

5.9 Amphibious Vessels

5.9.1 Summary

The used international market for amphibious vessels should be lucrative for prospective recipient navies that are in the market for large amphibious ships (over 2600 tons) from 2004 through 2013. Currently, 28 navies operate amphibious vessels with an additional six possible new entrants through 2013. Of the 28 operators of amphibious ships, only six will provide the majority of large amphibious vessels that will be offered for resale.

Australia, China, France, Russia, the United Kingdom and the United States could offer a total of up to 51 amphibious ships of various types to prospective clients. With only eight prospective recipients currently in the market for used vessels as well as four new entrants, there will be an over abundance of these types of vessels through 2013. Recipient navies will probably procure only one or two units for their respective amphibious forces utilizing a total of around 24 units from the international market.

The following table depicts those nations that must be considered prospective suppliers and prospective recipients for used vessels from 2004 through 2013:

Prospective Suppliers of Used Amphibious Vessels (2004-2013)	Prospective Recipients of Used Amphibious Vessels (2004-2013)
China	Argentina
France	Egypt
Greece	Indonesia
India	Malaysia
Italy	Peru
Russia	Philippines
Singapore	Poland
South Korea	Portugal
Spain	South Africa
United Kingdom	Taiwan
United States	Ukraine
	Vietnam

5.9.2

Navies with Amphibious Vessel Requirements

In the world today, many nations currently operate amphibious ships, with the number continuing to increase in recent years. For the purposes of this report, only large amphibious ships over 2600 tons will be listed. Additionally, it must be mentioned that amphibious vessels vary by type, however, all will be listed in this single report since most amphibious ships have the ability to mix or match various missions.

The types that will be mentioned include the landing platform dock (LPD), landing ship dock (LSD), landing ship tank (LST) and landing ship logistic (LSL). All smaller vessels such as the landing ship medium (LSM), landing craft tank (LCT) and landing craft utility (LCU) will not be mentioned.

As stated above, there is a growing tendency among the world's navies to acquire larger amphibious and support vessels in order to support amphibious, sealift, peacekeeping and humanitarian operations. Amphibious vessels are generally very versatile and can support small craft, utility craft as well as helicopter operations. Since only few nations of the world can actually build large amphibious vessels, there will be a strong demand for used vessels from the international market for those nations wishing to maintain or acquire an amphibious capability.



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The navies of the world that currently operate large amphibious vessels include:

- Australia
- Brazil
- Chile
- China
- Ecuador
- France
- Greece
- India
- Indonesia
- Italy
- Japan
- Malaysia
- Morocco
- Netherlands
- Peru
- Philippines
- Russia
- Singapore
- South Korea
- Spain
- Taiwan
- Thailand
- Turkey
- Ukraine
- United Kingdom
- United States
- Venezuela
- Vietnam

The United States operates the largest amphibious fleet in the world with 41 large amphibious vessels, followed by Russia and China. The remaining nations operate a handful ranging from the low single digits to only one unit within their respective sea services.

There are a handful of nations that have discussed acquiring an amphibious capability in the future. These capabilities may rest solely within a mission specific amphibious ship or may be mixed with a variety of other capabilities such as underway replenishment, emergency response, humanitarian relief, or strategic sealift. Regardless of the variety of missions envisioned for new fleet capabilities, an amphibious ship may have some or all of the capabilities required (some may need modifications). These nations include:

- Argentina
- Poland
- Portugal
- South Africa

5.9.3 Prospective Suppliers

There are only a handful of countries today that have the ability or have indigenously constructed and maintained large amphibious vessels. These same nations typically operate amphibious vessels over a twenty-five to thirty-five year life cycle, then replace the capability with a new construction vessel, freeing up the decommissioning vessels for resale.

These nations include:

- China
- France
- Greece
- India
- Italy
- Russia
- Singapore
- South Korea
- Spain
- United Kingdom
- United States

Of the nations listed above, the United States will have the most to offer considering it is currently involved in or will be involved in three major amphibious programs over the next decade to replace its Tarawa class LHAs, Austin class LPDs, and Anchorage class LSDs. These vessels will become available for transfer starting in 2004 and continue through around 2016. The Tarawa class LHAs may not find a market due to their size, 40,000t, though, in addition to the amphibious market they may be considered by some to be an excellent alternative to the aircraft carrier.

