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### Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development

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# Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development

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**ABSTRACT** This article surveys China's current naval forces and considers key dynamics and possible Chinese naval futures to 2020, the projected end of Beijing's 'strategic window of opportunity', the idea that a peaceful external environment for economic development, globalization, and integration of China into the global economy allows China to benefit from diversion of US attention to countering terrorism. It considers broad possibilities through 2030, the general limit of public US government projections, and by which time multiple factors will likely slow China's growth and compete for leadership focus and resources.

**KEY WORDS:** China, Navy, Maritime, Strategy, Near Seas, Far Seas

The 2012 'Ocean China' New Year's Concert in Beijing's Great Hall of the People captured the rising tide of Chinese seapower. Male and female presenters from China Central Television (CCTV) opened the performance, the woman wearing a blue gown to match that of all female soloists. Both read from the transcript of President Hu Jintao's 8 November 2012 report at the 18th Party Congress, which constitutes authoritative policy guidance for China's next five years: 'We should enhance our capacity for exploiting marine resources, develop the marine economy, protect the marine ecological environment, resolutely safeguard China's maritime rights and interests, and build China into a maritime power. ... We should attach great importance to maritime ... security.'<sup>1</sup> Encores aside, only ocean-themed pieces were played. At the end of the concert, the announcers intoned that the ocean was 'China's blue-colored territory' and that becoming a maritime power was part of

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<sup>1</sup>'Full text of Hu Jintao's report at 18th Party Congress', *Xinhua*, 17 Nov. 2012, <[www.china-embassy.org/eng/zt/18th\\_CPC\\_National\\_Congress\\_Eng/t992917.htm](http://www.china-embassy.org/eng/zt/18th_CPC_National_Congress_Eng/t992917.htm)>.

the nation's 'renaissance'. 'In 2013, we will go straight to the sea,' they declared, 'and never look back!'<sup>2</sup>

China's People's Liberation Army Navy (PLAN) has indeed gone straight into the Near Seas (the Yellow, East, and South China Seas) and their immediate approaches, where it is focused primarily on conducting operations to increase 'counterintervention' – the ability to hold US and allied ships, planes, and bases at risk and thereby deter foreign interference in disputes deemed central to Beijing's interests. While still uneven and subject to considerable limitations, it is increasingly integrated and improving constantly, even in the most problematic areas. PLAN capabilities are concentrated close to Mainland China, with ever-less-intensive layers radiating outward.

Since 2008, Beijing has been deploying limited forces out-of-area. Between now and 2020–30, a greater diversity of out-of-area missions will be overlaid on strengthening and slightly-broadening counterintervention capabilities. In its near-to-mid-term pursuit of a 'regional blue water navy' to consolidate control in the Near Seas while pursuing influence further afield, China is likely to develop and acquire the necessary hardware should it elect to expend sufficient resources, but 'software' will be more difficult to accrue. In any case, outside observers will be able to monitor many visible indicators, for example, the PLAN's pursuit of overseas access points.

### Sea State

Already a global economic and political power, China is achieving growing regional military capabilities. The most common source of error in Chinese and US analyses of PLAN development is the conflation of two factors: scope and intensity. It is important to observe Chinese naval development through the lens of distance. This multi-layered military development can best be understood in terms of radiating range rings, or ripples of capability. Like a stone dropped into the water, these capabilities form waves that radiate outward, gradually dissipating. For thematic purposes, they can be divided into three layers, or arms: control, influence, and reach.<sup>3</sup> In the direction of the Western Pacific, China has already developed a strong, highly-responsive arm of limited length to deter foreign intervention in Near Seas disputes and thereby attempt to control waters proximate to China in critical

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<sup>2</sup>Details from Sheila Melvin, who attended the performance.

<sup>3</sup>Peter Dutton, 'Three Disputes and Three Objectives: China and the South China Sea', *Naval War College Review* 64/4 (Autumn 2011), 58, <[www.usnwc.edu/getattachment/feb516bf-9d93-4d5c-80dc-d5073ad84d9b/Three-Disputes-and-Three-Objectives-China-and-the](http://www.usnwc.edu/getattachment/feb516bf-9d93-4d5c-80dc-d5073ad84d9b/Three-Disputes-and-Three-Objectives-China-and-the)>.

situations. In the direction of the Indian Ocean, it is developing a longer, more flexible but weaker arm to demonstrate presence and with increasing ability to deliver pulses of military power at greater distances. Finally, China is developing thin, extremely modest logistical arms to support aperiodic presence anywhere in the world.

In geostrategic terms, China is making the most of its position as a still-largely-continental power by operating along interior lines. In marshaling land-, coastal-, and littoral-based forces to attempt to deter the relatively-distant US from intervening in Near Seas disputes, China operates on interior lines, whereas the US must operate along exterior lines. This affords China the advantages of operating from a fortified central position, concentrating forces, acting rapidly, and engaging multiple simultaneous actions. Disadvantages include susceptibility to encirclement and attacks from unpredictable directions, dangers that manifest themselves clearly in Chinese strategic concerns.<sup>4</sup>

For the first time in history, Chinese strategists are debating to what extent China is, and should be, a continental vs. maritime power.<sup>5</sup> While China increasingly enjoys maritime attributes, however, it has not fully shed its continental liabilities. It would thus run tremendous risks by shifting its operations primarily to exterior lines. Doing so might invite vulnerabilities to either locally-generated instability along its continental borders or even deliberate foreign targeting. It would impose reliance on relatively-fragile logistical chains. Making modest exterior efforts to expand strategic presence and thwart non-state actors is already a sensible Chinese strategy, but adopting an exterior lines approach against other capable militaries is not.

