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Back to the future—Australia's interim sealift and amphibious capability

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Introduction

For any meaningfully-sized operation overseas, the bulk of ADF personnel and materiel would necessarily be moved by sea. Airlift remains the fastest way to move small numbers of troops or small volumes of equipment, but only movement by sea allows for large quantities to be moved efficiently. So it's not surprising that one of the first questions asked by participants in war games, crisis exercises, and operational planning over the years has invariably been about the location and availability of sealift and amphibious ships.

In its simplest form of moving personnel and equipment from port to port, sealift can be provided by any vessel with sufficient cargo capacity and accommodation for the job. But military operations often require the ability to move people and cargo without the use of local port facilities. That's where amphibious ships come in.

Amphibious ships are designed to allow personnel and materiel to be delivered to the shore without dock facilities by using landing craft and/or helicopters. This capability makes them suitable for a wide range of tasks, ranging from regional humanitarian, peacekeeping and stabilisation operations of the type the ADF has been involved in over the previous decade (Timor-Leste, Solomon Islands, tsunami relief etc.) through to military operations where forces encounter opposition from local militias or other armed forces.

For humanitarian operations following natural disasters, the ability to move personnel and materiel from ship to shore or casualties back to the ship's medical facilities in the absence of dock facilities is especially valuable. In some circumstances—such as a significant breakdown of law and order in a regional country—a service-assisted or service-protected evacuation of Australian (and other) nationals might be necessary. Such operations are greatly facilitated by the ability to move multiple aircraft and/or landing craft simultaneously.

Stabilisation operations may sometimes require the ability to quickly land a decisive force that is large enough and sufficiently well-equipped to quell unrest and to minimise the possibility of resistance, which would increase safety levels for both the deploying forces and the local populace. In that case

the size of the deployed force is important—and it needs to have equipment and mobility suitable for the task.

In short, for many of the regional jobs the ADF might be called on to do, amphibious ships are the key enablers. But with the premature and sudden (at least in the public eye) retirement of the landing ship *Manoora* and unavailability of the *Kanimbla* until mid-2012—ships which were intended to provide the lion's share of the ADF's amphibious capability until the *Canberra* class ships arrived—the current state of Australia's amphibious capability could best be described as 'marginal'.

But as well as being a challenge, the current situation also provides an opportunity.

We've been here before—in the late 1990s when circumstances conspired to create an immediate ADF sealift/amphibious capability and capacity shortfall. The government now has some rethinking to do and some short-term choices to make. Rather than looking just at the short-term (expected to be out to around 2016–17 when the new amphibious ships will be delivered), this paper makes the case that the right interim solution could be integrated into a longer-term capability that is flexible, scalable and well-suited to a wide range of tasks.

The ADF's current and future capability

The acquisition of two *Canberra* class amphibious ships later this decade will provide the ADF with the ability to conduct amphibious operations on a larger scale than has been possible before. To that end, in 2007 the Australian Government approved the acquisition of two large amphibious ships in the form of 27,000+ tonne *Canberra* class Landing Helicopter Docks (LHDs). These vessels will significantly boost the ADF's sealift and amphibious capabilities. Each ship will be able to embark 1,100 personnel with vehicles and landing craft in addition to dedicated on-board command and control elements as well as hospital facilities. And they represent a quantum leap in ship to shore airlift capability—each will be able to support up to twelve helicopters operating from six deck spots.

To supplement the amphibious capability, the 2009 Defence White Paper includes plans for the acquisition of a large strategic sealift ship of between 10,000 to 15,000 tonnes to move stores, equipment and personnel. The vessel is not intended to deliver the initial amphibious lodgement and is intended to provide ongoing sustainment support for deployed forces, allowing the LHD ships to remain in areas of operations in direct support of the land force ashore. It will be able to land vehicles and other cargo without requiring port infrastructure. And it will also allow some extra concurrency should simultaneous deployments be required.