China and Russia both have several classes of amphibious vessels in service, however, will have a very small market in which to sell these vessels. It must be noted that China is continuing to build its amphibious fleet, while Russia has stopped construction on amphibious ships making it difficult at best to transfer its existing fleet. Russia may transfer an active vessel as part of a deal that would include the order of new construction vessels to help support the nations ailing shipbuilding industry.

Australia is currently operating one Tobruk class LSL that will probably be decommissioned around 2010 when its first future amphibious transport enters service in the Royal Australian Navy (RAN).

France will decommission its two Ouragan class LSDs in 2005 and 2006 when the new Mistral class LHDs replaces them.



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The United Kingdom has a variety of amphibious vessels including two Fearless class LPDs (one decommissioned in 2002) that will be available by 2004, four Sir Bedivere class LSLs that will be decommissioned from 2004 through 2011 (two in 2004, one in 2005 and one in 2011) and one Sir Galahad class LSL that may become available if decommissioned before the end of its 30-year life cycle.

Nations that currently operate amphibious vessels that may be candidates for transfer to a recipient nation over the next decade (2004-2013) are listed as follows with the prospective decommissioning date, vessel class, number available and country:

5.9.4 Prospective Recipients

Prospective recipients for amphibious vessels from the used international market will probably procure these vessels because they currently operate these vessels, and wish to continue with an amphibious capability, while not having the ability to indigenously construct vessels of this size or complexity and not having sufficient funding for new construction programs.

Nations that have historically procured amphibious vessels from the used international market and may continue to do so include:

- Egypt
- Indonesia
- Malaysia
- Peru
- Philippines
- Taiwan
- Ukraine
- Vietnam

In addition to the nations listed above, there is a growing number of nations that currently have new amphibious programs planned, have had indigenous program in the past, or are planning indigenous programs. However, funding issues could eventually lead to a used ship solution.

Projected Year of Decommissioning	Class	Number Available	Country
2010	Tobruk LSL	1	Australia
2010-2015	Yukan LST	4	China
2005-2006	Ouragan LSD	2	France
2005-2010	Batral LST	5	France
Anytime	Ivan Rogov LPD	1	Russia
Anytime	Alligator LST	2	Russia
Anytime	Ropucha LST	16	Russia
Anytime	Fearless LPD	2	United Kingdom
2004-2011	Sir Bedivere LSL	4	United Kingdom
2012	Sir Galahad LSL	1	United Kingdom
2004	Anchorage LSD	3	United States
2005-2010	Austin LPD	11	United States



Navies that may need to utilize the used international market as an alternative to a new construction include:

- Argentina
- Poland
- Portugal
- South Africa

5.9.5 Situational Assessment of Potential Recipient Navies

Argentina

The Argentine Navy is currently planning for an Emergency Response Vessel (ERV) to provide an emergency, disaster relief and humanitarian operations capability to its fleet. The vessel is expected to be in the 10,000-ton range and built at the Rio Santiago Shipyard in Argentina.

The vessel will more than likely be of an LPD design with well deck and flight deck capabilities. The first vessel is not expected to enter service until around 2015 with a construction contract by around 2012. If the Argentine Navy desires to add an amphibious capability prior to 2015, it may utilize the used international market as a source. There are several candidates that could be procured

as an interim measure including the French Ouragan class LSD that will become available in 2005-2006, the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010. Although these vessels may not provide the exact capabilities required, one unit each of two different types may provide the majority of necessary capabilities.

Egypt

The Egyptian Navy is currently planning for the procurement of two LSTs in the 5000-ton range for the transport of Egyptian troops to support United Nations operations. In the late 1990s, the sea service was offered two US Newport class LSTs, but did not accept the offer.

Funding limitations associated with the Foreign Military Assistance (FMA) programs offered by the US will probably prevent Egypt from procuring a new LST until around 2015. If the Egyptian Navy decides to move forward with the procurement of an LST at an earlier date, it may have to enter the used international market to satisfy the requirement. The most likely candidates will probably include the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010.



Indonesia

The Indonesian Navy currently operates a fleet of aging amphibious vessels including one Japanese Teluk Amboina class LST built in 1961, seven US LST 1-511/512-1152 class LSTs built in the 1940s, five Korean Tacoma Type LSTs and 12 German Frosch I class LSMs built in the 1970s.