China's interior position and operations are reinforced by its national conditions. Poverty in China's vast interior, ethnic unrest in its western regions, and ongoing territorial and maritime claims disputes on its immediate periphery continue to necessitate prioritization in military development and the focusing of high-end military capabilities in areas close to home – though often contested by neighbors. The PLAN was granted its 'Near Seas defense' strategy *circa* 1985, making it an independent service with an independent mission for the first time. Proposed by Deng Xiaoping in 1979 and endorsed by Liu Huaqing in 1987, the concept of 'Active defense, Near Seas operations' was subsequently

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<sup>4</sup>Milan Vego, *Naval Strategy and Operations in Narrow Seas* (New York: Routledge 2003), 85-87.

<sup>5</sup>Wang Jisi, "March West,' China's Geopolitical Rebalancing Strategy', *Global Times*, 17 Oct. 2012, <[http://opinion.huanqiu.com/opinion\\_world/2012-10/3193760.html](http://opinion.huanqiu.com/opinion_world/2012-10/3193760.html)>; Yang Yi, 'Border Security Requires Comprehensive Strategy,' *Xinhua*, 26 Oct. 2012, <[http://news.xinhuanet.com/world/2012-10/26/c\\_123875252.htm](http://news.xinhuanet.com/world/2012-10/26/c_123875252.htm)>.

operationalized.<sup>6</sup> For two decades, China's naval development has been focused largely on developing a variant of regional counterintervention to prevent Taiwan from declaring independence, in part by developing credible capabilities to thwart US forces should Washington attempt to intervene in a cross-Strait crisis or other dispute in the Near Seas. While Taiwan's status remains the most sensitive, and limiting, issue in US-China relations, cross-Strait tensions have eased while disputes with East and South China Sea neighbors have intensified. Close to home, therefore, China's military capabilities designed to hold foreign forces at risk in Near Seas water and air space are escalating rapidly. Four of the PLAN's six campaigns appear to apply specifically to this area: naval base defense, anti-ship, anti-sea lanes of communication, and blockade.

The PLAN has many ways to mitigate its limitations for Near Seas operations. Operationally, asymmetric capabilities represent the core of the PLA's high-end development. Part of larger active defense military doctrine to support counterintervention, they are designed to further what the US military terms anti-access/area denial (A2/AD). Based partially on 'non-linear, non-contact, and asymmetric' operations, they match key Chinese strengths against US weaknesses. China systematically targets physics-based limitations in US, allied, and friendly military platforms, thereby seeking to place them on the 'wrong end of physics'.

The PLAN is supplementing its Near Seas-centric counterintervention strategy that its current naval platforms and weaponry largely support with less-intense but further-ranging naval diplomacy, humanitarian assistance and disaster relief (HA/DR), and even modest protection of its already-robust seaborne energy and resource imports and trade. PLAN capabilities designed to influence conditions farther away are making much slower progress, from a much lower baseline. In the Indian Ocean, China is engaged in low-cost, high-visibility efforts to secure energy flows and increase geopolitical influence. Two of the PLAN's campaigns, anti-sea lines of communication (SLOC) and maritime transportation protection, might apply beyond the Near Seas, but this remains unclear. Conducting high intensity kinetic operations in contested environments at this range is much harder for China, and is likely to remain so. Chinese efforts in this environment are intended primarily to shape phase zero situations, address non-traditional security threats, and engage in low-end deterrence, not to prepare for warfare with other major powers.

While the speed and scope of PLAN movement toward the Far Seas remains unclear, it is likely to ride the crest of geopolitical sea change as

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<sup>6</sup>Nan Li, 'The Evolution of China's Naval Strategy and Capabilities: From "Near Coast" and "Near Seas" to "Far Seas"', *Asian Security* 5/2 (June 2009), 150, 156.

Chinese interests and power continue to grow. By ~2020, China seeks a 'regional blue water navy' with extended blue water counterintervention and limited expeditionary capabilities. Beijing lacks both aspirations and necessary preparations to pursue sea control<sup>7</sup> west of Guam or achieve a US-style global power projection military before 2030. At present quality is being emphasized over quantity in many respects, to the point where the PLAN during this timeframe – in terms of platforms, in particular – is likely to be far more capable, but still limited in size. Indicators of dramatic deviations from this course would be visible well in advance, and remain largely unrealized. This is hardly surprising, as many Near Seas island and maritime claims remain unresolved, whereas the Far Seas lack such disputes and hence an obvious basis for strategic focus. Indeed, questions about China's future growth trajectory make it uncertain whether its leaders will ever face the decision of whether to develop a truly global military. Regardless, as China's naval and air forces continue rising, while its neighbors have concerns and the US remains determined to further its interests in the dynamic Asia-Pacific region, it is highly likely that the Near Seas, and possibly adjacent areas, will represent an important zone of strategic competition.

### Order of Battle

Today's PLAN has five service arms: submarine, surface, naval aviation, coastal defense, and marine corps. It has three fleets (North, East, and South Sea), as well as naval air bases, and testing ranges; and controls 25 coastal defense districts with roughly 35 artillery and cruise missile units; all of which are beyond this article's scope.<sup>8</sup> Its greatest strengths include conventional submarines, missiles, and offensive mines. [Table 1](#) (below) enumerates major PLAN assets and their relative sophistication over the past two decades, and offers projections into the next decade.

