

# A DIVE WRECK FOR COOGEE

From the Gordons Bay Scuba Diving Club

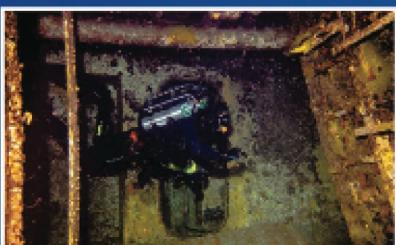
Sign our Petition at Sydney Dive Wreck on [www.change.org](http://www.change.org)



The ex-HMAS Adelaide, photo courtesy of Robb Westerdyk



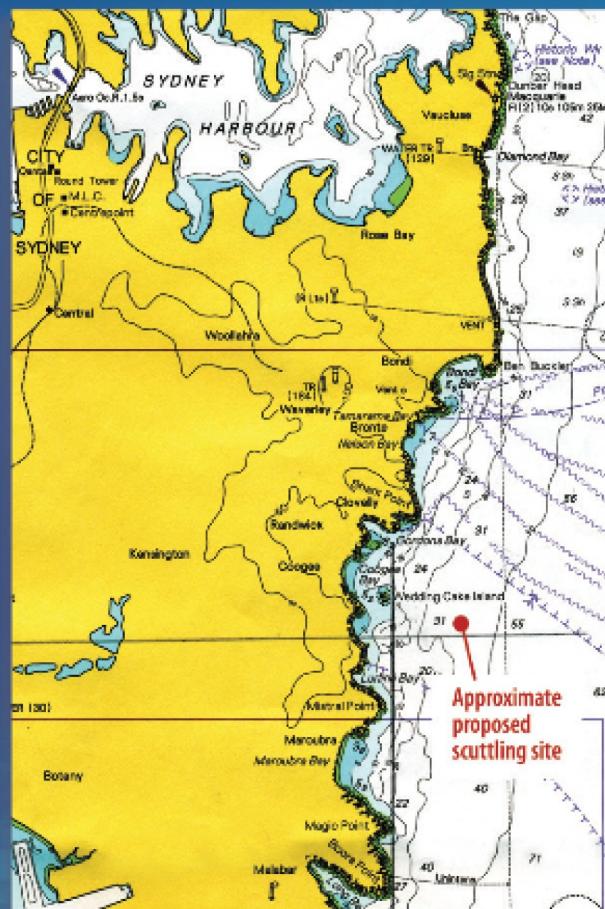
Sea bottom at the site, photo courtesy of George Evatt



The ex-HMAS Swan in Western Australia courtesy of Rossco Cox



The ex-HMAS Swan in Western Australia courtesy of Rossco Cox



## Executive Summary

- Coogee the perfect site
- Estimated to generate from \$5-\$7 million per annum
- Creates new marine habitats
- Better use for an old ship than selling for scrap or target practice
- No impact on Coogee Beach as the site is 4km offshore
- The dive wreck will not move

More information at <http://www.gordonsbayscubadivingclub.com>

With the recent announcement by Defence Minister Marise Payne that the decommissioned ex-HMAS Sydney (4) will be offered as a dive wreck, there is a very strong case for Coogee to become its new home. Similar dive wrecks off Townsville, Avoca Beach and other locations around Australia have brought in millions of dollars to the economy and greatly assisted biodiversity by acting as artificial reefs for fish and marine life. Sunk 4km off the coastline, there will be no visibility of the wreck from the beach, preserving the natural beauty and amenity of the area. A properly managed dive wreck has the potential for over 100 years of useful life, and will provide recreational activity and economic benefits for generations to come. This dive wreck will be a great asset to Sydney's eastern beaches and to the one million Australians who take part in diving and snorkeling every year. Not only will it appeal to local divers, but also it's potential as an international diving attraction, which is estimated to contribute up to \$7m annually to the NSW economy.

The member for Coogee, Bruce Notley Smith arranged a meeting on 16 November 2016 with the Minister for Primary Industry Niall Blair. Questions raised by the DPI as to why the department was not going to submit an expression of interest for the ex HMAS Sydney (4) were tabled. See Appendix 9. The Minister requested that the dive wreck proposal be considered in the context of a Sydney Marine Park and the Marine Estate. Consequently, this proposal was tabled with the Marine Estate Secretariat on 31<sup>st</sup> March 2017 .

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## 1. Overview

This is a proposal to sink a decommissioned navy ship off Coogee NSW as an artificial reef wreck. For the purposes of this proposal, an artificial reef wreck is defined as a vessel that is sunk intentionally as a recreational resource including for diving, fishing, surfing, marine engineering, environmental restoration, or disposal. A shipwreck is a vessel that sunk as the result of an accident or misadventure (Edney and Spenneman 2014). However, as the purpose of the artificial reef wreck is mainly for diving we will use the term dive wreck.

The dive wreck is predicated on a complete ban of recreational and commercial fishing in the immediate area of 350m x 250m (DPI 2011) similar to the ex HMAS Adelaide. Many studies have demonstrated higher fish densities, biomass, and diversity on artificial reefs than natural habitats (Bohnsack et al. 1994, Clark & Edwards 1999, Rilov & Benayahu 2000, Arena et al. 2007, Burt et al. 2009). Fishing on dive reefs can rapidly reduce target fish populations and drastically decrease the value of a dive for tourism (Brock 1994). Artificial reefs are good for fishing and divers but bad for fish (Arena 2013). The proposed closure is contentious based on perception only, artificial reefs have been built off Vaucluse and one is in preparation off Cronulla and it can be argued that these reefs are an offset for the fishing closure on the dive wreck (Suthers 2016).

### 1.1 Economic values

Ocean-going ships have an average life-cycle of approximately 28-35 years. At the end of their lifespan, they are scrapped mainly for their recyclable steel (Glisson & Sink 2006) content. A dive wreck has useful life of up to 100 years or more (Gabriel 2004). The economic and community benefits of a dive wreck far outweigh the scrapping option, for instance the ANL ships when sold for scrap netted \$16 million (Yarra 2014). Our proposal nets an estimated \$80-100 million over 20 years (Appendix 1). However, there is no reason to conclude that this dive wreck proposal will not continue to earn income for the next 100 years or more. For example, the *SS Yongala* was wrecked off Townsville QLD in 1911 and in 2016, *SS Yongala* is today a major tourist attraction for the recreational diving industry. More than 10,000 divers visit the wreck every year. At 110 meters long, she is one of the largest, most intact historic shipwrecks and has survived for 110 years (Wikipedia 2016).

Ideally the *HMAS Sydney (4)* which was decommissioned on the 7<sup>th</sup> November 2015 (Mayer 2015) would be the perfect fit. Defence Minister Marise Payne announced on 5<sup>th</sup> April 2016 the that both the ex HMAS Sydney (4) and Tobruk would be made available as dive wrecks (Maryse 2016). Further the Sydney is currently moored off Garden Island and is a short towing distance to both preparation and ultimate dive wreck locations. On 5 December 2016 it was announced that the QLD government would take title to the ex HMAS Tobruk and sink her as a dive wreck off the waters of the Bundaberg and Fraser Coasts (ABC 2016).

- We have the expertise to sink a dive wreck in an environmentally sound way. There will be no impact on Coogee beach. The wreck will not be visible above water and is a substantial distance from the beach.
- The proposed site is offshore from Coogee and is some 4 kilometers from Coogee beach.
- The site satisfies all of the criteria for a dive wreck site (Appendix 5).
- A dive wreck would provide a significant boost to tourism in eastern Sydney and NSW. The project will generate from \$4 million to \$5.2 million per annum in diving revenue alone. Ancillary spend is estimated to be an additional \$1.4-\$1.9 million for a total per annum revenue estimate of between

\$5.4- \$7.1 million (Appendix 1) at an estimated one off cost of some \$6.5 million (Appendix 7 McMahon Services 2011). Other estimates put the cost as high as \$10 million (Johnston 2013). The sale of scrap of some 5200 tonnes from the *ex HMAS Adelaide* of aluminum brass, copper, lead and steel is estimated to be \$1.4 million at current prices (Parker 2016).

- In NSW the scuba dive market is valued at \$300 million (Nicholls 2014). Nationally it is valued at \$1 billion from international visitors and \$547 million from Australian divers (Worley Parsons 2009). Nationally nearly 1 million Australians participate in diving and snorkeling each year (Appendix 6). Therefore, a strong case can be made for the money resource to fund the project (Appendix 7 McMahon Services 2011). An additional dive site in Sydney would diversify dive offerings and create a more attractive destination for this market.

