MARINE RESERVES REALITY CHECK
THE REAL COSTS AND BENEFITS
OF THE COMMONWEALTH MARINE RESERVES NETWORK

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MAIN POINTS

The economic cost of the Commonwealth Marine Reserve Network is small compared to its benefits. Wild claims of potential damage to fishing businesses are being made in the lead up to the final declaration of the Marine Reserve Network and the shape of its associated $100 million compensation package. These claims are not credible in light of the detailed and careful assessment conducted by the Australian Bureau of Agricultural and Resource Economics (ABARES) for the Regulatory Impact Statement on the new marine reserves. The appearance of excessive cost estimates is not surprising, given that such estimates are now a familiar part of the lobbying process.

Credible estimates of likely losses to fishers and communities from implementing the new marine reserves:

• The Government’s Regulatory Impact Statement (RIS) analysed the likely impact on commercial fishing by looking at all affected fisheries. Across all Commonwealth waters, the value of the commercial fishery catch that will be displaced by the new marine reserves is $11.1 million, which represents around 1.1% of the annual value of the catch (gross value of production). For 50 of the 62 fisheries operating in Commonwealth waters the marine reserves will affect less than 3% of the value of their annual catch. The estimated impact on the industry is less than some year to year variability caused by natural variations in fish stocks and factors such as fuel prices and market conditions.
• The RIS’s analysis also shows that there could be short-term losses associated with decreased landings in some ports and associated economic activities, which are estimated at up to $23.2 million annually across all Commonwealth waters. A little over 100 jobs (full-time equivalent (FTE) positions, a mix of short and longer term employment) are likely to be lost in the short run.
• The RIS notes that these are conservative estimates, as many of the fishers displaced by the new reserves have access to alternative fishing grounds, or could go on fishing within the reserves if they switch to less damaging fishing methods.
For marine activities other than commercial fishing and associated up and down-stream activities, minimal effects are expected due to the placing of the reserves, which has considered recreational fisheries and other activities.

**Bigger claims do not add up**

- An industry lobby group called the ‘Australian Marine Alliance’ (AMA) claimed that the Commonwealth marine reserves would result in the loss of 9,700 direct fishing jobs, when latest ABS estimates indicate that only 7,646 direct fishing jobs exist across both state and Commonwealth waters, excluding aquaculture. It also claimed that the reserves would cause ‘$4.35 billion lost revenue’ when the total income of commercial fisheries active in the area affected by the reserves is around $1 billion (of which $11.1 million will be displaced). The AMA made some very strange assumptions to get to this inflated figure, detailed in this report.

- A recent claim that the marine reserves would cause $1 billion in damage to the Cairns economy over 30 years, based on an unreleased economic analysis, is at odds with the RIS estimate that the value of the fish catch brought in to Cairns could be reduced by up to $3.7 million per year. Calculating a 30-year present value for this figure would add up to $64 million in total. There are several reasons to consider even this much smaller figure as too high, including the fact that some catches are on a pre-existing downward trend and that some of the fishing is likely to be displaced rather than removed.

**Compensation associated with the new marine reserves**

- The government has stated that $100 million will be made available for compensation of fishers displaced by creating the reserves. This would be a generous compensation package.

- The Great Barrier Reef compensation package, which blew out to $250 million, would form a very poor precedent for compensating fishers who are displaced by the Marine Reserve Network. The Finance Minister at the time, Nick Minchin, thought that the Great Barrier Reef package was too large.

- There are good reasons to implement compensation along the lines of the ‘Securing our Fishing Future’ package to ease rather than displace long-term pressures on fish stocks and the profitability of the fishing industry.

**Benefits of the Marine Reserve Network and the Marine Parks within it**

- Some of the most damaging forms of fishing are restricted across most of the reserve network including bottom trawling – this is likely to deliver long-term benefits for recreational fishers and commercial fishers using more sustainable practices.

- Marine parks have been shown to have numerous benefits, leading to larger fish and more biodiversity. The parks make marine ecosystems more resilient to environmental shocks and act as restocking areas for the surrounding waters. Studies show that in the long run they provide benefits to fishers. Recent studies on marine parks in the Great Barrier Reef find that they are working as they are supposed to – rebuilding the biomass of local fish populations in ways that are likely to deliver long-term benefits to fishers.

- CPD’s analysis shows that the new Marine National Parks in the Proposed Commonwealth Marine Reserves Network cover an area that provides $1.2 billion a year in ecosystem service value that is not recognised in our economic accounts, bringing the total value of Australia’s fully-protected Marine Parks to $2 billion a year in ecosystem services. These figures are based on a conservative analysis of estimates from a major UN Environment Program study, ‘The Economics of Ecosystems and Biodiversity’, adjusted downwards to account for the lower productivity of Australian waters.
ABOUT THE PROPOSED COMMONWEALTH MARINE RESERVE NETWORK

The Federal Government announced the creation the Commonwealth Marine Reserve Network in June. This was the result of commitments begun in 1991 and followed through by successive governments, both Labor and Coalition. The proposed reserves cover 36% of Commonwealth waters (from 3 to 200 nautical miles from shore) with varying degrees of protection.

Two thirds of the Marine Reserve Network – 87% of the total Commonwealth marine area – will allow recreational fishing and some forms of commercial fishing. Most of the reserve restricts the most damaging forms of fishing including bottom trawling – this is likely to deliver long-term benefits for recreational fishers and commercial fishers using more sustainable practices.