The table reveals a striking pattern: while staying roughly the same size, the PLAN is modernizing markedly. It entered the post-Cold War era with obsolete, relatively numerous platforms. Over the next 15 years, numbers plummeted as large numbers of old vessels were replaced by smaller numbers of increasingly-capable vessels. Since the mid-2000s, quality has risen rapidly, but quantity has grown gradually

<sup>7</sup>Command of the sea sufficient to allow one's own vessels to operate freely in a given sea area by preventing opponent(s) from attacking them directly.

<sup>8</sup>IISS, 'Chapter 6: Asia', *The Military Balance 2014* (London: Routledge for IISS 2014), 233–5, <[www.tandfonline.com/loi/tmib20?open=114&repitition=0#vol\\_114](http://www.tandfonline.com/loi/tmib20?open=114&repitition=0#vol_114)>.

Table 1. PLAN Order of Battle, 1990–2020

Year	1990	1995	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2013*	2020*
Ballistic Missile Submarines (SSBNs)	(1)	(1)	(1)	N/A	N/A	N/A (2)	N/A	N/A	N/A	N/A	N/A (3)	N/A	N/A	N/A	(3-5)	(4-5)
Nuclear-powered Attack Submarines (SSNs)	(4) <0%>	(5) <0%>	5 (5) <0%>	5	~60	6 (6) <33%>	5	5	5	6	6 (6) <33%>	5	5	5	(6-8)	(6-9) <100%>
Diesel Attack Submarines (SSs)	(88) <0%>	(43) <0%>	~60 (60) <7%>	~60	~60	51 (51) <40%>	50	53	54	54	54 (54) <50%>	49	48	49	(57-62)	(59-64) <7.5%>
TOTAL	(93)	(49)	~65 (66)	~65	~60	57 (59)	55	58	59	60	60 (63)	54	53	54	(66-75)	(69-78)
<b>SUBMARINES</b>																
Aircraft Carriers	(0)	(0)	0 (0)	0	0	0 (0)	0	0	0	0	0 (0)	0	1	1	(1)	(1-2)
Destroyers	(19) <0%>	(18) <5%>	~20 (21) <20%>	~60	>60	21 (21) <40%>	25	25	29	27	25 (25) <50%>	26	26	23	(28-32)	(30-34) <8.5%>
Frigates	(37) <0%>	(37) <8%>	~40 (37) <2.5%>	~40	>40	43 (43) <3.5%>	45	47	45	48	49 (49) <4.5%>	53	53	52	(52-56)	(54-58) <8.5%>
Corvettes	(0)	(0)	N/A (0)	N/A	N/A	(0)	N/A	N/A	N/A	N/A	N/A (0)	N/A	N/A	N/A	(20-25)	(24-30)
Larger Amphibious Ships: LSTs and LPDs	(58)		Almost 50 (60)	~40	>40	20 (43)	25	25	26	27	27 (55)	27	28	29		
Smaller Amphibious Ships: LSMs						23 (43)	25	25	28	28	28	28	23	26	(53-55)	(50-55)
Missile-Armed Coastal Patrol Craft	(215)	(217)	N/A (100)	~50	~50	51 (51)	45	41	45	70	85 (85)	86	86	85	(85)	(85)

(continued)



Table 1. (Continued).

Year	1990	1995	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2015*	2020*
TOTAL	(329)	(272)	~110 (218)	-150	~150+	158 (158)	165	163	173	200	214 (214)	220	217	216	(239-254)	(244-264)
SURFACE SHIPS	(422)	(312)	~175 (284)	~215	~210+	215 (217)	220	221	232	260	274 (277)	274	270	270	(305-329)	(313-342)
TOTAL NAVAL VESSELS																

Note: Default figure from that year's Office of the Secretary of Defense (OSD) report. Figure in () from Office of Naval Intelligence (ONI). Figure in <%> indicates 'approximate percentage modern' as assessed by ONI. 'Modern submarines are those able to employ submarine-launched intercontinental ballistic missiles or antiship cruise missiles', while 'Modern surface ships are those able to conduct multiple missions or that have been extensively upgraded since 1992.' \* Figures for 2015 and 2020 projected by ONI. Where totals based on OSD and ONI's figures diverge sharply, the ONI-based total should be used, as OSD figures in these cases do not reflect one or more PLAN vessel categories. Sources: OSD reports, 2000-13; US Office of Naval Intelligence. US Office of Naval Intelligence, PLA Navy Orders of Battle 2000-2020, written response to request for information provided to the US-China Economic and Security Review Commission, Suitland, MD, 24 June 2013; Craig Murray, Andrew Berglund and Kimberly Hsu, 'China's Naval Modernization and Implications for the United States', US-China Economic and Security Review Commission Staff Research Background, 26 Aug. 2013, <[http://origin.www.uscc.gov/sites/default/files/Research/Background\\_China's%20Naval%20Modernization%20and%20Implications%20for%20the%20United%20States.pdf](http://origin.www.uscc.gov/sites/default/files/Research/Background_China's%20Naval%20Modernization%20and%20Implications%20for%20the%20United%20States.pdf)>.

as well. By 2020, the PLAN will have a largely modern force more numerous than any time since the early-to-mid 1990s.