### *1.2 Environmental Values*

- Functioning as new habitats for a multitude of fish and invertebrate species.
- Create effective marine habitats on what is otherwise a soft-bottomed featureless environment.
- Alter the connectivity patterns between natural reefs in a positive way.
- Provide corridors so smaller fish can safely move from one reef to another.
- Conserve pre-existing habitats as well as form new habitats of complex ecological systems.

### *1.3 Research Values*

- The Sydney Institute of Marine Science (SIMS) may undertake research projects on a dive wreck. Acoustic receivers will be placed on the dive wreck to monitor for any tagged fish and sharks.

### *1.4 Recreational Values*

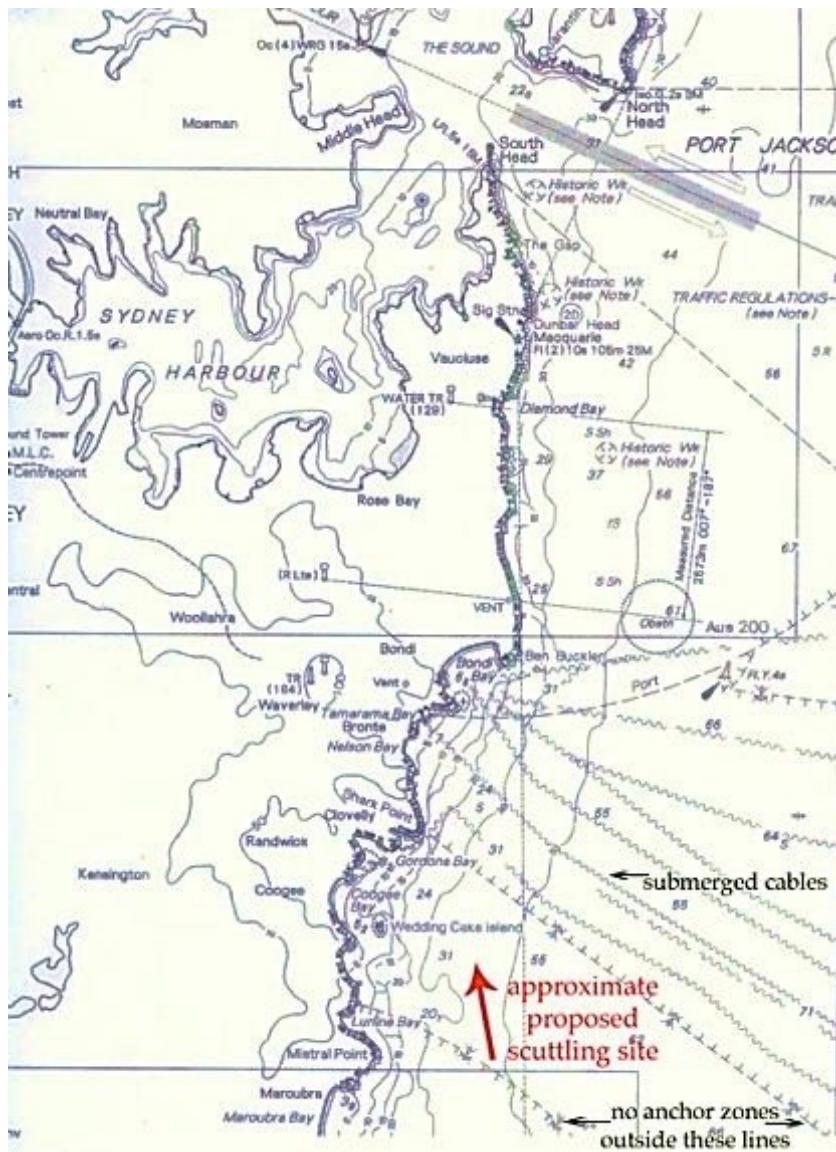
- Great dive site for Scuba Divers.
- Potential for underwater camera for 24 hour surveillance for non-divers on shore.
- *Community Support*
  - There is strong support in the community for this proposal with over 5383 supporter:
  - 2745 plus signatures on a petition on Change.org ([www.change.org](http://www.change.org) Sydney Dive Wreck).
  - 1444 plus likes on Sydney Dive Wreck Facebook page'
  - 1194 signatures on paper petition'
  - Positive response to an Article in The Beast Eastern Suburbs Community Magazine and Dive Log National Scuba Trade Magazine (Rowe 2013, Rowe 2015b).
  - Numerous letters of support from marine scientists members of the dive community government and political representatives (Appendix 8).
  - The HMAS Sydney Association sees the conversion of their ship HMAS Sydney (4) to a dive wreck as a worthwhile and fitting tribute to the ships company rather than see her sold for scrap.
  - Further a land based memorial to the ship would fit well into the Coogee coastline (John Byrne pers. com. 2017).

## 2. Introduction

### 2.1 Location: Randwick Local Government Area (LGA) Coogee NSW Australia

**Operation:** Proposal to sink a decommissioned Navy Ship off Coogee NSW as a dive wreck Estimated cost from \$6.5 million (McMahon Services Appendix 7) less sale of scrap estimated at \$1.4 million (Parker 2016).

Figure 1 Proposed location (Australian 2001) Aus197 Scale 1:75000



## 2.2 Decommissioned navy ships sunk as dive wrecks

Dive wrecks give economic benefits, which are recognised by communities and governments (Dowling & Nichol 2001, Pendleton 2004, Stolk et al. 2007, Morgan et al. 2009, Edney 2012). Other options for the disposal of decommissioned navy ships could include target practice for the Defence Forces, scrapping for metal, maritime museum pieces and back packer accommodation (Defence 2013). The value achieved by these one off options does not compare with the lifelong revenue for a ship sunk as a dive wreck. Economic analyses have shown that business opportunities in marine ecotourism(Dowling & Nichol 2001) have the potential to multiply the effect into other local services (Hill 2005) far in excess of the dumping or scrapping option. Revenue generated worldwide from dive shipwrecks is on average estimated at \$US 3.4 million per annum (Pendleton 2004). In Australia ex HMAS Brisbane generates \$4.3M per annum (Appendix 4).The project is estimated to generate from \$4 million to \$5.2 million per annum in diving revenue alone. Ancillary spend is estimated to be an additional \$1.4-\$1.9 million for a total per annum revenue estimate of between \$5.4- \$7.1 million (Appendix 1) at an estimated one off cost from \$5.1 million to \$10 million.

### Type of tourism at Sydney's Eastern Beaches (SEBS)

Tourism is a significant industry sector in the Australian economy, several times larger than for instance agriculture (Buckley 2008). For the year ended June 2015, tourism in Australia accounted for 6.6 million international visitors who spent \$100.1 billion in the economy being 6.4% of GDP of \$1558.4 billion in 2014 (Australia 2015).(Anning 2011) has estimated that assuming 4 million visitors per year one Sydney beach can be valued at \$258.9 million per annum. On this estimate, Sydney's eastern beaches could generate \$1812.3 per annum in value. However, beach activity is outside the ambit of the proposed dive wreck but gives a good indication of the tourist vale of SEBS. Revenue from the dive wreck is additional to existing tourist economic activity.

Sydney's Eastern Beaches cover the Local Government Areas (LGA) of Botany Bay, Randwick, Waverley, and Woollahra (Appendix 2 (a)). All epitomise what (Hall 2001) calls the 4 SSSS of coastal marine tourism, sun, sand, surf, and sex. 40 years ago a fifth S -scuba diving -was added in 1972 by the establishment at Coogee Beach of the first retail scuba dive shop by Pro Dive (Byron 2014).

Randwick LGA has the greatest share of international domestic overnight and day-trippers to the SEB (Appendix 2(b)). It is a place where visitors come to relax, enjoy the ocean views and fresh air and swim in the ocean. An intertidal protection zone extends around Long Bay and a Grey Nurse Shark critical habitat has been established at Magic Point. An aquatic reserve exists from Bronte to Coogee. Tourism includes the coastal walkway, surf beaches, coastal whale watching, coastal pools, historical buildings and forts, boating, fishing, sailing, scuba diving, horse racing, University of NSW, Botany Bay, La Perouse, National Institute of Dramatic Art (NIDA) 5 golf courses, night clubs, snake show, shipwrecks, aboriginal art and settlements, antique markets, Centennial Park, Randwick Race Course, festivals and weekend markets (LGA 2014).

#### 4. Tourism impacts at Coogee from the proposed Dive Wreck

Access to the dive wreck will be by boat only. Commercial boat operators load from Rose Bay and Botany Bay rather than Coogee (Appendix 2(a)). Therefore, impacts at Coogee and the Randwick LGA will only be great on the sinking date as it provides a great public spectacle. For example the *ex HMAS Adelaide* sinking in 2011 attracted 18000 people (Adelaide 2011)

##### 4.1 Junk dumping exercise

Table 1 summarises other impacts of the dive wreck. Community concerns such as the proposal being a junk dumping exercise as suggested by The Beast (Rowe 2013) article arose from a lack of accurate information on the proposal. No negative comments were received following the publication of this article. 5 responses were received from readers all positive.