About one-third of the network – 13% of Australia’s Commonwealth waters – will be in Marine National Parks that are fully protected and off limits to fishing.

The Government has conducted extensive research and consultation with local communities to discover the likely effects of the Marine Reserve Network and the Marine National Parks in particular. The results are published in the Regulatory Impact Statement in considerable detail, with particular attention to the predicted losses to commercial fishers. It’s estimated that 1.1% of the current annual value of fisheries in Commonwealth waters will be displaced by the reserves network – around $11.1 million per year. This amount is less than some year to year variability caused by natural variations in fish stocks and movements and economic conditions faced by the industry.

Most of the Marine National Parks are in deep water, which reduces the short-term costs to fishers and the oil and gas industry at the cost of missing out on the longer-term value that would have been provided by protecting more shallow water areas over reefs and shelves. Given the high economic value provided by coral reefs, seagrasses, and coastal shelf areas, more of these areas should have been included in marine parks.

Nevertheless, the areas that have been protected by the Commonwealth Marine Reserve Network can be expected to benefit commercial fisheries, acting as a form of insurance to help keep fish stocks healthy as the oceans continue to change. The benefits of Marine Parks, also summarised in a recent CPD publication, Preserving our Marine Wealth are outlined below.
Marine National Parks are a useful tool for preserving the health and productivity of marine ecosystems. Allowing some areas to stay in or return to a wild, unfished state preserves examples of Australia’s rich natural biodiversity for research and helps manage fisheries and other marine uses in the longer run.

Several scientific studies have shown that fully protected areas have larger populations of older fish, which tend to lay far more eggs than younger fish. Depending upon factors such as species, size and placing of reserves and management practices, these reserves are able to replenish fish stocks in surrounding areas to varying degrees. For example, in a recent scientific study of Great Barrier Reef marine parks, genetic testing showed that although the parks account for just 28% of the local reef area, they produced around half of all the juvenile fish found on fished reefs within 30 kilometres of the reserves. Other recent studies on marine parks in the Great Barrier Reef also find that they are working as they are supposed to – rebuilding the biomass of local fish populations in ways that are likely to deliver long-term benefits to fishers.

The benefits of marine parks for restoring or maintaining biodiversity are also significant, as areas with greater biodiversity have been shown to be more robust in the face of external threats, like pollution, pests, and the growing threat of warming and acidification due to climate change. The East coast of Australia is proving to be a particularly important ‘hot spot’ of climate change with multiple species already moving south as waters warm.

We still do not know enough about Australia’s marine ecosystems to manage them with complete confidence, as shown by the sudden decline of the closely managed, sustainable-certified Western Rock Lobster Fishery. As well as making marine ecosystems more resistant to multiple threats, the Marine National Parks could be a valuable source of information for fisheries.
managers wanting to understand the factors leading to such sudden changes, which can threaten whole fish stocks and fishermen’s livelihoods.

Protected Marine Parks are comparable to National Parks on land. They offer significant recreational and educational opportunities. Australian’s connections to the ocean are strong and our appreciation of the wild areas includes recreational fishing, snorkelling, diving, whale and dolphin watching and more. These same activities are also a large part of the tourism industry. One third of the Great Barrier Reef (GBR) is fully protected, and the GBR catchment area brings in $2.8 billion a year value added in tourism and the local economic activity it supports\(^5\) as well as commercial fishing income ($188 million a year) and billions of additional value in Queensland and Australia overall (indirect contributions not considered here). Other protected park areas, such as Ningaloo\(^4\) also generate significant local income and employment.

Some recreational fishing groups are concerned that 87% rather than 100% of Australia’s waters are now open for recreational fishing, but there is already significant anecdotal evidence of improved recreational fishing in areas that have been made off-limits to commercial fishing. Bateman’s Bay, gazetted in 2007, is one of numerous examples, with local recreational fishermen extolling the virtues of fishing there. While it is reasonable to expect that the new marine parks will attract more visitors and more tourism revenues, the effect will be a function of the features of the area. Attempts to quantify tourism revenues from the new highly protected areas have begun\(^5\) but there are so many unknown factors at this point that projections would be premature.

One of the most important aspects of protected areas is in keeping the natural ecosystems functioning. These areas provide ecosystem services, from nurseries for fish to coast stabilisation, biological control (water filtration, disease control) to carbon sequestration and more. Considerable work is now being done to understand and quantify these services that are provided for free, but can cause serious losses when the ecosystems disappear or are damaged.

The Centre for Policy Development (CPD) has published studies on the total ecosystem value of Australia’s Commonwealth Marine Estate (in ‘Stocking Up’) and of the fully protected Marine Parks within the newly proposed CMRN (in ‘Preserving Our Marine Wealth’). The newly proposed Marine Parks cover ecosystem services valued at $1.2 billion per year. When added to the existing fully protected areas, this brings the total value covered by Australia’s Marine Parks, Great Barrier Marine Park and others to $2 billion per year. We calculated the economic value provided by four categories of marine ecosystem: coral reefs, seagrasses, coastal shelf and open ocean. Each of these areas provides services of value such as nurseries for fish, carbon storage, etc.\(^6\)

These estimates are conservative given that a number of benefits are not calculated, given limitations in current knowledge. As noted above, there is solid scientific evidence that fully protected areas can contribute significantly to recreational and commercial fishing outside their borders, a fact which is clearly not lost on the fishers who spend their time around closed areas.
overseas and in Australian waters. However, good baseline studies and ongoing monitoring of the National Marine Parks will be required before we can put a pricetag on this significant economic benefit.