### *Submarines*

The PLAN currently possesses over 60 submarines, including 4 SSBNs, 5 SSNs, and 53 diesel attack submarines. Submarines have been a top PLAN priority in recent years. The majority of China's several new naval facilities are submarine bases. The Office of the Secretary of Defense (OSD) estimates that China's percentage of submarines considered modern has risen from <10 per cent (2000–04) to 50 per cent (2008) to 56 per cent (2010).<sup>9</sup> The US Office of Naval Intelligence (ONI) estimates that ~75 per cent of the force will be modern by 2015. By 2020, ONI judges, 100 per cent of the SSN and 75 per cent of the conventional force will be modern. Perhaps an additional five years of construction could increase the latter ratio even further. Between now and 2020, the portion of attack submarines equipped with anti-ship cruise missiles (ASCMs) will rise from 'well over half' to virtually all.<sup>10</sup> As part of this advancement, OSD projects, 'The *Song*, *Yuan*, *Shang* and the still-to-be-deployed Type 095 all will be capable of launching the long-range CH-SS-NX-13 ASCM, once the missile completes development and testing.'<sup>11</sup>

Having long prioritized attack submarines, the PLAN appears to be shifting their employment role from primarily torpedo to primarily missile (though also torpedo) delivery platforms. China is developing and producing as many as six different classes of submarines: two classes of indigenously designed diesel vessels (including the *Yuan*/Type 039A/B) and four classes of nuclear vessels: the relatively-noisy 6,096-tonne *Shang*-class/Type 093) nuclear-powered attack submarine (SSN) and *Jin*-class/Type 094 SSBN; and quieter Type 095 ASCM/Land Attack Cruise Missile (LACM)-capable guided-missile attack submarine (SSGN) and Type 096 SSBN follow-on versions.<sup>12</sup> Two second-

<sup>9</sup>Office of the Secretary of Defense [hereafter, OSD], *Military and Security Developments Involving the People's Republic of China* 2011, Annual Report to Congress, 43, <[www.defense.gov/pubs/2013\\_china\\_report\\_final.pdf](http://www.defense.gov/pubs/2013_china_report_final.pdf)>.

<sup>10</sup>Jesse Karotkin, Senior Intelligence Officer for China, Office of Naval Intelligence, 'Trends in China's Naval Modernization', Testimony before the US-China Economic and Security Review Commission, 30 Jan. 2014, <[www.uscc.gov/sites/default/files/Karotkin\\_Testimony1.30.14.pdf](http://www.uscc.gov/sites/default/files/Karotkin_Testimony1.30.14.pdf)>.

<sup>11</sup>OSD (2011), 4.

<sup>12</sup>Ronald O'Rourke, *China Naval Modernization: Implications for US Navy Capabilities – Background and Issues for Congress*, Congressional Research Service, RL33153 (28 Feb. 2014), 7–15, <[www.fas.org/sgp/crs/row/RL33153.pdf](http://www.fas.org/sgp/crs/row/RL33153.pdf)>. All ton-nages in this and the following section from the latest relevant entry on <[www.janes.com](http://www.janes.com)>.

generation *Shang*-class SSNs are fielded, with an improved 093A variant reportedly launched in 2013, to be joined by four additional hulls.<sup>13</sup> Beginning ~2015, they will begin to replace their *Han*-class predecessors. Also beginning in ~2015, 095s are likely to join Chinese surface vessels in offering unprecedented land-attack capability, useful for power projection and overseas influence.<sup>14</sup>

PLAN SSBN development appears likely driven by organizational interests, long-term force development, and desire to exploit vulnerabilities in missile defense systems. ONI assesses that China's three *Jins* 'will likely commence deterrent patrols in 2014', building on a recent trend of extended submarine patrols and the successful development and testing of the 4,000+ nautical mile-range JL-2 SLBM.<sup>15</sup> OSD assesses that 'up to five may enter service before China proceeds to its next generation SSBN (Type 096) over the next decade'.<sup>16</sup>

Chinese conventional submarines are already relatively quiet.<sup>17</sup> With no US equivalent and Japan's capable force much smaller, Beijing boasts the world's largest advanced conventionally powered submarine force. Thirteen of three successively refined versions of the Type 039 *Song* class diesel-electric submarine have been launched, with production having stopped in 2004. Twelve *Yuan*-class advanced indigenous submarines are in service,<sup>18</sup> with production of up to eight more planned.<sup>19</sup> The 2,900-tonne *Yuan* boasts air-independent propulsion and Russian quieting technology.<sup>20</sup> By the end of 2006, the PLAN also received eight formidable 3,125-tonne *Kilo*-class Project 636M diesel submarines purchased in 2002 (and associated weaponry, including wake-homing and wire-guided torpedoes and the 120 nautical mile-range terminally-supersonic SS-N-27B ASCM) to augment its two Project 877EKM and two Project 636 variants. Finally, a large conventionally-powered ~5,000-tonne Type 032 '*Qing*-class' submarine was launched from Wuchang Shipyard in September 2010. The significant missile capacity in its 22 meter-long sail could allow it to replace the *Golf*-class as a ballistic missile test bed,<sup>21</sup> but it might instead be the first hull in a new class of submarine designed to deliver large quantities of missiles.<sup>22</sup>

<sup>13</sup>IISS, 'Chapter 6: Asia,' *The Military Balance 2014*, 208.

<sup>14</sup>O'Rourke, *China Naval Modernization*, 8.

<sup>15</sup>Karotkin, 'Trends in China's Naval Modernization'.

<sup>16</sup>OSD (2013), 6.

<sup>17</sup>O'Rourke, *China Naval Modernization*, 12.

<sup>18</sup>'Yuan Class (Type 041),' *Jane's Fighting Ships*, 23 Dec. 2013, <[www.janes.com](http://www.janes.com)>.

<sup>19</sup>OSD (2013), 7.

<sup>20</sup>Karotkin, 'Trends in China's Naval Modernization'.