The perception is that a grubby metal navy ship should not taint the sea. This perception was evident in the No Ships Action Group (NSAG) opposition to the sinking of the *Ex HMAS Adelaide* off Avoca Beach. However their appeal before the Administrative Appeals Tribunal (AAT) has been best summarized by (Cole 2011).

“NSAG originally had a long list of concerns, principally claiming that the marine environment would be polluted by the scuttling of *Ex-HMAS Adelaide* due to leaching into the marine environment of polychlorinated biphenyls (PCBs) and heavy metals. Their Amended Statement of Issues in April 2010 raised ten issues for the Tribunal to review, but on the second day of the hearings in July, NSAG abandoned all but four items, dropping their claims regarding PCBs and most of the heavy metals. The case proceeded principally upon their concerns relating to potential harmful effects from lead-based paint and the copper-based anti-fouling system. NSAG also argued that the proposal was contrary to the international convention known as the London Protocol, arguing that the ship should be recycled for scrap metal.

The Tribunal heard evidence from a number of experts on these issues, Australian and American specialists in vessel preparation, environmental monitoring, and risk assessment. Evidence was also presented on environmental monitoring from other vessels placed as artificial reefs in Australian and American waters.

The NSW Government presented expert evidence that the risks of harm to the environment from PCBs, copper and lead were low or negligible. The type of lead present – lead tetroxide – is particularly inert and insoluble. The State contended that the proposed scuttling was consistent with the London Protocol as it entailed the deliberate placement of the ship for the purpose of creating an artificial reef that will attract marine life, and hence was a form of reuse.

The Administrative Appeals Tribunal handed down its decision on 15 September 2010, allowing the scuttling of *Ex-HMAS Adelaide* to proceed with some extra conditions relating to the preparation of the ship and environmental monitoring. By this time the project had been delayed 6 months at a cost of \$1M. The Tribunal concluded that: ‘...all the information available to us points to a conclusion that there is no risk of harm to human health or the environment’ and “the level of pollutants now aboard the ship is low, and those that remain are either in very low quantities of inert and unlikely to cause any environmental problem”. The Tribunal also concluded that the purpose of the scuttling – to create an artificial reef – is recognized by the *Environment Protection (Sea Dumping) Act* as a proper purpose and that ‘there are benefits to the environment from the resulting marine habitats generated, as well as more general benefits to

*the community’.* The parties had 28 days to appeal the Tribunal’s decision in the Federal Court, but neither party appealed.”

#### *4.2 Potential harmful effects on the dive wreck in lead-based paint and the copper-based anti-fouling system.*

The *ex HMAS Adelaide* as a condition of scuttling has a heavy metals monitoring requirement. A site comparison has been made pre and post scuttling of metal contamination. The survey was completed by Worley Parsons pre and post scuttling (Parsons 2011). This survey showed sediment values are all below ANZECC/ ARMCANZ national guidelines (ANZECC 2000) so there is a very low risk of any adverse environmental effects. CardnoEcology Lab did a study 21 months later and concluded that the impact to the marine environment and associated benthic biota as a result of metal corrosion and or degradation of paint layers from the *ex HMAS Adelaide* is considered unlikely (Lab 2013). Funds should be allocated for ongoing monitoring of the proposed wreck (Suthers 2015).

The fact was that the *Adelaide* was ready to be sunk in an environmentally sensitive way (Worley & Parsons 2009). The NSAG obtained a hearing before the Administrative Appeals Tribunal based on the fact that the Minister Peter Garrett had signed off on a sinking date before he had signed off on the Sea Dumping Permit of the dive wreck not on the basis of the NSAG arguments that the process was environmentally unsustainable (AAT 2010).

#### *4.3 Dive wreck move to shore*

Concerns have also been expressed about the potential of the wreck to be moved on to the shore at Coogee (Notley-Smith 2013). Initial research and informal consultation with environmental engineers makes this concern a most unlikely scenario. Calculations (Worley Parsons 2009) have been done for the *ex HMAS Adelaide* a ship of some 3800 tonnes off Avoca Beach. Worley Parsons estimate a slip of 2m for the *Adelaide* given a maximum wave height of 15.6m in 100 years. Prevailing wave conditions off Coogee are similar to Avoca (Short & Woodroffe 2009) and generally are in the 2-3 m wave height. Waves much higher than that are a rarity (Scheffers & Kelletat 2003). Waves off Tonga for instance 120,000 years ago estimated to be 19-44m in height deposited seven boulders on shore, weighing from 70-1600 tonnes (Frohlich et al. 2009).

So the hypothesis at this stage is that the prospect of the dive wreck ending up on the Coogee shore is most unlikely. If we should have oceanic conditions prevailing that can move a 4000 tonne dive wreck sunk to 35m in the ocean emplaced in 7 meters of sand over 4 kilometers to shore then ship movement would be the least of any problems on shore. There would need to be consideration and close attention to the assumptions made here with respect to the interaction of the wave climate with the *ex HMAS Adelaide* and these would need to be re-evaluated with respect to the proposed site at Coogee. As well as this, any changes to the wave climate at this proposed location from the site at Avoca and changes to the orientation, and the depth of the scuttled ship at this location would also need to be considered. It is likely that calculations would show similar results to those for the *ex HMAS Adelaide* and that the hypothesis would be correct. However, for a project that would be under such public scrutiny these calculations and a comprehensive analysis of the proposal, similar to that produced by Worley Parsons would be required (Rowe 2015a).

#### *4.4 Perfect and natural dive wreck site*

The sustainable dive wreck argument is based on environmental, economic, research and recreational values. The values are listed in Appendix 4 (Schaffer 2011). Between the beaches are rocky sea shores (Figure 1). The reefs meet sandy bottoms (Andrew 1999) which provide perfect locations (Appendix 5) for

the creation of dive wreck, thus the Coogee site was selected because it had all the necessary characteristics which are listed in Appendix 5 (Worley & Parsons 2009). Coogee was also seen as the perfect and natural location for a dive wreck as it is midpoint between Sydney Harbor and Botany Bay where most dive boat charter operators launch their dive boats. Furthermore it is within easy distance of several popular dive destinations such as Magic Point, Wedding Cake Island and the highly regarded shore dive location at Shark Point, just north of Gordons Bay Clovelly NSW (Figure 1).

#### *4.5 Ongoing science and research*

It is recommended reef balls be installed as a corridor to Wedding Cake Island for ongoing biotic connectivity between the dive wreck and natural reefs. Additional anchors or mooring blocks (fish-friendly) may be necessary. It is further recommended that as much of the superstructure, masts be retained as possible to aggregate planktivorous fish, and cutting as many holes in the hull as possible. This is because oceanographically a wreck is essentially a 2-D surface where the flow is around and over the vessel, rather than through the structure. It would be useful if the dive community could rotate or replace 2 acoustic receivers every 6 months for any acoustic tagged fish and sharks (Suthers 2015).

#### *4.5 Benefits for non-divers*

Based on the University of Queensland's Heron Island Research Station live Wi-Fi camera on Harry's Bommie it is hoped to have live internet feeds from several cameras located on the wreck with Wi-Fi access for community groups school classes and universities (Bainbridge et al. 2011).

### **5. Management and Governance at Coogee**

Federal state and local governments are all responsible for coastal management; however in practice much of the development control management of coastal facilities and infrastructure is undertaken by local government (Harvey et al. 2012). Table 1 lists only State and Federal legislation for the dive wreck proposal. Randwick LGA is not the consent authority for the project (Matson & 2005). Table 1 also summarises the consent authorities, and the relevant acts.

Ongoing maintenance (which is minimal) of the dive wreck mostly is funded by dive permits. Dive permits on the Adelaide are \$20.00 each which results in \$320,000 per annum based on the estimate of 16000 dives per annum (Paterson 2016).