THE REGULATORY IMPACT ASSESSMENT

As with all major regulation changes of this type, a regulatory impact assessment was conducted in line with the guidelines issued by the Office of Best Practice Regulation. The Regulatory Impact Statement (RIS) examined the reasons for creating the network and included extensive calculations and analyses by ABARES of what the impact is likely to be on various marine-based industries and the public generally.

The RIS notes that the Commonwealth Marine Reserve Network is designed to offer long-term protection of Australia’s unique marine life, to ensure its continued existence in light of environmental changes and to support both recreational and commercial fishing for the longer run. The RIS notes that:

• Australia’s rate of biodiversity loss is the highest in the OECD
• A number of the threatened marine species in Australian waters are performing critical functions in marine ecosystems
• The Marine Reserve Network is designed to support the resilience of marine ecosystems to resist external threats
• It usually costs less to avoid damage to ecosystems than to recover their function once they’re damaged

Importantly, the RIS notes the insurance value of the reserves’ expected environmental benefits:

“In utilitarian terms, the proposal helps ensure that future Australians have more options available to them to use and enjoy a greater diversity of marine species and more resilient marine ecosystems than would be the case if no such action was taken.”

The RIS discusses how decisions were made, benefits to the various regions in terms of particular areas to be protected and notes that while there are clear benefits from increasing fish populations in the fully protected areas, and to varying degrees to surrounding areas as “spill-over effects” (meaning that some fish will move into the areas where fishing is allowed) these are difficult to quantify. The RIS turns to the potential costs and finds the following:
### Summary of Expected socio-economic impacts by activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Impact Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational fishing</td>
<td>Minimal impact expected.</td>
</tr>
<tr>
<td>Charter fishing</td>
<td>Minimal impact expected.</td>
</tr>
<tr>
<td>Registered Native Title claims (total 9 claims in South West Marine Reserve at April 2011)</td>
<td>No impact expected.</td>
</tr>
<tr>
<td>Defence training areas</td>
<td>No impact expected.</td>
</tr>
<tr>
<td>Petroleum leases/ acreage releases</td>
<td>No impact expected.</td>
</tr>
<tr>
<td>Shipping and ports</td>
<td>No impact expected.</td>
</tr>
<tr>
<td>Existing offshore aquaculture leases (total 3 in SWMR in April 2011)</td>
<td>No or minimal impact expected.</td>
</tr>
<tr>
<td>Commercial fishing activities</td>
<td>48 out of the 62 fisheries operating in Commonwealth waters will experience some level of displacement. 12 fisheries may experience displacement greater than 3% of average annual gross value of production (GVP).</td>
</tr>
</tbody>
</table>

Aside from commercial fishing activities, the impact on marine industries was assessed as very low or nonexistent. The impact on commercial fisheries was examined area by area.

ABARES estimates that the value of fishing production that will be displaced by creating the Commonwealth Marine Reserve Network is about $11.1 million per year, about 1.1% of the value of the fish catch (Gross Value of Production) GVP from wild fisheries.\(^{20}\)

This estimate is based on fisheries in the Commonwealth area; if the annual fisheries income of all Australian fisheries is included, the impact is estimated to be 0.8% and if aquaculture production is included, the impact is 0.5% of all fishery income. In other words, while the Marine Reserve Network will impact some specific fishers, who will be compensated, the impact on the total fishery GVP of Australia is less than 1%.\(^{21}\)

Note that the numbers cited in this report are for the option chosen by the Commonwealth government; the RIS analysed two options, and the government chose the option with a lower overall economic impact.

#### Estimated GVP impact by jurisdiction\(^{22}\)

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Estimated GVP displaced</th>
<th>% impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commonwealth</td>
<td>$6,863,220</td>
<td>2.3%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>$2,731,820</td>
<td>0.7%</td>
</tr>
<tr>
<td>South Australia</td>
<td>$267,200</td>
<td>0.3%</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>$370,300</td>
<td>2.2%</td>
</tr>
<tr>
<td>Queensland</td>
<td>$669,200</td>
<td>0.4%</td>
</tr>
<tr>
<td>New South Wales</td>
<td>$225,250</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$11,126,990</strong></td>
<td><strong>1.1%</strong></td>
</tr>
</tbody>
</table>

The estimates were considered to be on the high side as some fishers would be able to move to other areas. Displaced does not necessarily mean ‘eliminated.’ In some cases, fishers will be able to adjust their activities by fishing in other
Initial estimates of the impact of the Great Barrier Reef rezoning on the gross value of production dropped from $14 million to $3-$7 million a year after accounting for the fact that many fishers were able to shift to other areas. It should also be noted that this is a reduction in gross value of production, or the amount of seafood produced. The income loss would be substantially less after the costs of production are deducted from the gross value.

There are however clear losses for some fishers, and in some cases these losses may be enough to drive the fishers out of business. The Government has announced that $100 million will be made available to help fishing businesses to adjust to the reserves and to compensate fishers who leave the industry.