<sup>21</sup>IISS, 'Chapter Six: Asia,' *The Military Balance 2014*, 208.

<sup>22</sup>William Murray, 'Underwater TELs and China's Antisubmarine Warfare: Evolving Strength and Calculated Weakness', in Peter Dutton, Andrew S. Erickson and Ryan

### Surface Combatants

Since the early-1990s, China has deployed four Russian-purchased *Sovremenny*-class destroyers and ten new classes of indigenous destroyers and frigates.<sup>23</sup> While not growing significantly in number, China's surface fleet has increased rapidly in quality, defensibility, value (due to platforms' fielding anti-ship missiles and other weapons), and mission diversity. It still primarily bolsters existing counterintervention capabilities; the PLAN as a whole remains far from supporting a substantial ability to protect SLOCs. OSD estimates that the percentage considered modern rose from <10 per cent (2000–04), to 26 per cent (2010), with progress continuing.<sup>24</sup> The PLAN's ~77 principal surface combatants are increasingly-capable and multi-mission.

'The PLA Navy is in the forefront of China's A2/AD developments'. OSD assesses, 'having the greatest range and staying power within the PLA to interdict third-party forces.' As part of an overall PLA focus on missiles, like conventionally-powered submarines, many surface vessels appear prioritized as ASCM delivery platforms. In the assessment of William Murray, China's 'marked reliance on advanced ASCMs suggests strongly that the PLA leadership regards every surface combatant to be the aquatic equivalent of a missile Transporter-Erector-Launcher (TEL)'.<sup>25</sup> Given their robust anti-ship capabilities, in the event of actual combat, China's most advanced surface combatants and submarines would likely be ordered to target and attack carrier strike groups (CSGs) or any other hostile surface warships detected. Closer in, 'coastal defense cruise missiles, maritime strike aircraft, and smaller combatants' would contribute strongly.<sup>26</sup>

*Destroyers.* China has been rapidly upgrading its destroyer fleet with six new incrementally-improved classes of indigenously-built destroyers, many with enhanced air defenses. ONI considers 17 of China's 27 destroyers 'modern'.<sup>27</sup> The 8,067-tonne *Sovremenny* missile destroyers, purchased from Russia and stationed in the East Sea Fleet, offered China unprecedented anti-surface and some anti-air warfare capability.

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Martinson (eds), *China's Near Seas Combat Capabilities*, US Naval War College *China Maritime Study* 11 (Feb. 2014), 22–3, <[www.usnwc.edu/Research—Gaming/China-Maritime-Studies-Institute/Publications.aspx](http://www.usnwc.edu/Research—Gaming/China-Maritime-Studies-Institute/Publications.aspx)>.

<sup>23</sup>O'Rourke, *China Naval Modernization*, 22.

<sup>24</sup>OSD (2011), 43.

<sup>25</sup>William Murray, 'China's Undersea Warfare: A USN Perspective', paper presented at 'China's Strategy for the Near Seas' Conference, China Maritime Studies Institute, US Naval War College, 11 May 2011.

<sup>26</sup>OSD (2013), 34.

<sup>27</sup>Karotkin, 'Trends in China's Naval Modernization'.

Two Project 956 *Sovremenny* missile destroyers, built in 1996 and entering service in 1999 and 2001, are now designated *Hangzhou* (Hull 136) and *Fuzhou* (Hull 137). Two improved Project 956EM variant vessels with enhanced ASCMs, wide-area air defense systems, and sensors – *Taizhou* (Hull 138) and *Yangzhou* (Hull 139) – entered service in 2005 and 2006 respectively.

The PLAN currently possesses four 3,729-tonne Type 051 *Luda* class missile destroyers. Designed for surface warfare, with limited anti-air and anti-submarine warfare missions, and built between 1970 and 1991, these aged vessels were refitted in the 1990s to improve their surface and air-defense capabilities. A single 6,000-tonne Type 051B *Luhai*-class multi-role missile destroyer, *Shenzhen* hull 167, entered service in 1998 and was refitted in 2004. Based on the older Type 051B multi-role destroyer's hull design, 7,112-tonne type 051C *Luzhou* class air-defense guided missile destroyers *Shenyang* hull 115 and *Shijiazhuang* hull 116, commissioned in the North Sea Fleet in 2006 and 2007 respectively, boast a marinized SA-N-20 surface-to-air missile (SAM) system to address anti-air warfare (AAW) deficiencies. Two hulls of the 4,674-tonne Type 052A *Luhu* class, a multi-role missile destroyer (*Harbin* hull 112 and *Qingdao* hull 113), entered service in the mid-1990s. This first Chinese modern multi-role surface combatant with comprehensive surface strike, air defense, and anti-submarine warfare capabilities is also the first Chinese-built warship to be fitted with a significant suite of sophisticated Western-designed weapons systems and sensors.

Two Type 052B *Luyang-I* class multi-role missile destroyers, commissioned in 2004, are, at 154 meters long and with 7,112 tonnes displacement, larger than any previous Chinese-built destroyers. New indigenous and imported weapon and sensor systems afford *Guangzhou* (Hull 168) and *Wuhan* (Hull 169) enhanced air defense and basic anti-submarine warfare (ASW) capabilities.

The PLAN's eight 7,112-tonne Type 052C *Luyang-II* class area air-defense guided missile destroyers are based on the Type 052B (*Luyang-I* class) destroyer's hull. These ships possess the indigenously-produced vertically launched HQ-9 surface-to-air missile system and the phased array Sea Eagle radar, which has a superficial resemblance to US SPY-1 phased array radars carried by US *Arleigh Burke*-class destroyers.