Indonesia is becoming increasingly concerned about security in its 13,000 island archipelago and continues planning for a future amphibious force that could include up to four new LSTs and ten LSMs. The LSMs will not be addressed in this report; however, the Indonesian Navy is in the midst of procuring one South Korean Alligator class LST.

The new vessel is nearing completion and should be delivered by 2004. The sea service also continues to discuss plans for other amphibious units including LSDs and strategic transport ships (LPDs).

However, Indonesian naval funding is currently being utilized for the procurement of new corvettes from the Netherlands. If funding issues continue to slow the procurement of new amphibious vessels, the Indonesian Navy could very well utilize the used international market in order to increase its amphibious fleet size.

Candidates may include the United Kingdom Fearless class LPD which are currently available, the United Kingdom Sir Bedivere class LSL from 2004 – 2006, the French Ouragan class LSD that will become available in 2005-2006.

A major point that must be considered by Indonesia is the market itself, which will be restricted due to the international political climate associated with the internal political situation, including East Timor, upheaval in the Aceh Province and most recently the foreign perception that Indonesia has not been completely forthcoming in its International War on Terrorism. These events will probably continue to plague Indonesia for the foreseeable future, restricting the market in which Indonesia can do business.

Malaysia

In the mid-1990s, the Royal Malaysian Navy (RMN) began planning for a three-ship amphibious task force that would include one LPD and two LSTs. However, funding for higher priority programs such as new frigates, Scorpene submarines and 27 MEKO class offshore patrol vessels (OPVs) has precluded any further action from taking place for the new amphibious vessels.

In 1995 as an interim measure, the RMN procured one Newport class LST from the US. However, the RMN will require at least two additional vessels if it intends to operate a three-ship amphibious squadron. If funding shortfalls continue to plague this procurement, the RMN may not have any choice but to reenter the used international market for additional amphibious vessels. Candidates may include the United Kingdom Fearless class LPD which are currently available, the French Ouragan class LSD that will become available in 2005-2006, the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010.

Peru

The Peruvian Navy currently operates four US Paita class LSTs built in the 1950s. Since 1997, the Peruvian Navy has been planning to indigenously construct a new class of LSTs to replace the Paita class. With very limited funding available to the Peruvian Navy, a new LST



program will probably not get off the ground until around 2012 with the first vessel delivering after 2015.

Due to these constraints, the Peruvian Navy is likely to investigate its options for amphibious vessels on the used international market either as an interim measure until new vessels can be built or as a permanent solution if funding is still not available in the next decade.

The biggest problem for Peru will probably be size, as it has not operated any vessels over the 5800-ton range as the Paita class. It will however, have several candidates to choose from that are larger including the United Kingdom Fearless class LPD which are currently available, the French Ouragan class LSD that will become available in 2005-2006, the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010.

Philippines

The Republic of the Philippines Navy currently operates a fleet of various amphibious vessels utilized primarily for inter-island transportation. The latest procurement was the acquisition of two Frank S Besson class LSVs from the US. However, the majority of the Navy's amphibious fleet consists of five LST 512-1152 class LSTs built in the 1940s.

Although there are no current plans for the acquisition of new amphibious vessels, the Philippine Navy could at anytime procure a used amphibious vessel if available, in good material condition and the price and financing structure is within the Philippines means. The biggest problem will be matching the available vessels on the market to the mission of the Philippine Navy and the size of its existing platforms. The largest amphibious vessels in the Philippine inventory are around 4260 tons, significantly smaller than most that will be available from 2004 through 2013.

Candidates that are similar in size include the United Kingdom Sir Bedivere class LSL at 5600 tons that could become available at anytime, the French Ouragan class LSD at 5800 tons with an availability date of 2005-2006, and the Australian Tobruk class LSL at 3000 tons although it will not be available until around 2010. The Philippine Navy will probably not go much larger than the Ouragan LSD as it has no experience in operating large vessels and the waters of the Philippine Archipelago are fairly restricted.

Poland

The Polish Government is currently planning for a 10,000-ton Universal Logistics Transporter (ULT) to provide sealift, troop transport, search and rescue, and humanitarian relief capabilities to the fleet. Planning currently calls for a Stocznia Polnocna Shipyard Design with a planned start date of around 2008 and delivery of the first unit to the Polish Navy in 2010 and the second in 2011.