**5.1 Table 1 Impacts of the dive wreck**

Impact	Impact Rating	Governance & Comment
<b>Ship</b>	High	Departments of Planning, Primary Industries, Environment Climate Change WorkCover, Destination NSW, Randwick City Council. Other bidders for the ship
<b>Site Selection Aesthetics &amp; Approval</b>	High	<b>Junk your old boats at our beach?</b> Artificial Reef Permit from <b>DEHWA</b> <sup>1</sup> under the <b>E P (Sea Dumping) Act 1981</b> <sup>2</sup> . 30 m - 35 m depth. <b>EP&amp;A Act Part 5</b> <sup>3</sup> , <b>NSW C P A 1979</b> <sup>4</sup> , <b>SEPP No71</b> <sup>5</sup> <b>Coastal Protection</b>
<b>Commercial Fishing</b>	High	Fishing Closure: potential contested resource. <b>NSW Fisheries Management Act 1994</b>
<b>Recreational</b>	High	Fishing closure: potential contested resource <b>NSW Fisheries</b>
<b>Diving, Snorkeling</b>	Low	Complements existing dive sites, spear fishing closure contested resource <b>NSW Fisheries Management Act 1994</b> .
<b>Sailing &amp; Boating</b>	Medium	Contested resource ocean racing and wreck mooring.
<b>Marine Protected Areas</b>	Low	The site borders the existing Bronte to Coogee Marine Protected Area. <b>NSW Environment Protection and Biodiversity Conservation Act (EPBC) 1999</b> , <b>NSW Threatened Species (TSC) Conservation Act</b> <b>NSW Fisheries Management Act 1994</b>
<b>Historical Ship Wrecks</b>	Low	No historical wrecks. <b>Commonwealth Historic Ship Wrecks Act (1976)</b> <b>NSW Heritage Act (1997)</b>
<b>Mineral &amp; Petroleum</b>	Moderate	Previous proposals to sand mine offshore have been rejected
<b>Telecommunication Cables</b>	High	The site is outside the one nautical mile exclusion zone restriction. Approval has been given from <b>REACH</b> Submarine cable protection
<b>Anchoring Restrictions</b>	High	The site is outside anchoring restrictions <b>NSW Maritime</b> and <b>Sydney Ports Corporation</b>

(1) Commonwealth Department of the Environment, Water, Heritage, and the Arts. (2) Commonwealth Environment Protection (Sea Dumping) Act 1981 (3) NSW Environmental Planning and Protection Act (1979) Part 5.(4) NSW

## **6. Conclusion**

Coogee is a perfect site for a dive wreck for scuba divers. However, for a project that would be under such public scrutiny this proposal will need to be subject to a full and comprehensive analysis, similar to that produced by Worley Parsons (2009) for the *ex HMAS Adelaide*.

## Appendix 1 Estimated annual revenue

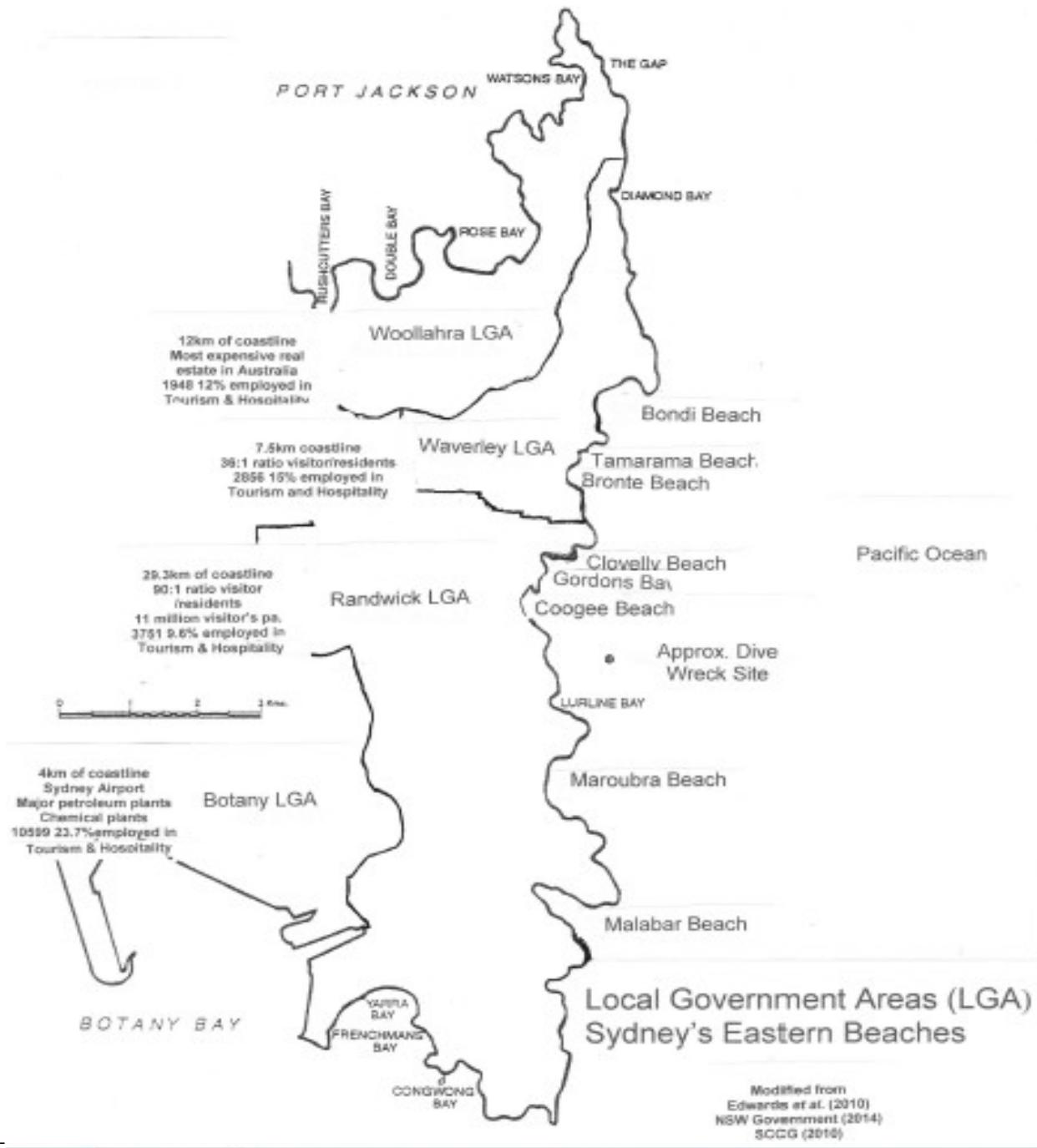
	Current	Current + 10%	Current + 20%	Current + 30%
Industry				
Fee per dive	\$250	\$250	\$250	\$250
*Divers	16,000	17,600	19,200	20,800
Dive shop	\$4,000,000	\$4,400,000	\$4,800,000	\$5,200,000
**Local Non dive spend (75%)	\$240,000	\$264,000	\$288,000	\$312,000
**Visitor non dive spend (25%)	\$1,200,000	\$1,320,000	\$1,444,000	\$1,560,000
Total revenue	\$5,440,000	\$5,984,000	\$6,528,000	\$7,072,000

\*\*includes meals, accommodation, transport, car hire, fuel, incidentals

On this estimate the proposal will pay for itself in two years

Note that other options for disposal of ships would attract a one off benefit but would not have the ongoing benefits of a dive wreck. For instance the ANL ships when sold for scrap netted \$16 million, whereas over 20 years one dive wreck may net \$80-100 million. The sale of scrap of some 5200 tonnes from the *ex HMAS Adelaide* of aluminum brass, copper, lead and steel is estimated to be \$1.4 million at current prices per kilo.

## Appendix 2 (a) Local Government Areas



## Appendix 2 (b)

### Total visitors by LGA for year ending September 2015

LGA	thousands					Daytrip	% Daytrip	total	%
	Intl	%	Domestic overnight	%					
<b>Botany Bay</b>	106	10.5	178	24.7	433	28.2	717.0	39.4	
<b>Randwick</b>	812	80.6	226	31.4	520	33.8	827	45.5	
<b>Waverley</b>	67	6.6	199	27.6	355	23.1	622	34.2	
<b>Woollahra</b>	23	2.3	117	16.3	230	15.0	370	20.3	
<b>Total LGA</b>	1008	100.0	720	100	1538	100	1819	100	
<b>Total Sydney</b>	2900	34.8	9222	7.8	19341	8.0	31514	5.8	
<b>Total Australia</b>	6700	15.0	85320	0.84	174875	0.88	266912	0.68	

<http://www.tra.gov.au/research/latest-nvs-report.html>

### Appendix 3 Dump your old boats here (The Beast 2013)



## **Appendix 4 Dive Wreck Values.**

### **Environmental Values**

- Function as new habitats for a multitude of vertebrate and invertebrate species
- Create effective marine habitats on what is otherwise a soft-bottomed featureless environment.
- Alter the connectivity patterns between natural reefs in a positive way
- Provide corridors so smaller fish can safely move from one reef to another
- Conserve pre-existing habitats as well as form new habitats of complex ecological systems
- Are positive additions to ocean environments

### **Economic Values**

- On average scuttled reef ships world-wide generate annually \$US3.4M per ship (Pendleton 2004).
- Ex HMAS Brisbane generates \$A4.3M per annum, per annum running costs of \$A7.7K for an initial investment of \$A4.75M (Worley & Parsons 2009)
- Ex HMAS Adelaide Avoca Beach NSW generates per annum \$2.4M.
- Coogee Estimates have been made from \$5.4 million to \$7.0 million

There are others for which we have not been able to source economic data.