Two 7,500-tonne Type 052D *Luyang III* follow-ons are in service, with more under construction at Changxingdao-Jiangnan Shipyard. More than ten additional hulls are expected to replace *Ludas*.<sup>28</sup> Different from their immediate predecessor, 052Ds boast a new vertical

<sup>28</sup>OSD (2013), 7.

launch system (VLS), with 64 missile canisters replacing the 052C's 48 revolver-style canisters; a different gun system; and larger phased-array radar faces.

*Frigates.* China's inventory of frigates has likewise improved substantially, with four new classes of indigenously-constructed (the later two based on the earlier two) frigates deployed since the early-1990s. Twenty-two relatively obsolete 1,729-tonne Type 053 *Jianghu* class missile frigates have been supplemented by fourteen 2,286-tonne Type 053H2G and 053H3 *Jiangwei* class multi-role missile frigates. In 2005, the PLAN received two 3,963-tonne *Jiangkai* I class Type 054 multi-role frigates, *Ma'anshan* (Hull 525) and *Wenzhou* (Hull 526). These vessels boast French-made diesels and a combination of Russian and Chinese weapon systems, as well as Dutch point defense systems. *Jiangkai* II air defense frigates were the first class of surface warship of which China has built more than two since the 1990s. China's 16–19 3,963-tonne *Jiangkai* IIs have 32 vertical launch cells with HQ-16 SAMs, and phased array air search and guidance radars.

Smaller vessels offer support and additional layers of flexibility in the Near Seas, allowing more PLAN forces to range farther afield. Ten hulls of the 1,500-tonne *Jiangdao*-class Type 056 corvette have recently been commissioned.<sup>29</sup> Series-production continues in four shipyards, with 10–20 additional hulls anticipated.<sup>30</sup> China's Coast Guard has 110 oceangoing ships and 1,050 patrol craft and smaller boats, with numbers slated to rise by 30 and 100 respectively by 2015. Oceangoing vessels are larger and more capable, some decommissioned from the PLAN and some embarking helicopters.<sup>31</sup>

The PLAN's ~85 small missile-equipped combatants include 60 stealthy *Houbei* class Type 022 wave-piercing catamaran missile craft. The high-speed (cited by some as exceeding 50 knots) wave-piercing, low observability (radar cross-section-reduced), 224-tonne catamaran is based on an Australian ferry design. This impressive anti-surface weapons system, consisting of eight YJ-83 ASCMs, each with a range of

<sup>29</sup>Karotkin, 'Trends in China's Naval Modernization'.

<sup>30</sup>OSD (2013), 7.

<sup>31</sup>Craig Murray, Andrew Berglund and Kimberly Hsu, 'China's Naval Modernization and Implications for the United States', US-China Economic and Security Review Commission Staff Research Backgrounder, 26 Aug. 2013, 7, <[http://origin.www.uscc.gov/sites/default/files/Research/Backgrounder\\_China's%20Naval%20Modernization%20and%20Implications%20for%20the%20United%20States.pdf](http://origin.www.uscc.gov/sites/default/files/Research/Backgrounder_China's%20Naval%20Modernization%20and%20Implications%20for%20the%20United%20States.pdf)>.

approximately 120–180 km (65–97 nm) depending on exact variant,<sup>32</sup> could attack surface warships effectively in the waters around China. It might be charged with decimating Taiwan’s surface force, if that fleet left port in the event of hostilities. The use of such small, fast craft to attack enemy surface ships would represent modern, cruise missile-focused realization of swarming tactics, a traditional PLAN concept. However, the 022’s limited endurance would restrict the vessels to operations within China’s claimed exclusive economic zones (EEZ), and their operational capability in heavy seas remains unclear.

As limitations in air- and sea-lift are overcome, the PLAN’s ~55 large and medium amphibious ships, supplemented by large civilian vessels (e.g., roll-on roll-off ferries), might perform such tasks as HA/DR and noncombatant evacuation operations (NEOs) and might even serve a useful role in Near Seas island seizure scenarios – though Taiwan would be extremely difficult to attack, and small islands are difficult to hold. Three commissioned hulls of the 18,500-tonne Type 071 *Yuzhao*-class landing platform dock (LPD) will likely be supplemented with the Type 081 landing helicopter assault ship by 2018.<sup>33</sup> Other small craft include 42 mine warfare ships.

*Anti-Navy.* In addition to these naval systems, China has been developing and deploying what might be termed an ‘Anti-Navy’ of ground and air platforms and systems that offer significant counterintervention capabilities vis-à-vis opposing navies. Ballistic and cruise missiles are among the most advanced and potent such weapons. Notable variants include the DF-21D anti-ship ballistic missile of which China has deployed small numbers beginning in 2010<sup>34</sup> with a brigade reportedly forming;<sup>35</sup> and the YJ-12 supersonic air-launched cruise missile – one of ~12 ASCM variants the PLAN possesses or is acquiring. Advanced long-range ASCMs can now, or can soon, be deployed on all PLAN surface combatants and modern attack submarines, and many aircraft.<sup>36</sup> Collectively, China’s land, sea, and air-launched anti-ship missiles are designed to overwhelm warship defenses. William Murray assesses that Second Artillery short-range ballistic missiles (SRBMs) ‘can with little or no warning cripple or destroy Taipei’s air force and navy’, while geography, ASCMs and ballistic missiles give the PLA

<sup>32</sup>CSS-N-4 “Sardine” (YJ-8/YJ-8A/C-801); CSS-N-8 “Saccade” (YJ-82/YJ-83/C-802/C-802A/Noor/Ghader), *Jane’s Naval Weapon Systems*, 25 June 2013, <[www.janes.com](http://www.janes.com)>.