ABARES also conducted modelling on the reductions in landings in individual ports, regions most affected and employment effects and on economic activities overall. The results were that up to 103 full-time equivalent positions were likely to be lost due to the creation of the marine reserves. The short-term loss of economic activity was estimated at approximately $23.2 million a year. To reality-check their modelling, they conducted detailed surveys of the catching and processing sectors, and people directly involved in the industry on the ground indicated that 284 full-time equivalent positions could be lost under the higher impact reserves option (which was rejected in favour of the lower-impact option assessed by ABARES).

It should not be forgotten that there are many reasons for fishers to be in financial trouble, ranging from high input costs (such as high fuel prices, which currently make up over 38% of the costs of some fishing businesses) to the high exchange rate for the Australian dollar to arguably still an excess of boats (“excess effort”) chasing available fish in some areas.

Some Extraordinary Claims Are Floating Around

Scare campaigns based on flimsy estimates of economic losses from policy reform are a familiar feature of the lobbying and negotiation process, and have proved very useful to those wishing to maximise their chances of receiving generous compensation packages.

As the Australia Institute’s Richard Denniss has observed, ‘Economic modelling has, for many people involved in Australian policy debates, become synonymous with the process of serious policy development...The modelling result that suggests tens of thousands of jobs will be lost or created often trumps logic or experience that suggests such claims are nonsensical.’

Australia’s commercial fishing sector is a small but important regional employer, and the attachment of many fishers to their jobs in a difficult industry deserves to be taken seriously. Marine National Parks are a crucial additional tool, alongside good fisheries management, for securing the long-term future of both commercial and recreational fishing, but they will come at a short-term cost for some commercial fishers. It is important that compensation be based on sound evidence, carefully tailored to help genuinely affected fishers and their communities to adapt. Inflated predictions of doom will not help that process.
The Australian Marine Alliance’s wild guesses

The Australian Marine Alliance (AMA) describes itself as an ‘amalgamation of peak industry groups across the Australian recreational and commercial fishing, aquaculture, manufacturing, marine, outboard and allied sectors’. Its CEO Dean Logan also runs a lobbying firm to which the AMA’s website is registered.

The AMA put out a paper making several claims about how much the Marine Reserve Network will cost fishers and related businesses. Some unreferenced claims appear to have been pulled out of thin air. While clearly out of all proportion to the size of fishing and related industries and the impact of the reserves, their claim that the Marine Reserve Network would lead to ‘$4.35 billion lost revenue’ and ‘36,000 jobs lost’ was reported uncritically in some mainstream media outlets.

To put these headline claims in context:

- The AMA’s 36,000 jobs figure includes an assumption that 9,700 direct fishing jobs will be lost, when latest ABS estimates indicate that only 7,646 direct fishing jobs exist across both state and Commonwealth waters, excluding aquaculture. In other words, they’re assuming that more direct fishing jobs will be lost than currently exist.
- The total income of commercial fisheries active in the area affected by the reserves is around $1 billion (of which $11.1 million will be displaced). To get to $4.35 billion lost revenue (which the AMA’s paper implies will be an annual loss), the entire commercial fishing sector would need to be wiped out in these areas, plus a generous multiplier.

To get to these big numbers the AMA therefore has to make some very strange assumptions. Among these are:

- A 25% reduction in Australia’s total catch resulting in an extra $525 million spent on seafood imports. No explanation is given for the 25% figure, which is not in any way realistic in light of the projected impact from ABARES’ careful fishery-by-fishery analysis of 1.1% of the current total value of fisheries in Commonwealth waters. (It is of course hard to see how extra seafood imports could be classified as ‘lost revenue’ even if the numbers were right.)
- A 25% reduction in everything from fishing license payments to AFMA to the recreational fishing and boating sectors in QLD, NSW, WA and SA. Again, no explanation is given for the 25% figure.
- A 6% downturn in revenue for 40 (unlisted) local councils. They reach a figure of $765.6 million a year for this by assuming a 6% downturn for Cairns Regional Council revenue, and then multiplying that figure by 40, even though the revenue for local councils in many affected areas is much lower than that of Cairns Regional Council.

Looking at the claim that there will be a total loss of 25% of Australia’s catch and that this will lead to an increase of 25% in Australia’s annual import of seafood at a cost of $525 million reveals further flaws. Australia both exports and imports seafood. The Australian seafood industry engages in quality
arbitrage, exporting very high quality seafood (e.g. tuna, lobsters, prawns etc.) and importing processed fish. Much high-value seafood is consumed locally as well, and the decision to export and import is based on market conditions, not in direct proportion to Australia’s catch as AMA claims.

Not only is the logic flawed; the numbers are also wrong. According to the Australian Fishery Statistics estimates, the value of Australia’s importation of fishery products in 2009/10 was $1,515 million, which was lower than the preceding year, but higher than the year before that. Of that total, $1,246 million was for edible products and $269 was for non-edible products, including pearls, fishmeal, ornamental fish etc. The idea that Australia would be importing an additional $525 million because the Marine Reserve Network displaces of $11 million of fishing effort is absurd. It would mean an increase of 42% in edible fish imports, which makes no sense in terms of the data or simple logic.

The impact on employment is also based on very questionable assumptions. The AMA report states that 16,000 jobs, including 9,700 direct and 6,200 indirect jobs, will be lost due to the Marine Reserve Network.