- Ex HMAS Swan Geraldton WA.
- Ex HMAS Perth WA
- Ex HMAS Hobart Adelaide SA
- Ex HMAS Canberra? Mornington Peninsula VIC

### **Research Values**

- The Sydney Institute of Marine Science (SIMS) may undertake research projects on a scuttled ship. Acoustic receivers will be placed on the dive wreck to monitor for any tagged fish and sharks.

### **Recreational Values**

- Great dive site for Scuba Divers.
- Potential for underwater camera for 24 hour surveillance for non-divers.

## **Appendix 5 Coogee wreck dive site characteristics**

(diver Peter Howard photographer George Evatt April 2006)

- a bare sandy bottom without extreme conditions such as strong rips or currents.
- the ability to attract marine life to colonise the artificial reef
- appropriate depth to the seabed and underlying rock to ensure a scuttled vessel could penetrate into the sand and remain stable and upright
- meeting navigational safety requirements

Activity	Total players 000	% women	% men
Swimming	6853	56	44
Hiking Bushwalking	5041	52	48
Jogging	4576	49	51
Gym Weight training	4223	49	51
Cycling	3656	43	57
Ten pin bowling	2007	50	50
Yoga	2002	78	22
Golf	1891	19	81
Tennis	1682	41	59
Soccer	1400	27	73
Aerobics	1208	80	20
Cricket	1205	11	89
Basketball	1055	24	76
<b>Diving Snorkeling</b>	<b>982</b>	<b>47</b>	<b>53</b>
Marathons running	719	51	49
Netball	678	85	15
Australian Rules	583	19	81
Shooting	518	17	83
Horse riding	514	66	34
Boxing	513	54	46
Volleyball	461	44	56
Rock climbing	400	47	53
Rowing	342	46	54
Rugby League	320	22	78
Gymnastics	265	65	35
Rugby Union	248	14	86
Triathlons	221	48	52
Field hockey	208	47	53
Softball	143	63	37
Baseball	109	39	61

- minimal impact on commercial fisheries
- within reasonable proximity to on-shore infrastructure for dive operators.
- Water depths in this area are between 30 and 34m.
- Be devoid of sensitive marine habitats and have minimal impact on the local coastline.
- Have the ability to attract fish and increase local biodiversity.
- Have geological characteristics suitable for the ship to settle with no impact on local reefs and other geological features.
- Be at an appropriate depth of water.
- Not impact on shipping lanes or navigational areas.
- Not be dangerous for scuba diving and have good visibility.
- Not impact on other legitimate uses that may operate in the area.
- Have no natural reef or seagrass beds.

## **Appendix 6 Sport Participation Table**

**Australia** (Source Roy Morgan Research)

## Appendix 7

# Ex HMAS Adelaide Scuttling



Locations	Glebe Island Wharf No. 2, Sydney Harbour, New South Wales
Client	NSW Land & Property Management Authority
Contract	Scuttling of Ex HMAS Adelaide Vessel for use as an Artificial Reef
Cost	\$6.5 Million
Duration	18 months, 2011

### **Stripping and preparation of former war ship to a virtual skeleton and scuttling off the NSW mid coast.**

This ship participated in the 1990/91 Gulf War, peacekeeping operations in East Timor in 1999 and deployed to the Arabian Gulf as part of the International Coalition against Terrorism in 2001 and 2004. She was Australia's first guided-missile frigate and was home-ported in Western Australia.

McMahon Services were contracted by NSW Land & Property Management Authority to prepare the vessel for scuttling off the NSW mid coast. This was an enormous task - stripping a fully operational war ship to make it a virtual skeleton. All environmental hazards required total removal.

We had to develop methods to make the vessel do what it was never design to do...sink. The vessel was littered with specially cut holes to let water in and air out when it was scuttled. The main task was to penetrate bulkheads and clearing pathways through the vessel so that divers had enough room to manoeuvre through safe thoroughfares.

### **Key Milestones**

- ▶ Milestone 1: Establishment and Vessel Delivery
- ▶ Milestone 2: Initial Preparation and Towage
- ▶ Milestone 3: Design and Ship Preparation
- ▶ Milestone 4: Scuttling
- ▶ Milestone 5: Post Scuttling Activities

- ▶ Milestone 6: Handover - including ballasting details and Dangerous Goods & Materials Register

### Unique Processes

- ▶ Removal of zinc chromate and lead based paint prior to hot work or friction cutting
- ▶ Removal of 80 tonnes of lead ballast "pigs" sealed inside the ballast tanks and in the Auxiliary Motor Room bilges attached to the keel between the ribs and stringers

The client and end user groups, including the dive community and environmental groups, were very pleased with the dive design and the considerable items of interest that were retained in the vessel from the Bridge to the Engine Rooms.

Environmental groups were impressed with the standard of clean lines particularly the removal of the hydro carbons, insulation and dangerous materials.

The project took approximately 18 months to complete, with man hours in excess of 30,000 hours with a steady crew of 20 personnel.

Statistics on

- ▶ materials
  - removed:
    - 80 tonnes
    - of lead
    - ballast
  - Hydrocarbons - 145,000 Litres of Hydraulic oil lube oil JP5 Aviation Fuel
  - Diesel/Oily Bilge water Mercury switches in fire system – 143 in total and sent to licenced Recycler
  - Capacitors from over 1,000 fluorescent lights that potentially contain PCB's (2000)
  - 2,000 Fluorescent tubes that contain Mercury Gases removed and sent to licenced Recycler 50 Transformers that contain potential PCB's
  - 4,800 globes from lights on instrument panels and battle lamps,
  - landing lights, etc. 5,100 fuses from electrical boards,
  - communication boards, radars, instrument panels 450 various
  - capacitors in electrical boxes and communication appliances
  - Approximately 600 9 Volt Batteries in battle lamps
- Asbestos from various areas including ducting, pipe flanges, and switchboards by cutting each side so as not to disturb asbestos and disposed of to a licenced Contractor

Links to video of ex HMAS Adelaide

<http://www.mcmservices.com.au/media/videos/the-force-hmas-adelaide/the-force-hmas-adelaide>  
<http://www.mcmservices.com.au/media/videos/hmas-adelaide-decommissioning-and-scuttling/hmas-adelaide-decommissioning-and-scuttling>  
<http://www.mcmservices.com.au/news/the-final-journey-of-the-ex-hmas-adelaide>  
<http://www.mcmservices.com.au/news/ex-hmas-adelaide-sent-to-a-watery-grave>

## **Appendix 8 Lists of letters of support advice and contact**

GBSDC has contacted many individuals and organisations since the initiation of the project in 2005 to seek support for, and advice relating to, the proposal. If there is no comment it means that the contact is fully supportive of the proposal. These have been grouped into 4 categories for ease of reference.

Commercial and Dive Industry.

Government.

Political Representatives, Federal State and Local  
Research Marine Science community

### **Dive and Commercial Contacts**

2017 Oztek dive industry trade fair Darling Harbor

2016 Les Graham Terrigal Dive Centre too many passport divers and not enough experienced divers.

2015 ex HMAS Adelaide Association attempting to contact via a former crew member.  
No response.

2015 Will Scott Marine Discovery Centre, Bondi no response

2015 Simon Blainey recreational diver

2015 Russel de Groote Pro Dive Australia

2015 Rod de Groote Pro Dive Coogee

2015 Richard Nicholls Dive Industry Association of Australia

2015 Karen Lilley recreational diver

2015 Jann Barry recreational diver

2015 George Wegman PADI Asia Pacific

2015 Duncan Paterson Dive Centre Bondi

2015 Duncan Graham recreational diver

2015 Dave Nottage former owner Pioneer Diving

2015 Charlie Elliott recreational diver

2006 Yves Moulard Scubaroo dive charter boat operator arranged free charter to select site

2006 Geoff Cook South Pacific Divers

2005 Will Scott Marine Discovery Centre, Bondi too busy

2005 Sue Dengate CCARP, Central Coast Artificial Reef Project we are more than happy to provide assistance for this group (GBSDC) for a subsequent vessel

2005 SCAN Scuba Clubs Association of NSW

2005 Roy Gabriel Canadian Artificial Reef Consultants has told us that the life expectancy of a dive wreck is in excess of 100 years. To be a total success the ultimate goal is to have the ship on the bottom in an upright configuration with diver friendly access holes to enhance diver safety and enjoyment. It has been proven worldwide that it will also benefit marine life in the area.

