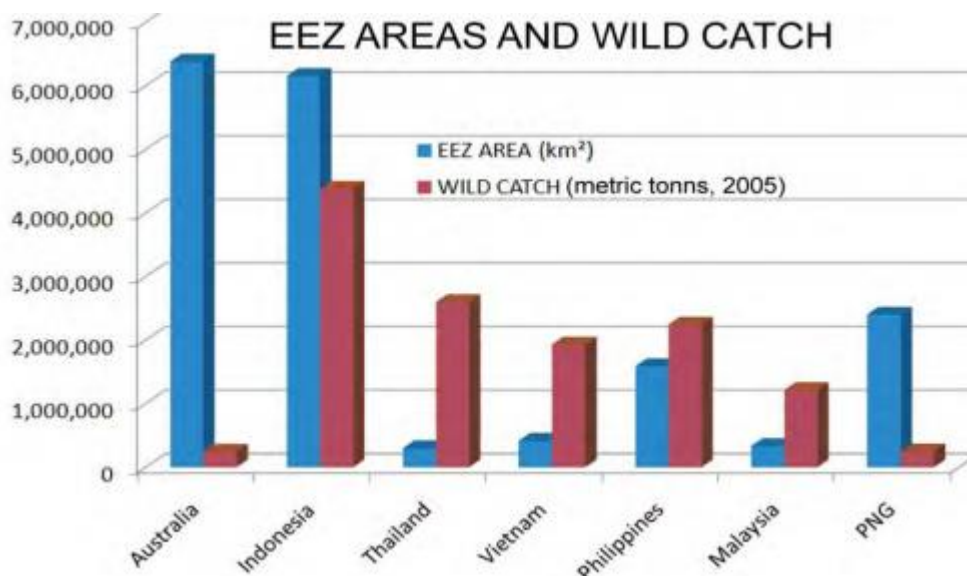
- The number of stocks classified as not subject to overfishing increased to 79 (77 in 2014), and the number of stocks classified as not overfished increased to 69 (66 in 2014).
- The number of stocks classified as subject to overfishing increased to 3 (2 in 2014), and the number of stocks classified as overfished decreased to 11 (12 in 2014).

Perhaps reflecting greater concern about sustainability but also perhaps reflecting excisions of areas where commercial fishing is forbidden as well as more intensive controls, Australia's total wild catch has been falling.



Source: Australian Fisheries Statistics, ABARES

The indicators are that there are over-stringent restraints on fishing activity in Australia. These have brought about a gross underperformance in the industry as is evidenced by the catch in relation to the Exclusive Economic Zone in comparison with other countries.



Source: Starke, W., Australia's Unappreciated and Maligned Fisheries,  
<http://aefweb.info/data/Australias%20Unappreciated%20and%20Maligned%20Fisheries%20May%202012.pdf> p.14

There are claims that the low catch is because Australia resembles a “fish desert”. Such claims have been voiced only in recent years and are barely credible in explaining the contrast between the performance of Australian fisheries in comparison to others.