However, the Polish Navy is in a severe procurement funding crunch as it has just procured four ex-Norwegian Kobben class submarines in 2003 and is currently involved in a new corvette procurement, which has stalled due to a lack of funding.

With funding shortfalls that could last up to a decade, the Polish Navy may decide to utilize the used international market to meet its ULT requirements. The used market could provide an interim solution with the United Kingdom Fearless class LPD which are currently available, the United Kingdom Sir Bedivere class LSL from



2004 – 2006, the French Ouragan class LSD that will become available in 2005-2006, the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010.

Although these vessels may not provide the exact capabilities required, one unit each of two different types may provide the majority of necessary capabilities.

Portugal

In 1999, the Portuguese Navy began planning for the procurement of a new LPD, which will be the first amphibious capability for the sea service. However, due to higher priorities such as offshore patrol vessels (OPVs), the proposal for new submarines, and the replacement of the Joao Belo class frigates, the Portuguese Navy continues to delay this program. The IZAR Galicia/Schelde Rotterdam class LPD was selected as the design for construction in a Portuguese shipyard.

However, as the Portuguese Navy continues to struggle with adequate funding for its projects, it continues to delay its LPD Program, with a delivery date now no sooner than 2013.

As an alternative to the new construction LPD, the Portuguese Navy may investigate possibilities in the used international market. With a set requirement of around 13,000 tons, the United Kingdom Fearless class LPD at 11,000 tons and the US Austin class LPD would appear as potential candidates. Although both of these units are past their 30-year life cycles, they could prove to be handy as an interim measure until the new LPD could be constructed.

South Africa

The South African Navy is currently planning for an Emergency Response Vessel (ERV) to provide an emergency, disaster relief and humanitarian operations capability to its fleet. The vessel is expected to be in the 8-16,000 ton range and will provide emergency services for the African continent.

The South African government has stated that it will probably be of an LPD design with well deck and flight deck capabilities. The first vessel is not expected to enter service until around 2015 with a construction contract by around 2011. If the South African Navy desires to add an amphibious capability prior to 2015, it may utilize the used international market as a source. There are several candidates that could be procured as an interim measure including the United Kingdom Fearless class LPD which are currently available, the French Ouragan class LSD that will become available in 2005-2006, the US Anchorage class LSD that could become available at anytime, or the US Austin class LPD from 2005-2010.

Taiwan

The Taiwanese Navy currently operates two US-built Newport class LSTs built in 1970 and one Anchorage class LSD built in 1971.

Historically, Taiwan's amphibious capabilities have been provided entirely by used vessels from the US Navy. The Taiwanese Navy has spoken about acquiring a second Anchorage class LSD and may be allocating the funds in 2006. Whether it will be for the acquisition of a second Anchorage class, the last three of which were decommissioned in March 2004, or for a newer Austin class LPD, which at least would give them the option of a 'hot' transfer, is still an open question.

Ukraine

The Ukrainian Navy currently operates one Polish-built Ropucha class LST built in 1978, one Russian-built Alligator class LST built in 1976 and one Russian-built Polnochny class LSM built in the early 1970s. These vessels currently satisfy the Ukrainian Navy's amphibious requirements. However, if the sea service decides to replace these vessels, it will more than likely utilize the used international market. The primary potential candidates will be the Russian Alligator and Ropucha class LSTs.

It must be noted that Ukraine is a member in the Partnership for Peace (PfP) Program and wishes to become a member of the North Atlantic Treaty



Organization (NATO) although this goal may or may not be attainable. Only in the event of NATO membership would the Ukrainian Navy be able to procure new or used amphibious vessels from sources outside Russia.

Vietnam

The Vietnamese Navy currently operates three US-built LST 1-510 and 512-1152 class LSTs built in the 1940s as well as three Polnochny class LSMs built in the 1970s. The entire Vietnamese Navy amphibious force is considered non-operational. New procurement funding is committed to the KBO 2000 Frigate and BPS 500 Fast Attack Craft (FAC) Programs.

If the Vietnamese Navy intends on replacing its obsolete amphibious force, it will probably utilize the used ship market. The potential candidates for the Vietnamese Navy are the Russian Alligator and Ropucha class LSTs.

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