<sup>33</sup>Murray, Berglund and Hsu, ‘China’s Naval Modernization’, 7.

<sup>34</sup>OSD (2013), 5.

<sup>35</sup>IISS, ‘Chapter 6: Asia’, *The Military Balance 2014*, 231.

<sup>36</sup>William Murray, ‘Underwater TELs and China’s Antisubmarine Warfare’, 20.



options that are difficult for US and allied submarines to counter despite weaknesses in Chinese deep-water anti-submarine warfare (ASW).<sup>37</sup> Counterintervention approaches allow the PLA(N) to play a limited hand to maximum effect, at least from a strategic-hardware perspective. Murray contends that ‘the US Navy’s post-Cold War ability to conduct high-volume, uncontested, maritime strike operations from surface warships in the western Pacific has ended, at least temporarily’.<sup>38</sup>

### Bringing it All Together: Still Less than the Sum of the Parts?

Despite its growing strengths, particularly in hardware, the PLA suffers from manifold weaknesses and limitations in ‘software’ development and capabilities integration. It is working hard to progress, but achievements remain uneven, and actual combat capabilities uncertain. Perhaps most importantly, the PLAN’s 235,000 personnel lack combat experience. The 14 March 1988 Johnson South Reef skirmish with Vietnam represents the PLAN’s most recent actual combat. Some Chinese analysts argue that current non-traditional security missions such as Gulf of Aden antipiracy offer a partial equivalent of combat experience; high-level exercises with advanced militaries may help as well.<sup>39</sup>

Three other significant – through ameliorating – limitations are doctrine, human capital, and training (particularly complexity and realism). Joint operations staff officer courses are being implemented.<sup>40</sup> The PLAN has roughly doubled its exercises and increased their sophistication. Chairman Xi Jinping stresses realistic training with unprecedented specificity.<sup>41</sup> The ensuing ‘Instructions on All-Army Military Training in 2013’ charge the PLA with ‘vigorously strengthen[ing] military training based on actual combat’.<sup>42</sup> ‘Joint’/combined arms exercises are increasingly prevalent. Most activities occur within the Near Seas, though since 2010 the PLAN has dispatched growing configurations of advanced vessels across the East China Sea and through the First Island Chain for increasingly complex,

<sup>37</sup>Ibid., 17–18, 24, 26.

<sup>38</sup>Ibid., 27.

<sup>39</sup>Liu Yanxun *et al.*, ‘Background of Expedition to Somalia – Chinese Navy Pushes Forward to Deep Blue’, *China News Weekly*, 5 Jan. 2009, <<http://mil.news.sina.com.cn/2008-12-31/1351537076.html>>.

<sup>40</sup>OSD (2013), 11.

<sup>41</sup>Xi Jinping Inspects Guangzhou Military Region, Emphasizes Diligently Fortifying National Defense’, *CNTV*, 13 Dec. 2012, <[http://v.chinamil.com.cn/news/2012-12/13/content\\_5140199.htm](http://v.chinamil.com.cn/news/2012-12/13/content_5140199.htm)>.

<sup>42</sup>‘General Staff Department Makes Arrangement for Work on Military Training in New Year; Training to be Organized and Effectiveness to be Examined in Accordance with Actual Combat Requirements’, Military Report, *CCTV-7* (Mandarin), 11:30 GMT, 14 Jan. 2013.



extensive exercises. In early 2014, two destroyers and an amphibious vessel conducted a 23-day patrol with exercises in the South China Sea, Indian Ocean south of Indonesia, and Western Pacific. Though there is clearly room for improvement, with respect to the Near Seas education and jointness may already be sufficient to support PLAN missions.

### Testing New Waters

Propelled by leadership support for a least a gradual increase in long-range, low-intensity Chinese naval capabilities, the PLAN leads China's other forces in new mission areas and relevance to China's growing global interests. Late in the 1990s, as the PLAN's current buildup began, Jiang Zemin directed the service to 'in the long run pay attention to enhancing far-seas defense and operations capabilities'. Similarly, Hu Jintao directed the PLAN to 'make the gradual transition to far-seas defense, enhancing far-seas maneuvering operations capabilities'.<sup>43</sup> At an expanded Central Military Council conference on 24 December 2004, Chairman Hu Jintao introduced a new military policy that strengthened PLA responsibility to 'provide a strong strategic support for safeguarding national interests' and for the first time required it to 'play an important role in maintaining world peace and promoting common development'.<sup>44</sup> Hu required the PLA 'to ... safeguard... territorial waters, and ... the ocean...'.<sup>45</sup> On 27 December 2006, in a speech to People's Liberation Army Navy officers attending a Communist Party meeting, Hu referred to China as 'a great maritime power'<sup>46</sup> and declared that China's 'navy force should be strengthened and modernized'<sup>47</sup> and should continue moving toward 'blue water' capabilities.<sup>48</sup> China's 2013 Defense White Paper states that the PLAN 'endeavors to accelerate the

<sup>43</sup>Nan Li, 'The Evolution of China's Naval Strategy and Capabilities,' 160.

<sup>44</sup>'Earnestly Step up Ability Building within CPC Organizations of Armed Forces', *Liberation Army Daily*, 13 Dec. 2004, <[www.chinamil.com.cn](http://www.chinamil.com.cn)>.