2005 Richard Bagnato Professional Fisherman's Association we would like to work with you on this

2005 Mary Louise Williams former director Australian National Maritime Museum

2005 Judith Macdonald Scuba Warehouse

2005 John Jennings Geographe Bay Artificial Reef Society

2005 Ian Kiernan former Chair Clean Up Australia no response

2005 Bill Marden Subaquatic

## **Government**

2016 Sarah Fairfull. NSW DPI Fisheries needs to determine if the proposal is consistent with the vision for the NSW marine estate (ie a healthy coast and sea, managed for the greatest wellbeing of the NSW community, now and into the future - see [www.marine.nsw.gov.au](http://www.marine.nsw.gov.au) for further details on the NSW marine estate reforms). And that the proposal does not pose any major risks to the marine environment or recreational and commercial fishing access. DPI Fisheries would also be involved in the implementation of any closures under the *Fisheries Management Act 1994*.

2016 Stirling Smith NSW Heritage Office a qualified maritime archaeologist needs to check if there are known heritage sites in that area.

2015 Darren Hale NSW DPI Fisheries has sent proposal to Richard Bagnato President Commercial Fisherman's Association

2015 Heath Folpp NSW DPI Fisheries Enhancement Occupational Diving congratulations it looks like you are getting ahead with the proposal

2014 Geoff Farr Reach location of dive wreck versus impact on telecommunication cables

2014 Stephen Lay Telstra it has been assessed that the proposed sink site is outside the Southern Sydney Cable Protection Zone, and is more than 1 nautical mile from any of Telstra's presently active submarine cables.

2005 David Nutley NSW Heritage Office is responsible for ensuring that the vessel proposed for scuttling does not have any historical significance itself, and further, that it does not impact on historic wrecks. He is very positive about the project.

2005 Eric Fielding-Smith Reach: Submarine Cable Protection has told us that there is a one nautical mile exclusion zone around submarine cables.

2005 Jim Booth NSW Dept. of Environment and Conservation suggested that we contact the Commonwealth Dept. of Environment and Heritage.

2005 Andrew Judge Manly Hydraulics Laboratory is happy to provide scientific assistance for preparation of an EIS

2005 Andrew Read NSW DPI Fisheries suggests that we try to obtain a fishing closure over the area. This is contentious only based on perception but as an offset for this closure artificial reefs have already been built off Vaucluse and proposed for Cronulla (Suthers 2016).

2005 Darren Hale NSW DPI Ocean Trawl

2005 Sam Haddad Director Infrastructure Planning & Natural Resources. You will need to contact the Premiers Department

2005 Daniel Duemmer NSW Maritime Authority need to consult with AMSA Australian Maritime Safety Authority, Sydney harbor Master, NPSW, NSW Maritime, Commonwealth Department of Environment and Heritage, EPA.

2005 Geoff Longhurst NSW DPI Fisheries Aquatic Habitat Protection former OIC the department lends in principle support as it may provide benefits to the marine environment as well as a variety of stakeholders

2005 Guy Thomas Qld EPA was project coordinator responsible for the scuttling of the HMAS Brisbane in which has already become a popular dive site. He has been particularly helpful with advice and guidance.

2005 Mike Kinley Australian Maritime Authority the site east of Wedding Cake Island mentioned in your proposal is well clear of any route used for shipping.

2005 C Gellatly, former Director General of the NSW Premier's Department has advised us that the Australian Defence Force has registered our interest in acquiring a vessel.

2005 Tim Fisher Tourism Australia You should check that Bonaparte did not come with the La Perouse expedition but I suggest you call it Bonaparte's Reef. He didn't. His ship sunk off the Solomons in 1788. It was rumored that Bonaparte may have been on the application list.

## **Political representatives Federal State and Local**

2016 Niall Blair Minister for Primary Industry the proposal should be considered in the vision of the marine estate

2016 Michael Daly MP for Maroubra, Deputy Leader of the NSW Opposition. Fully supportive of the proposal

2016 Marise Payne Minister for Defence ex HMAS Tobruk and Sydney (4) available for dive wrecks

2016 Adam Crouch Member for Terrigal fully supports the proposal following a meeting with Bruce Notley-Smith

2015 Clovelly Precinct Committee no response

2015 Malabar Precinct Committee no response

2015 Maroubra Precinct Committee no response

2015 Coogee Precinct Committee lots of questions no vote and more concerned with development issues

2014 Matt Thistlethwaite Member for Kingsford Smith offered to establish a cross party working committee.

2014 Stephen Jones Member for Throsby representations to Minister for Defence

2014 member for Vaucluse Gabrielle Upton Staff requested additional information on business case.

2013 Hon Stephen Jones federal member for Throsby made representations on our behalf to the former Minister for Defence David Johnston.

2013 Senator the Hon David Johnston former Minister for Defence. Defence would require that the project be funded at the state government level

2013 Michael Daley Member for Maroubra. With Matt Thistlewaite would like to develop a joint working party.

2012 Pru Goward Member for Goulburn referred to former Deputy Premier Andrew Stone

2012 Andrew Stone former Deputy Premier what revenue impact with Coogee have on the Avoca dive wreck

2012 George Souris former Minister for Tourism fully support initiatives such as this have the potential to generate tourism benefits for Sydney and NSW

2011 Hon Bruce Notley-Smith MP for Coogee. Will undertake some research and will be back in touch

2011 Hon Malcolm Turnbull contact Ray Griggs Chief of Navy, Jason Clare Minister for Defence Material and Hon Bruce Notley-Smith MP for Coogee

2010 Mr. Tony Burke former Minister for Agriculture Fisheries and Forestry no response

2006 Senator Hill believes that "the benefits of such projects are real and worthwhile. And they translate into business opportunities in eco tourism which multiply into other economic sectors

2005 Former MP Clover Moore, now Lord Mayor of Sydney, has said that the City of Sydney would consider the use of Blackwattle Bay as a site for pre-scuttling preparations. She believes an artificial reef would provide tourist and educational opportunities.

2005 Geoff Rundle former Mayor Woollahra Council no response

2005 Hon Ian Campbell (Minister for Environment and Heritage, and Senator for WA) has stated that artificial reefs are labor intensive, time consuming and can be very expensive, in particular the financial aspects of the cleanup and scuttling of the vessel can be extremely high... There appears to be a high level of public support for the placement of vessels as artificial reefs .... You may wish to consider your local council or state environment agency to discuss the possibility of a joint arrangement. An application fee of \$5000 applies." See <http://www.deh.gov.au/coasts/pollution/dumping/index.html> for more information.

2005 Hon Malcolm Turnbull is also investigating the possibility obtaining the Pong Su (confiscated North Korean freighter involved in drug smuggling in April 2003) for the project instead of it being used for target practice by the RAN. This ship was sunk off Sydney in a joint target practice operation in March 2006 by the RAN and RAAF (cf. Wikipedia Pong Su).

2005 Peter Debnam former Member for Vaucluse Sounds like a good idea to me

2005 Murray Matson Randwick City Council was unable to express an opinion about the level of public support for the proposal and would not be the consent authority

2005 Paul Pearce former Member for Coogee no response

2005 Peter Garrett former Member of Kingsford as my electorate only extends to the high water line I have no jurisdiction but will watch with interest

2005 Peter Moscatt former Mayor Waverly Council no response

2005 The Federal Member for Wentworth, Hon. Malcolm Turnbull has written on our behalf to the Hon Robert Hill, Minister for Defence, requesting the decommissioning list of the RAN (25 July 2005). *Ex HMAS Westralia (decommissioned and renamed Shiraz and scrapped in Turkey in 2010) ex HMAS Adelaide (2011 dive wreck off Avoca NSW). Ex HMAS ships Tobruk (decommissioned July 2015 with calls as a dive wreck) Kanimbla*

*and Manoora (scrapped in New Orleans 2013), and HMAS Success fate still to be determined but scheduled for replacement (cf Wikipedia via ship name).*

2005 Tania Gadiel former Member for Parramatta

2005 Sandra Nori Minister for Tourism referred to Hon Bob Debus Minister for the Environment

## **Research**

2005 Linwood H. Pendleton, author of ``Creating Underwater Value: the economic value of artificial reefs for recreational diving'', states that ``SCUBA diving at artificial reefs generates market impacts that help to sustain local economies and provide new tax revenues, especially in areas where scuba diving tourism draws out of town visitors. Artificial reefs offer economic benefits through the enhancement of shoreline protection, fishery resources and recreational fishing and diving opportunities''

2005 Dr Peter Steinberg, Chair of the Sydney Harbour Institute of Marine Science (SHIMS) now SIMS a collaborative venture between UNSW, UTS Macquarie Sydney & University), has offered us any assistance we require on the science side of the project

2015 Nige Coombes - UNSW Marine Ecology Department

2015 Rochelle Johnstone - UNSW Marine Ecology Department

2015 Sofie Voerman - UTS Marine Ecology Department

## APPENDIX 9

### Sydney Dive Wreck Proposal (SDW)

#### Responses to DPI's concerns about the DoD EOI process (Page numbers in brackets refer to the proposal).

##### **DPI-1) Financial: Business case and the size of the scuba diving industry?**

There is a significant difference between attracting international and interstate divers to Terrigal, and to Sydney. Sydney is a major tourist hub with 31.5 million overnight visitors in 2015. The business case comes both from the dive industry and research papers, which show an average worldwide \$7m annual revenue generated from each dive wreck. Advice from dive business operators see our business case as achievable. Further, the MP for Terrigal Adam Crouch and local dive operators say that they would not see the HMAS Sydney (4) in Sydney negatively affecting their business.