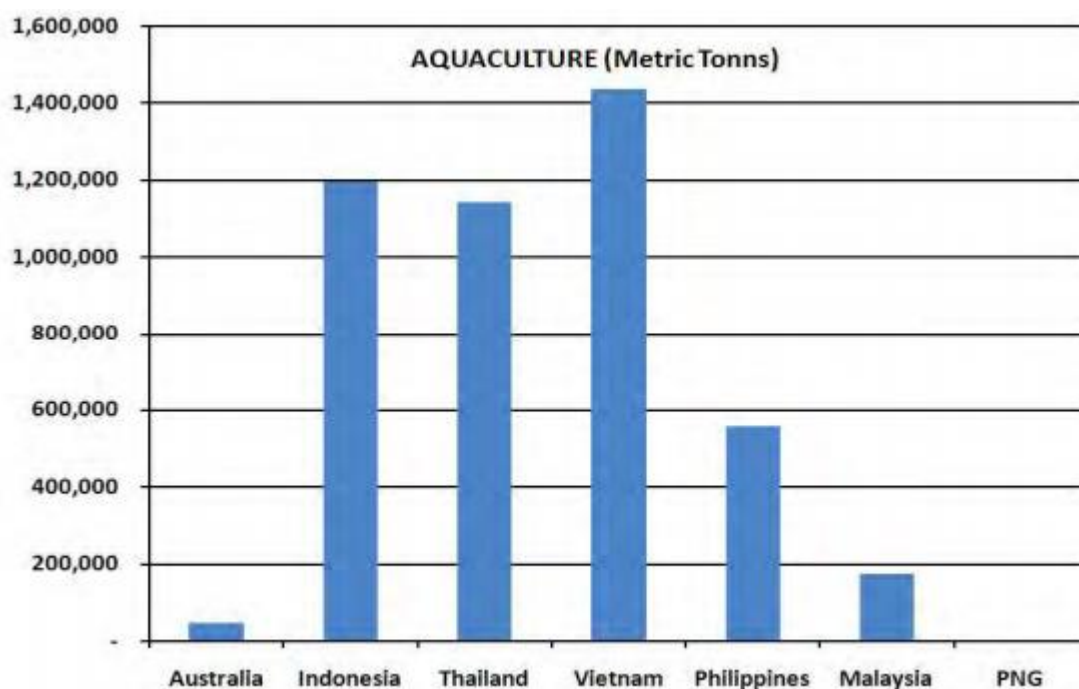
### 2.2.2 Aquaculture

As the AEF has previously noted<sup>15</sup>, Australia is a massive underperformer in aquaculture with only salmon in Tasmania flourishing, the industry there having been established prior to regulatory restraints being imposed.

Japan's aquaculture production is 15 times larger than Australia's and the EU's is over 40 times larger. The following comparisons offer telling evidence of the effects barriers erected to this productive new industry in Australia.

<sup>15</sup> Stark, W., Australia's Unappreciated and Maligned Fisheries,  
<http://aefweb.info/data/Australias%20Unappreciated%20and%20Maligned%20Fisheries%20May%202012.pdf>





The AEF summarised the reasons for this picture as follows,

“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.”

In addressing Australian fisheries, ABARES reports<sup>16</sup>

*Australia became a net importer of fisheries and aquaculture products in 2007–08 (in value terms). Since then, the gap between the value of fisheries and aquaculture products imported and exported has widened*

ABARES also reports

*The gross value of aquaculture production (including southern bluefin tuna wild-catch input to the SA tuna farming sector) declined by \$58 million to \$1 billion and accounted for 40 per cent of the gross value of Australian fisheries production. The volume of aquaculture production declined by 6 per cent to 74 913 tonnes and accounted for 33 per cent of Australian fisheries and aquaculture production.*

### 3 Climate change, the oceans and Australian policy measures

While the trends and developments addressed above have serious implications for Australian fishing industry policy, it has little relevance to the issue of climate change. Fish and oceanic plant

<sup>16</sup> [http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2014/AustFishAquacStats\\_2014\\_v1.0.0.pdf](http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2014/AustFishAquacStats_2014_v1.0.0.pdf)

resources are both adaptable and mobile. If temperatures in the ocean change animal and plant life responds by migrating. This process has been evident throughout history - fossil remains of tropical fish have been identified in places where they now could not conceivably survive<sup>17</sup>.

The wild fish catch has peaked in spite of much greater fishing effort. There is no evidence that climate change, human induced or otherwise, has had any effect on this. Unless such an effect is established, this cannot be a rationale for measures that might be taken to limit access and effort regarding wild fisheries.

In the case of fish farming, there is neither evidence nor logic that indicates climate change has an effect. Australia has massively underperformed in this area, as it has in taking of wild fish, and the causes of that underperformance are likely to rest on regulatory restraints. As a nation we are paying dearly for such measures

Based on comparative data overseas there is almost infinite scope for this to expand – even a 10 fold increase in aquaculture would see Australian production remaining at less than of Indonesia, Thailand and Vietnam – and less than the EU, countries with far less coastline than Australia.

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<sup>17</sup> <https://www.coursehero.com/file/p7qpho6/The-fish-fossils-found-in-the-Himalayas-were-formed-from-the-ancient-seabed-of/>.