Looking at the claimed impact on direct employment in fishing, the numbers are clearly nonsensical. The most recently available detailed ABS census data indicate that the total number of jobs in the fishing industry was 16,000 in 2006, of which 9,736 were directly employed in fishing and aquaculture. Losing 9,700 ‘direct’ fishing jobs would be a loss of almost 100% of the direct fishing jobs in the sector as listed below. Of course, aquaculture is very unlikely to be affected by the marine reserves network, so the AMA is in fact suggesting that more fishing jobs will be lost than existed in 2006.


<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Vic.</th>
<th>Qld</th>
<th>WA</th>
<th>SA</th>
<th>Tas.</th>
<th>NT</th>
<th>ACT</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquaculture</td>
<td>709</td>
<td>280</td>
<td>551</td>
<td>325</td>
<td>766</td>
<td>935</td>
<td>62</td>
<td>0</td>
<td>3,628</td>
</tr>
<tr>
<td>Finfish trawling</td>
<td>61</td>
<td>52</td>
<td>61</td>
<td>23</td>
<td>53</td>
<td>25</td>
<td>4</td>
<td>0</td>
<td>278</td>
</tr>
<tr>
<td>Line fishing</td>
<td>7</td>
<td>10</td>
<td>27</td>
<td>15</td>
<td>18</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>86</td>
</tr>
<tr>
<td>Prawn fishing</td>
<td>130</td>
<td>4</td>
<td>323</td>
<td>93</td>
<td>78</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>648</td>
</tr>
<tr>
<td>Rock lobster fishing</td>
<td>43</td>
<td>93</td>
<td>104</td>
<td>491</td>
<td>227</td>
<td>183</td>
<td>13</td>
<td>0</td>
<td>1,154</td>
</tr>
<tr>
<td>Other fishing, hunting and trapping</td>
<td>865</td>
<td>355</td>
<td>945</td>
<td>530</td>
<td>627</td>
<td>427</td>
<td>186</td>
<td>7</td>
<td>3,942</td>
</tr>
<tr>
<td>Total</td>
<td>1,815</td>
<td>794</td>
<td>2011</td>
<td>1477</td>
<td>1769</td>
<td>1578</td>
<td>284</td>
<td>7</td>
<td>9,736</td>
</tr>
<tr>
<td>Fish wholesaling</td>
<td>1,039</td>
<td>859</td>
<td>1,037</td>
<td>452</td>
<td>460</td>
<td>295</td>
<td>43</td>
<td>17</td>
<td>4,202</td>
</tr>
<tr>
<td>Seafood processing</td>
<td>203</td>
<td>259</td>
<td>273</td>
<td>357</td>
<td>509</td>
<td>385</td>
<td>15</td>
<td>0</td>
<td>2,001</td>
</tr>
<tr>
<td>Total</td>
<td>1,242</td>
<td>1,118</td>
<td>1,310</td>
<td>809</td>
<td>969</td>
<td>680</td>
<td>50</td>
<td>17</td>
<td>6,203</td>
</tr>
<tr>
<td>Grand total</td>
<td>3,057</td>
<td>1,912</td>
<td>3,321</td>
<td>2,286</td>
<td>2,738</td>
<td>2,258</td>
<td>342</td>
<td>24</td>
<td>15,939</td>
</tr>
</tbody>
</table>

More recent figures from the 2010 Australian Fishing Statistics publication show fewer employed in fisheries with employment in the “fishing, hunting and trapping” sector falling from a high of about 15,000 in 2000-01 to 8,467 in 2005-06, and then remaining in that range since then as shown in the following table:
Employment numbers as reported in Australian Fisheries Statistics, 2010

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>Fishing, hunting and trapping sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>5,058</td>
<td>4,949</td>
<td>6,920</td>
<td>2,478</td>
<td>5,571</td>
</tr>
<tr>
<td>Part-time</td>
<td>3,409</td>
<td>1,343</td>
<td>2,607</td>
<td>2,129</td>
<td>2,075</td>
</tr>
<tr>
<td>Total, fishing hunting and trapping</td>
<td>8,467</td>
<td>6,292</td>
<td>9,527</td>
<td>4,607</td>
<td>7,646</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>3,919</td>
<td>3,480</td>
<td>4,170</td>
<td>4,616</td>
<td>3,785</td>
</tr>
<tr>
<td>Total, fishing hunting and trapping plus aquaculture</td>
<td>12,386</td>
<td>9,772</td>
<td>13,697</td>
<td>9,223</td>
<td>11,431</td>
</tr>
<tr>
<td>Percent fishing, hunting and trapping</td>
<td>68%</td>
<td>64%</td>
<td>70%</td>
<td>50%</td>
<td>67%</td>
</tr>
<tr>
<td>Percent aquaculture</td>
<td>32%</td>
<td>36%</td>
<td>30%</td>
<td>50%</td>
<td>33%</td>
</tr>
</tbody>
</table>

The Fisheries Research and Development Corporation (FRDC) states that the ABS employment data provides a very conservative estimate. The FRDC does not make its own estimates of total employment in the fisheries sector and related industries. However, it considers the ABARES numbers to be too low and suggest that ‘until accurate information is available’ commercial fishing employment should be estimated at between 100,000 and 110,000 people, including ‘people employed in the wild-catch, aquaculture and all post-harvest processes (including putative seafood components of transport, wholesaling, retailing and restaurants)’. This estimate suggests 1 per cent of Australia’s workforce is engaged in fishing related employment. This seems overly high given commercial fishing and aquaculture contribute around 0.2 per cent of Australia’s GDP.