The market for diving on the HMAS Sydney is not technically demanding and limited to Sydney. At a proposed depth of 35 metres, this wreck is accessible by divers trained to the Professional Association of Diving Instructors (PADI) or equivalent training agency at Advanced Open Water level. This is a relatively early point in a divers training cycle and is completed in around 5 days training from scratch. PADI estimates there are 41,000 divers in Sydney alone. Nationally over a million Australians take part in diving and snorkelling every year (p2).

##### **DPI-2) Environmental concerns, regulation and liability**

The necessary regulatory processes will be addressed by the relevant areas at the appropriate time. This is not a reason not to proceed to the DoD EOI.

##### **DPI-3) Health and safety of divers, regulation and liability**

The site nominated is a suggestion only. It meets the criteria required for scuttling an ex-Navy ship based on our research and investigation. A comprehensive Environmental Impact Statement (EIS) would be required prior to final site selection.

##### **DPI-4) Community engagement**

- Significant community engagement has been undertaken with overwhelmingly positive support There is strong support in the community for this proposal with over 5383 supporter:2745 plus signatures on a petition on [www.change.org](http://www.change.org) Sydney Dive Wreck.1444 plus likes on Sydney Dive Wreck Facebook.1194 signatures on paper petition. To date we have completed the following community engagement activities
  - 2 television interview and 3 radio interviews
  - 7 articles in local newspapers / magazines / newsletters5 stands at local community events.3 presentations to local community organizations. Correspondence with over 10 community/environmental organizations

## APPENDIX 9

### Background to the Proposal

The Gordons Bay Scuba Diving Club Inc. (GBSDC) is an incorporated not for profit association founded in 1993 which maintains the underwater nature trail (public reserve #1986/75) in Gordons Bay between Clovelly and Coogee beaches NSW. Maintenance of the trail has involved over 1200 scuba divers, 540 dives, and over 1000 community service hours. Maintenance is ongoing for the community. The club is a community service award winner and supports marine science research projects. The club since 2005 has been advocating (p20-21) for a dive wreck for Sydney and has prepared a proposal document (pages 1-12). The document does not cover all the factors, but is based on a fully funded government project. The federal government has already made two ships, the Ex HMAS Sydney, and the ex HMAS Tobruk available for dive wrecks and is seeking EOI's.

For a project that would be under public scrutiny and requiring public funds such a proposal would need a professional document encompassing all environmental and economic matters similar to that produced by Worley Parsons (p30).

The perfect fit is the ex- Hmas Sydney (4). Dive the Sydney when you come to Sydney.

To further explore community response and service delivery the Sydney Dive Wreck Organizing Committee (SDWOC) was set up by the MP for Coogee the Hon Mr. Bruce Notley-Smith in mid-2015.

### SDWOC Members

- Chair – Bruce Notley-Smith , Member for Coogee
- Mitchell Price, Will Peters, Coogee MP's officers.
- Dive Industry Representatives
  - PADI – Mark Cummins, Ian Cumming, George Wegman
  - Dive Industry Association of Australia – Richard Nicholls
  - Dive Centre Bondi – Duncan Paterson
  - Pro Dive Australia – Russell de Groot
- Community Representatives
  - Lynda Newman - Randwick Tourism
  - Bernadette Soames Coogee Chamber of Commerce
  - BJ Hatton Randwick Chamber of Commerce
- Environmental Engineering
  - Ed Rowe Arup, Maritime & Coastal.
- Independent Environmental and Marine Science\_advisors
  - Professor Iain Suthers, UNSW
  - Professor William Gladstone UTS
- GBSDC Representatives
  - President – Sam Baxter, Founder- John Rowe, Marine Scientist

**DPI-1) Service delivery – no detailed planning has been undertaken and significant uncertainty exists across the project lifecycle.**

Based on the experience with the Ex-HMAS Adelaide and other dive wrecks, the market for this technically demanding sport is small and largely confined to Sydney.

The minimum qualification for diving on the Adelaide is Advanced Open Water. In PADI diver education terms for technical diving to occur one of the following must occur.

- Diving beyond 40 meters deep.
- Required stage decompression.
- Diving in an overhead environment beyond 40 linear meters
- Accelerated decompression and or the use of variable gas mixtures during the dive.

None of the above conditions applies to our proposal and accordingly it is not correct to say that diving the Sydney as proposed is “technically demanding”. In fact the dive wreck is targeted at the recreational dive and snorkel market of which there were over 982000 participants in 2015 (p19).

**International and interstate dive tourism has been negligible.**

The market for diving on ex-Navy ships is significant. Worldwide there have been 110 ships sunk as dive wrecks. We see a significant difference between attracting interstate and international divers to a location such as Terrigal, for the ex-HMAS Adelaide, and Sydney, for the HMAS Sydney. The Sydney tourist market is 24 times as large as the Central Coast market. Sydney is a major tourist hub, with a wide range of existing attractions (p7) and over 31.5m overnight visitors in 2015 (p15) . Of these 2.9 m were international. This compares to only 1.3 m overnighters to the Central Coast for the same period with just 41000 of those being international.

Growth figures from Destination NSW (DNSW) confirm the difference where Sydney is recording over 9% annual growth in visitor expenditure. DNSW has also identified a significant China market where one in ten went scuba diving during their trip to Australia. 536,000 visited NSW in 2015 (UTS: ACIR).

**Health and safety – the depth of the water at Coogee may pose increased risk to the safety of divers at the proposed wreck site.**

- The site selection and business case prepared by the proponent of the Coogee proposal is not adequate to substantiate the proposal for a project with an order of cost of some \$10 million to Treasury.

Please advise what other information is required to meet the requirements of the business case, and where there are any inadequacies. We have prepared this business case based on a range of information - both from a top down level from data extrapolating from data from research studies based on typical revenue generated from creating dive wrecks worldwide, and from a bottom up basis from local Sydney dive industry statistics.

If you have a preferred business case format please supply this so we can prepare the business case as required.

We would also appreciate detailed information on how you arrived at the estimate of \$10m. In our proposal, we quote a cost range of \$6.0m to \$10m, the latter figure being provided by the Minister for Defence in 2013. In our research for the former figure, we have been quoted \$4.5m for ship preparation, \$1m for reef connectivity for fish using smaller reefs and underwater sculpture with Wedding Cake Island and an estimate of \$0.5m to meet the legal and regulatory requirements.

The approximate cost of converting the ship to scrap is around \$2m (Trent Raines Birdon) with no possibility of earning any revenue. For an additional expenditure of \$4m, the state has a dive wreck that well may last over 100 years.

The question ignores the environmental, research and recreational values outlined in our proposal (p5) and also ignores our suggestion that on site cameras relay images of the wreck to non-diving community members, schools and educational institutes.

The proposed development (p10) of an artificial reef between Wedding Cake and the dive wreck will further enhance the diving opportunities. More importantly, as it will be outside the fishing closure of the dive wreck, it will provide recreational fishing opportunities similar to the artificial reef proposed for Port Hacking.

<http://www.dpi.nsw.gov.au/fishing/recreational/resources/artificial-reef/port-botany>

Research could also be done on the potential of the dive wreck to reinvigorate the Sydney Rock Lobster fishery.

- The location for the site is ill-defined but appears to be deeper than the Ex-HMAS Adelaide site which has recorded one fatality.

The site nominated is only suggested for the ex-HMAS Sydney because it is outside anchoring and telecommunication restrictions and has the perfect sandy bottom for a dive wreck (p8). It meets the criteria required for scuttling an ex-Navy ship but is subject to an EIS prior to final site selection. We are interested in any other factors in relation to the nominated site that we should address prior to the EIS. We would be prepared to support other nearby sites off the Sydney coast should our nominated site not be satisfactory.