But that's all in the future. The LHD's won't be in service until 2014 (and schedule slippages can't be ruled out) and the latest Defence Capability Plan has the sealift ship sometime after 2020. At the moment the ADF is down to a single amphibious ship in the form of the thirty-year-old 5,800 tonne HMAS *Tobruk*. And if the *Tobruk* is laid up for repair—as it has been recently—the ADF's sealift capability is limited to the modest capacity of other major naval vessels to carry troops and equipment, some 300 tonne landing craft and what can be chartered from the commercial world.

There are signs that some rapid scrambling is going on to make good the shortfall. One step has already been taken in the form of an agreement with New Zealand to make the HMNZS *Canterbury* available for the two-nation Ready Response Force for regional humanitarian assistance and disaster relief. As the Defence Minister has indicated, this also 'provides the potential for a substantial fillip to Australia's capacity'.[1] But while the *Canterbury* will provide a useful stop-gap capability, it is not a sovereign solution for Australia and the vessel itself has some limitations that

have been revealed by operational experience. Presumably for those reasons, the Australian Government will continue to look at other interim solutions.

One such possibility is provided by the British Government's decision to decommission the Royal Navy's *Bay* class landing ships, which Defence is examining with a view to leasing or buying one. There is a precedent for such a move—the *Manoora* and *Kanimbla* were second-hand *Newport* class landing ships from US Navy stocks. The *Newport* class ships, although relatively cheap to acquire, were in worse than expected condition when they arrived, and required substantial work to make them fit for service. However, the *Bay* class vessels are much newer than the *Newport* class were when the RAN acquired them—five years old versus twenty-three. As a result, they *should* be in much better condition, although due diligence is of course required for any purchase or lease.

A stop-gap that worked

But even with a streamlined process, it's hard to see how a *Bay* class vessel could be in Australian service within a twelve month timeframe. That means that, unless an expedient short-term solution can be found, the RAN faces a period when the *Tobruk* constitutes its entire amphibious capability—which would necessarily constrain the size and/or rapidity of any major ADF deployment.

As noted earlier, this isn't a new situation. Due to the delays in the delivery into RAN service of the *Manoora* and *Kanimbla,* the RAN faced a similar situation in early 1999. As a gap-filler, a large civilian-spec (aluminium hull, no weapons stations) catamaran was sourced from Tasmanian shipbuilder Incat and impressed into service as HMAS *Jervis Bay*. A few months later the *Jervis Bay* was busy shuttling backwards and forwards between Darwin and Dili, playing a vital role in deploying and maintaining the INTERFET mission in East Timor.

A look at the numbers shows how important the *Jervis Bay* was—and provides a valuable data point for deliberations about the future sealift/amphibious capability. During the two years that she was in service, the *Jervis Bay* made over 100 trips to Dili, moving 20,000 personnel, hundreds of vehicles and over 5,000 tonnes of freight.

HMAS *Jervis Bay*, the Royal Australian Navy's Fast Lift Catamaran in Darwin harbour. Photo courtest of the Department of Defence

Table 1: Specifications of RAN/RNZN amphibious and sealift vessels

	Displacement (tonnes)	Speed (kts)	Troop capacity	Helo spots	Crew
Canberra class LHD	27,000+	20	1,000	6	250+
HMAS *Manoora*	8,500	20	450	3	200+
HMAS *Tobruk*	5,800	15	300–500	3	145
Bay class landing ship (UK)	16,100	18	350	1	60
HMAS *Jervis Bay*	1,250	45	500	-	20
HMNZS *Canterbury*	9,000	16	250	2	70

As well, there were significant advantages over naval amphibious ships due to the high speed of the vessel. The *Jervis Bay* averaged about ten hours for the journey of over 400 nautical miles—an impressive average speed of over forty knots, compared to the *Tobruk's* much more modest sixteen knots. As a result, the initial deployment of troops was from the *Jervis Bay* with the *Tobruk* following later. Another advantage of the *Jervis Bay* was its crewing requirements—a complement of twenty could operate the vessel, compared to over 140 for the *Tobruk* (and over 250 for the *Canberra* class).