Clearly the data on broader fishing-related employment is poor. However, given that the RIS states that the percent of impact in the total fishing industry, including state and territory fisheries as well as Commonwealth, plus aquaculture, the impact of the CMRN would be 0.5% (remembering that impact on Commonwealth only was estimated at 1.1%) and even accepting FRDC’s rough estimate as a basis, the idea that 16,000 jobs would be lost due to the CMRN, including 9,700 of them in direct employment is still unsupportable. The RIS report gives two estimates of job losses in the fishing industry:

- 102–125 based on ABARES modelling (page 40).
- 284 based on surveys of affected fishers (page 41).

When it comes to estimates of indirect employment, the picture is more difficult due to the lack of data. The problem is that there are no universally used methods to estimate such jobs and different regions and different organisations make estimates differently. The CEO of AMA has discussed the number of jobs lost related to outboard manufacture in recent years as if this were caused by the newly declared CMRN, rather than market forces. It is possible that some jobs in businesses related to fishing will be lost. It is also possible that some new ones related to recreational fishing and marine tourism will be created.
A number of the claims made by AMA are contrasted with numbers from the RIS in the following table.

**Table: Contrasting some of the AMA claims with RIS assessment**

<table>
<thead>
<tr>
<th>Claim</th>
<th>Regulatory Impact Statement</th>
<th>Reason claim is wrong</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,000 jobs lost (9,700 direct &amp; 6,200 indirect employment)</td>
<td>103-125 based on ABARES calculations, or 284 jobs based on a survey of affected fishers. Note that these are direct employment figures; indirect numbers not estimated due to lack of data and inconsistent methodologies used.</td>
<td>AMA’s figures for direct employment are greater than ABS current total numbers for fishers, implying that the entire industry would be wiped out by the displacement of 1.1% of the Commonwealth catch. Indirect employment numbers are disputed and the basis for the AMA’s estimate is not given.</td>
</tr>
<tr>
<td>25% reduction in catch</td>
<td>Total potential impact 1.1% of value of Commonwealth catch; 0.8% of value of all wild fisheries (including state waters).</td>
<td>No explanation given for their assumption that the catch will be reduced by 25%</td>
</tr>
<tr>
<td>$525 million in increased seafood imports</td>
<td>Not discussed – not relevant. Elsewhere, ABARES discusses the influence of exchange rate &amp; fuel costs on imports &amp; exports; imports show no correlation with domestic wild catch.</td>
<td>The idea that a 42% increase in imports of edible fish could result from the displacement of 1.1% of wild fish catch in Commonwealth waters is clearly nonsense. Even if the impact on local catches were much higher, imports and exports are based on market prices, not local catch levels.</td>
</tr>
<tr>
<td>20,000 direct and indirect jobs in tackle, boating, light marine, outboard, charter and manufacturing sectors</td>
<td>Only commercial operations will be affected; impact on recreational fishing will be minimal</td>
<td>AMA appears to have used a 1990 estimate of 80,000 jobs in the industry &amp; decided that 25% of those jobs will go. They provide no explanation for their choice of the 25% figure.</td>
</tr>
<tr>
<td>Claims a 25% downturn in recreational boating, fishing &amp; tourism sectors in NSW ($345 m); recreational boating ($95.1 m) and fishing ($125 m) in WA; recreational fishing in NT ($7.5 m) and in QLD ($220m)</td>
<td></td>
<td>Again, there is no justification for supposing that a 25% downturn will occur in any of these sectors.</td>
</tr>
</tbody>
</table>
The AMA’s paper was released before the shape of the Commonwealth Marine Reserve Network was announced. Far from revising their estimates downward in light of the announcement, however, the AMA recently put out a press release saying that costs were likely to be ‘higher by a factor of at least 3’ than their previous estimates, based on an unreleased study commissioned by Cairns Regional Council, examined below.47

**Loss to North Queensland economy significantly overestimated**

The Cairns Regional Council commissioned a study by Cummings Economics that suggests that over 3 decades the CMRN will create a $1 billion dollar loss to the far North Queensland economy.48 Since the study has not been released to the public it is hard to know how such a number has been generated, but it is questionable for the following reasons:

- The RIS projects that the Cairns region could forgo approximately $3.717 million a year in future landings, $1.252 million per year from the North marine reserves network and $2.462 million from the Coral Sea.49 This is an important impact, and the Cairns region has a better claim to compensation than most areas affected by the Marine Reserve Network. It must be noted however, that these are losses in gross value of landings, not economic benefits which would be net values.

- Calculating a 30-year present value for the $3.717 million impact would add up to $64 million in total. There are several reasons to consider even this figure as too high, including the fact that some catches are on a pre-existing downward trend and that some of the affected fishing is likely to be displaced rather than removed.

- Assuming strong linkages into other local industries, there are likely to be additional short-term economic losses. But to calculate these over three decades is not justifiable because these industries, supplying ‘upstream’ inputs and services such as boat supplies, and ‘downstream’ (such as transport for instance) will adjust to changing market conditions and find other buyers and service users (e.g. transporting other goods, selling to other boaters or changing sales). Some individual businesses that are so closely linked to the fishing industry that they cannot change to alternatives may find justification for compensation from the Government, but it is not standard economic practice to calculate such an impact over 30 years.