The depth at the proposed site is 35 m, marginally deeper than the Adelaide at 33m. As stated previously, the final site location is to be set by an EIS. We would accommodate a shallower depth for the dive wreck as laid out in the EIS. We are unable to comment on the fatality on the dive site other than press reports that the diver suffered a cardiac arrest, which may or may not have been related to the dive.

**Legal and regulatory – onerous project regulation and no guarantee of approvals being granted. The Deed burdens the NSW Government with all the contractual risk.**

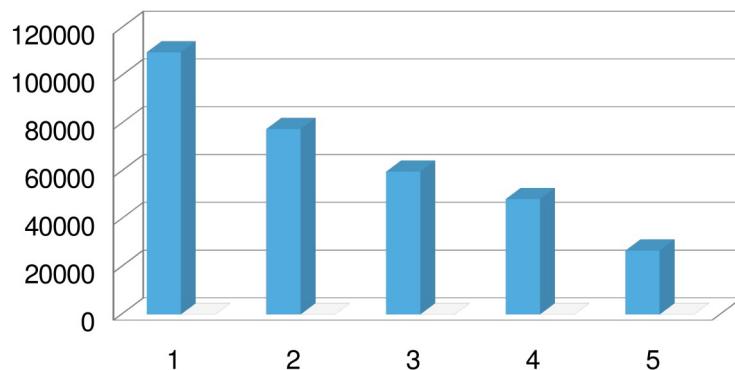
- There are a number of regulatory requirements that need to be met. Including:
  - i) obtaining a Commonwealth Sea Dumping permit
  - ii) Preparation of an Environmental Assessment
  - iii) Development Approvals under NSW Planning legislation.
- Past experience, and the advice given at the compulsory briefing when the offer to treat was made for ships suggests that the assessment instrument would need to be through and Environmental Impact Statement (EIS).

We fully expect that all the processes would be adequately addressed by the relevant areas. We do not see why this is a reason not to proceed to DoD EOI process.

**Financial – significant financial risk due to lack of formal business case. The project may not be financially viable.**

- Given the decline in numbers at the Ex-HMAS Adelaide dive wreck over time, development of a second dive wreck attraction is likely to fragment the limited market and impacting on the viability of the existing Adelaide reserve. (Please find table below of declining Ex-HMAS Adelaide income over time).

**Total Revenue**



- This would increase the cost burden on the NSW Government and impact on the businesses that depend upon the Adelaide reserve.

There are a numbers of reasons why there has been a decline in revenue from the ex-HMAS Adelaide.

- 1) The lack of promotion of the ex-HMAS Adelaide may be a factor. DNSW does not mention scuba diving on the ex HMAS Adelaide and only lists beaches, markets, surfing and fishing at Avoca Beach as things to do.
- 2) The Sydney Market is 24 times as large as the Central Coast market.
- 3) The decline is related to the ocean conditions for dive boats exiting the sand bar at Tuggerah lakes and Brisbane Waters resulting in only a 50% chance of diving.
- 4) The deeper entrances to Sydney Harbor and Botany Bay provide an 80% chance of diving. There are shallower diving options in the immediate vicinity: Grey Nurse Sharks at Magic Point, Wedding Cake Island, and Shark Point at Clovelly.
- 5) Access to the HMAS Sydney (4) would be a short trip from many Sydney hotel / accommodation bases. The 2 hour + drive from Sydney to Terrigal and the limitation of other attractions in that area will have been a detractor from interstate and international visitors to the ex-HMAS Adelaide. Sydney would not suffer from the same difficulty.

Adam Crouch the MP for Terrigal fully supports the Coogee proposal. Les Graham from the Terrigal Dive Centre does not see Coogee affecting his business. In fact, an additional dive wreck in Sydney would assist the flagging revenue on the Adelaide with dive stores now able to promote two dive wreck destinations.

The SDWOC includes a member from Randwick City Tourism who have already provided promotional support for our campaign and would continue to provide promotional support. The GBSDC secretary is a member of the Tourism Committee.

- The Commonwealth's experience with the preparation of the Ex-HMAS Adelaide and the additional preparation cost as a consequence of the AAT decision has made them highly risk averse. It is expected that any exposure to litigation would be borne completely by the state.

The AAT process for the ex-HMAS Adelaide may have led to some risk aversion in areas of the government, but it has positive consequence for the ex-HMAS Sydney and future dive wreck proposals.

Eleven environmental objections were withdrawn by the No Ship Action Group (NSAG) in the Administrative Appeals Tribunal (AAT) before the hearing. The NSAG legal action led to the additional preparation costs estimated at \$2.6M. The AAT hearing was granted on the basis that the Minister had approved a sinking date before the sea-dumping permit was approved, not on environmental problems.

This additional level of preparation for a dive wreck is now well understood, and has been included in indicative costing from organisations that may be engaged to perform the preparation of the ex-HMAS Sydney. It unlikely that any AAT challenge would be made for the ex HMAS Sydney, given that all concerns raised relating to the ex-HMAS Adelaide would be factored into the proposal for the ex-HMAS Sydney. If an AAT challenge be raised, then it would be unlikely to be upheld given the 'precedent' of the ex-HMAS Adelaide decision. Such a legal challenge subsequent to the AAT decision on the Adelaide may well be considered vexatious.

#### Stakeholders - insufficient community engagement has been undertaken.

- The potential for the presence of a range of hazardous substances and past experience with the Ex-HMAS Adelaide project means that significant local and more widespread opposition to the project would be likely.

Whilst there is a range of potential hazardous substances on all ex-navy ships, prior to disposal, all such hazards are removed prior to sinking.

It is disingenuous to say that there are hazardous substances and therefore they will remain on the ship. The ex HMAS Adelaide set the benchmark for how to prepare a ship as a dive wreck (Appendix 7 p 20-21). In addition, the quarterly Cardno Ecology Lab reports on the Adelaide prove that there are no adverse reactions to the environment from the Adelaide (p9).

Extensive community engagement has been undertaken, with overwhelmingly positive support, as shown by the petition with 3939+ signatures and a Facebook page with 1,444+ ‘likes’.

We have written and contacted many stakeholders (Appendix 8, p20-21) in the last eleven years but put our plans on hold preferring to support the sinking of the ex HMAS Adelaide which struck well-intentioned but surprising ill-informed opposition from the NSAG. As late as 2016, NSAG were still calling for the testing for PCB’s when it was proven at the AAT in 2011 that the amount of PCB’s on the ship was less than 400 ml (~20 teaspoons).

To date we have completed the following. Audience figures are in brackets.

#### *Radio TV and Newspapers*

- Bruce Notley Smiths November 2015 Community Newsletter (40,000)
- 2 interviews, Radio 2UW Greater Sydney audience (3,000,000)
- 3 ABC Radio 2BL, tbc
- Channel 9 Sydney News Saturday(260,000)
- Channel 9 Sydney News Sunday (400,000)
- 2 Daily Telegraph (1,998,000)
- 2 Weekly Southern Courier (130,000)
- 2 The Beast Magazine (122,000)

#### *Community Events*

- 4 stands at local community events, Randwick Enviro Fair, Coogee Fun Day,
- 3 presentations to local community organisations, St George Underwater Club, Coogee Precinct Committee, Bronte Precinct Committee 200+ attendees Randwick Spot Festival (2)
- Coogee Chamber of Commerce
- 19 DPI officials (p23-24)
- 33 political representatives (p25-27)
- Maroubra South Surf Club
- Richard Bagnato Professional Fisherman’s Association
- Stan Konstantaras Recreational Fisherman Alliance
- Clovelly, Malabar, Maroubra Precinct Committees 2x
- Clovelly, Coogee, Maroubra Surf Lifesaving Clubs 2x
- Naval Association
- HMAS Sydney Association
- David Handley, Founder Sculpture by the Sea
- Fiona McCuaig, Australian Marine Conservation Society

- Justin Field, Nature Conservation Council
- The business case suggested some support for the Coogee proposal but the scope and extent of support or otherwise for the proposal has not been adequately assessed. There is considered to be a significant risk of a costly challenge in the Administrative Appeals Tribunal if the project were to proceed with a broad level of community support.
- The Dept. has already received correspondence raising concerns about the adverse impacts of the proposal.

During all these engagements, processes only half a dozen unfavourable comments were received. Only one of these has referred, incorrectly, to potentially hazardous substances. Most comments relating to the positive environmental impacts of dive wrecks.

We would be keen to understand the level of objections the DPI have received and would welcome the opportunity to respond to them.

If you are able to outline your expectations in terms of community engagement, and advise where you believe these have not been met, then we would be keen to understand these.

## Literature cited

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