With two such catamarans, it would have halved the time required to deploy the initial force. Or, to put it another way, in little more than the fifty-four hours it took the *Tobruk* to insert a single deployment of 520 troops and return to Darwin, the *Jervis Bay* could undertake three such rotations, for a total of 1,500 troops.[2]

That is not to say that the catamaran was an unqualified success story. The availability of port facilities, including cranes, played an important role in its success—it was not a true amphibious ship able to deliver personnel and cargo independent of local infrastructure. And it did not carry a helicopter. As well, the sea-keeping ability of the relatively lightweight vessel meant that it could not operate in higher sea-states. For the INTERFET mission these were not mission-critical shortfalls, but they were limitations on flexibility.

The future force mix

A question that is sometimes asked is whether a focus on a small number of large ships—the prevailing model—instead of a larger number of smaller ones is correct.

For reasons explained earlier, there will sometimes be circumstances when arriving with a decisive force and extensive helicopter support is important. And the LHDs will certainly allow the ADF to arrive *en masse* and to move expeditiously from the sea to the shore.

But there will also be circumstances where getting there fast (or often) is at least as important—examples include emergency evacuations and delivery of critical care following disasters or accidents. Recent events in Queensland provide some credible scenarios—at one stage an emergency evacuation of over 3,000 from Hamilton Island seemed a real possibility.

As INTERFET showed, even for military deployments there is a role for speed. And there will be circumstances where the capacity and capability of the *Canberra* class

is not required, and where a smaller vessel and its smaller crew could do the job much more efficiently in terms of matching ADF resources to the task.

The lesson from the *Jervis Bay* experience is clear; low cost, fast vessels can make an important contribution to some missions. There may be similar short-term solutions under investigation by the ADF as this paper is written. In fact it would be surprising if there was not. But the question should actually be in terms of the long-term capability.

A fleet with additional vessels would provide greater capability to conduct concurrent missions in different locations. But increasing the number of vessels would also bring with it greater costs in terms of crew numbers and running costs. So the trick is to balance the additional costs incurred against the benefits gained in terms of flexibility and responsiveness.

The civilian catamaran *Jervis Bay* example shows how this can be done. For a fraction of the acquisition price and running costs of dedicated amphibious ships, the RAN could acquire a capability that is not just useful for the 'smaller' jobs that do not require the capabilities of a large vessel, but would gain considerable flexibility in terms of the speed and concurrency of deployments, including the wherewithal to augment the LHDs with what is essentially a fast ferry service.

Conclusion

The government should soon be faced with some choices about the interim provision of sealift and/or amphibious capability for the RAN. A second-hand *Bay* class landing ship may well be an attractive proposition, and acquisition of a relatively new vessel could allow the future sealift vessel flagged in the White Paper to be deferred for the foreseeable future.

However, the *Bay* class ship is probably over a year away at best and, given the current marginal state of amphibious lift, the RAN has a pressing need for a 'quick fix'—a remarkably similar position to that faced in 1999. Then the solution was a five year lease of an aluminium hull civilian fast ferry in the form of the HMAS *Jervis Bay*, which went on to prove its worth as a vital contributor to the largest ADF deployment since Vietnam during the INTERFET mission in East Timor.

The government may be presented with a similar interim solution, and there is no reason why it wouldn't prove as valuable an addition to the fleet the second time around. In fact, there are good reasons to keep such a vessel in perpetuity. The response speed and flexibility that would result would be a useful addition to the capability provided by 'serious' naval vessels like the LHDs and (possibly) the *Bay* class ship and would be particularly well-suited to operations in the immediate neighbourhood of Australia. This seems to be a situation where considerable national capability can be acquired for a relatively small outlay.

Endnotes

1 Minister of Defence press release MIN26/11, *ANZAC Defence Ministers build on close links to enhance effectiveness in Asia-Pacific Region*, available at http://www.minister.defence.gov.au/Smithtpl.cfm?CurrentId=11437

2 This observation was made by Tim Palmer as part of his research work at ASPI under the ANU internship program.

About the author

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