- The losses required to produce a present value of $1 billion over 30 years, at a reasonable discount rate (4%) would need to be about $65 million a year, for the entire 30 years, which is simply not realistic.

- The RIS also shows the projected losses in terms of the population of the towns. In the case of Cairns, the gross value of forgone landings were projected as equal to $30 per resident per year ($10 from the North and $20 from the Coral Sea reserve). The impact on the general population should not be high.

- The RIS predictions for losses in the Cairns region are specifically described as short-term losses, which are very unlikely to extend over 30 years, and so such a prediction is dubious. The fact that fishing
interests are to be compensated does not appear to have been factored in.

A few other points are worth noting:

- The Coral Sea fishery is not a high-value fishery and the need to travel far (outside the Great Barrier Reef) means that fuel prices make the Coral Sea fishery less attractive for commercial fishers. Only about a dozen licenses are in use, and a number are inactive. Some of the fishers in the Coral Sea will welcome a buyout package, according to a representative of the longline fishers of the Coral Sea.\textsuperscript{50}
- Marine Tourism in Queensland is high-value. Access Economics estimated $2.8 billion a year in direct benefits from the Great Barrier Reef.\textsuperscript{51} A presentation by Cummings Economics notes that tourism expenditure in Far North Queensland is over $2 billion a year.\textsuperscript{52} The declaration of the Coral Sea marine reserve is likely to add to Cairns’ appeal as a tourist destination, and the insurance value of preserving natural assets that underpin one of the most lucrative industries in the Cairns area is likely to be high.
- The vast majority of recreational and charter fishers will not be significantly affected by the government’s proposed plan for the Coral Sea. Recreational and charter fishing will still be able to take place in nearly half of the Coral Sea including 18 of the Coral Sea’s 25 currently unprotected reefs, and a further 4 are partially open. The closest ‘no take’ zone in the Coral Sea will be nearly 210km from Australia’s coastline.

In sum, while the Cairns and Northern Queensland area is projected to be affected, the $100 million compensation pool should allow for adequate compensation, including the buyout of some longline fishers who will welcome the chance to exit a difficult business. Positive benefits from the Marine Reserve Network can be expected in the form of increased tourism revenues and a more secure future for recreational fishing and commercial fishing, underpinned by healthier and more resilient marine ecosystems and fish stocks. These longer-term benefits are more difficult to calculate accurately, but – and this fact is clearly not lost on the Australian public, including many fishers – they are nonetheless real.

**COMPENSATION OF FISHERS DISPLACED BY CREATING THE COMMONWEALTH MARINE RESERVES**\textsuperscript{53}

One good practice for calculating payments for forgone revenue is to calculate realistic income streams into the future, meaning net value of production, not gross value, and then to discount them over an appropriate time period. The net value of production is what the fishers actually see as profit. However, the figures that are used in the RIS are for gross value of production, not net, because detailed and up to date information about the specific costs of individual fishing businesses – and therefore their net revenue – is not generally available. This makes compensation more difficult to calculate...
definitively, and can make decision-makers vulnerable to lobbyists aiming for overcompensation rather than adequate compensation.

Some interest groups are calling for the Great Barrier Reef package to be treated as a benchmark for calculating the compensation to be paid to any fishers displaced by the proposed Marine Reserve Network, but the payouts made for the GBR were considered excessive by many observers, including the then finance minister Nick Minchin. The payouts expanded over time, and eventually were driven by a largely political process until the final package had reached about $250 million, to compensate for the displacement of $14 million in gross production.

"From the very outset, the then finance minister Nick Minchin complained that the package was too large, that it was being misallocated and that it would set a horrid precedent for future conservation programs. Prime Minister Howard brushed his concerns aside and shovelled money at virtually anyone, near the Great Barrier Reef, who asked for it. In addition to the funds provided to commercial fishers, multiple onshore businesses got handouts, including several fish-and-chip shops. It got so farcical that even the Queensland Seafood Industry Association, the peak commercial fisheries lobby group, was given $200,000, apparently to help it restructure and 'achieve longer term financial self-sufficiency'."

A better process to use would be that followed under the fisheries structural adjustment package ‘Securing our Fishing Future’ which was designed to decrease excess fishing capacity and was more closely related to actual incomes from various fisheries. The Minister, Tony Burke has announced that about $100 million will be available for the fisheries adjustment package under the Marine Reserves program, and this would be a generous amount. The mechanism and decisions on which fisheries will be compensated will be developed under the management plans but it should be based on the precedent of this package, not the GBR.

Fishery adjustment payments contain both buyouts that reduce total fishing effort and compensations. The buyouts can have a positive effect on the fishers remaining in the industry, but compensations that do not reduce fishing effort can do the opposite when they subsidize fishing activities that may be marginal. A representative of the longline fishers in the Coral Sea has stated that the longline fishers of the Coral Sea will welcome a buyout package. The ratio of compensation to buyouts in the Great Barrier Reef package was far too high. The ‘Securing our Fishing Future’ package was more reasonable and would make a better model. This is discussed further in our previous publication, ‘Preserving Our Marine Wealth’.

THE IMPORTANCE OF PRESERVING BIPARTISAN SUPPORT FOR THE MARINE BIOREGIONAL PLANNING PROCESS

Opposition Leader Tony Abbott recently criticised the Government’s decision to create the Commonwealth Marine Reserve Network, claiming that it needs more scientific analysis and more consultations with communities, but he seems to forgotten that the whole process started many years ago under the Howard government, and in the past few years, work on the science and the
consultations have been intense. It was pointed out in Question Time that the science on which the South-West marine reserve was based was released by the then Environment Minister Malcolm Turnbull.

The announcement of the proposed Marine Reserves Network is the latest step in a process that has been building for many years. In the 1992 Intergovernmental Agreement on Environment established under the Keating government, responsibilities of the Commonwealth, states and local governments with regards to the environment were laid out. In this document, commitment was made to principles including the precautionary principle, the principle of intergenerational equity, the conservation of biological diversity and ecological integrity.

The Environment Protection and Bioconservation Act of 1999, enacted under the Howard Government, defined the process of declaring Commonwealth reserves, including in marine areas, as part of a broader marine bioregional planning process.

The Howard government established the first reserves in the planned national system in the South East in 2007. The process of declaring the rest of Australia’s Commonwealth Marine Reserves has taken many years and has been supported by governments of both major parties. It has not been a sudden or a partisan process, but rather one that has been chosen by a succession of elected officials.

Mr Abbott and others suggesting that the Marine Reserve Network should be more ‘science based’ should be careful what they wish for. Altering the network to more strongly reflect scientific recommendations would indeed have many benefits for the preservation of biodiversity and improvement in the long-term security of the commercial and recreational fishing sectors. To do this would require that a higher proportion of the Marine National Parks within the network cover high value coral reef, seagrass and coastal system areas, rather than open ocean. These are precisely the areas in which no-take zones tend to be most fiercely opposed by the fishing lobby.

The Centre for Policy Development’s 2011 report ‘Stocking Up: Securing our Marine Economy’ was jointly launched by the Coalition MP Mal Washer, Labor MP Melissa Parke, and Greens Senator Rachael Siewart. All recognised that the future of Australia’s marine industries depends on a healthy marine environment. Australia’s marine bioregional planning process is a crucial tool for preserving our oceans, and both major parties can be proud of the role they have played in it. It would be a shame if this legacy were squandered in the interests of short-term politics.


3 Regulatory Impact Statement (2012), op cit p. 39

4 Regulatory Impact Statement (2012), op cit p. 42


7 Hoisington, C. and Eadie, L. (2012), op cit


10 Eadie, L. & Hoisington, C. (2011) op cit


13 Access Economics (2007), ‘Measuring the economic and financial value of the Great Barrier Reef Marine Park: 2005-06: A report for the Great Barrier Reef Marine Park Authority’, The Great Barrier Reef Marine Park Authority, Townsville QLD. p.3 (Table 1). Note that these figures are on the basis of the GBR catchment area, which includes adjacent inland areas in addition to the Park itself because of data limitations and the fact that this estimation was based on national accounts-based flows.


15 See for example, Prideaux, B. (2012) “Tourism Potential of the Proposed Coral Sea Commonwealth Marine Reserve” report prepared for the Protect Our Coral Sea Campaign, May 2012, Cairns. This report looks at a number of factors influencing tourism development and concludes that “If effectively managed there is an opportunity to substantially increase the level of revenue above the AU$11-15 million presently generated by tourism activity in the Coral Sea.” (p.6)


18 Regulatory Impact Statement (2012), op cit
19 Regulatory Impact Statement (2012), op cit pp. 6-11
20 Regulatory Impact Statement (2012), op cit p.39
21 Regulatory Impact Statement (2012), op cit p. 39
25 Denniss, R. (2011), 'The industries that cried wolf', The Australia Institute
33 Australian Fishing Statistics, 2010, op cit p. 32
34 Australian Fishing Statistics, 2010, op cit p.33
36 “The most recent ABS Census Survey detailing employment in the fishing industry, by sector and by state, was conducted in 2006” Australian Fishing Statistics, 2010, op cit p. 32
37 In 2012, total Australian employment was 11.355 million according to ABARES, Agricultural Commodity Statistics, (2011), p. 2
38 In 2012 Australian GDP was $1,391 billion according to Agricultural Commodity Statistics, (2011), op cit p. 1
The gross value of commercial fishing and aquaculture is estimated at $2.3 billion per year. Eadie and Hoisington, (2011), op cit, p. 11

Regulatory Impact Statement (2012), op cit, p.39

Stobutzki, I et al, 2011, op cit p. 18


Regulatory Impact Statement (2012), op cit p.50

Courier Mail (2011) advertisement Sept 2011, "It’s Time to Protect the Coral Sea” “The commercial fishing industry is willing to restructure and remove fishing from this special place, provided the federal government offers a fair financial package to the small number of affected operators.” Gary Heilmann, De Brett Seafood, On behalf of longline fishermen in the Coral Sea.

Access Economics, 2007, op cit p.3


See also Hoisington and Eadie (2012), op cit


Macintosh, A (2012) op cit

Macintosh, A. (2012) op cit

Courier Mail (2011) advertisement Sept 2011, op cit

Hoisington and Eadie (2012), op cit, p. 12-15

Regulatory Impact Statement (2012), op cit


Harvey, E.,(2012), op cit