<sup>45</sup>Liu Mingfu, Cheng Gang and Sun Xuefu, 'The Historical Mission of the People's Army Once Again Advances with the Times,' *Liberation Army Daily*, 8 Dec. 2005, 6.

<sup>46</sup>Ding Yubao, Guo Yike and Zhou Genshan, 'When Hu Jintao Met with the Naval Delegates at the 10th Party Congress, He Emphasized Building a Powerful People's Navy That Meets the Requirements to Accomplish Historical Missions of Our Army in Accordance with the Principle of Unifying Revolutionization, Modernization, and Standardization', *People's Navy*, 28 Dec. 2006, 1.

<sup>47</sup>'Chinese President Calls for Strengthened, Modernized Navy,' *People's Daily*, 27 Dec. 2006.

<sup>48</sup>'Chinese President Calls for Strong Navy,' *VOA News*, 28 Dec. 2006, <[www.voanews.com](http://www.voanews.com)>.

modernization of its forces for comprehensive offshore operations... [and] developing blue water capabilities'.<sup>49</sup>

In recent years, the PLAN has dispatched submarines and exercise-engaging flotillas comprising some of its most advanced platforms beyond the First Island Chain, and has engaged in cooperative exercises in the Pacific and Indian Oceans. PLAN out-of-area operations, including initial forays into HA/DR, have begun accordingly in the form of well-publicized peacetime missions that do not themselves demonstrate high-intensity military capabilities.

By contributing useful public goods, non-traditional security operations offer Beijing increased global maritime influence. These contributions are likely to grow, and could ultimately include direct support to United Nations (UN) operations. Motivated by both increasing domestic and international interests and expectations, they bring China into a more rewarding yet more difficult realm. As the most comprehensive, strategic-level (day-to-day), multirole, multidimensional, diplomatically-relevant, and naturally internationally-oriented of the services, the PLAN may benefit most from the PLA's increasingly 'externalized' orientation.

Overall, the PLAN has made significant progress over the last decade. PLAN 'exercises clearly indicate progress and the ability to perform operationally in all the standard naval warfare areas', Bernard Cole assesses.<sup>50</sup> 'Particularly notable is increased PLAN personnel education and professional development, training facilities modernization, and more complex exercise scenarios' with increasing geographic scope.<sup>51</sup>

That said, operational capabilities assimilation remains a critical uncertainty. Though the PLAN remains particularly weak in deep-water ASW, mine countermeasures, anti-air warfare, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) – particularly target information collection, fusion, and management – China's overall defense industrial capabilities and comprehensive approach to technological acquisition make it likely to surmount the vast majority of technological bottlenecks. Advancements in ASW hardware, for instance, may make the PLAN 'more capable of identifying adversary submarines in limited areas by 2020'.<sup>52</sup> Despite efforts to enhance inter-agency coordination, however, organizational rigidity and 'stovepiping' –

<sup>49</sup>*The Diversified Employment of China's Armed Forces* (Beijing: Information Office of the State Council April 2013), <[http://news.xinhuanet.com/english/china/2013-04/16/c\\_132312681.htm](http://news.xinhuanet.com/english/china/2013-04/16/c_132312681.htm)>.

<sup>50</sup>Bernard Cole, 'China's Navy Prepares: Domestic Exercises, 2000–10', in Roy Kamphausen, David Lai and Travis Tanner (eds), *Learning by Doing: The PLA Trains at Home and Abroad* (Carlisle, PA: US Army War College 2012), 56.

<sup>51</sup>*Ibid.*, 21.

<sup>52</sup>Karotkin, 'Trends in China's Naval Modernization'.

rooted in the inherent structure of today's Chinese Communist Party – will likely persist, harming C4ISR, friendly force coordination and enemy force targeting, and platform and weapons system integration.

### Regional Ripples

At the strategic level, PLAN capabilities are already creating a potential window of vulnerability for US Asia-Pacific interests. Beijing is enjoying a sweet spot of stability, comparatively rapid development, and the tail end of a demographic dividend. Washington, by contrast, is muddling through initial fiscal and policy adjustments, still burdened by the costs of conflict in Iraq and Afghanistan, and carefully monitoring other potential conflicts in the Middle East and elsewhere. With an official PLA budget of \$132 billion projected for 2014<sup>53</sup> and roughly ~30 per cent of Asia's defense spending (not including that of the US),<sup>54</sup> China is poised to consolidate power regionally. The focus of Sino-American strategic friction is the Near Seas and the airspace above them, where China is trying to carve out a zone of exceptionalism to global commons/international legal norms to redress perceived historical injustices and accommodate its great power rerise.

The East China Sea remains potentially the most dangerous and volatile of the Near Seas. Central to the unresolved conflicts therein is Taiwan's status. The PLA's acquisition of large amounts of sophisticated equipment in several important categories is shifting the balance of military power to Beijing. The resulting inventory of modern aircraft and associated weapons is increasing China's ability to seize sea and air superiority in the Taiwan Strait and even the island itself. The Senkaku/Diaoyu Islands, EEZ, and Shirakaba/Chunxiao Gas Field disputes with Japan represent other areas of possible conflict, particularly given recent tensions. These areas are easy to attack but hard to defend, raising escalation risk.

The South China Sea is probably less likely to witness high-intensity conflict, but is more likely to see friction and tense encounters among military ships and aircraft, particularly over time. Following counter-productive overreach in 2010, since June 2011 Beijing has adopted a more measured tone vis-à-vis sovereignty claims. PLA-affiliated individuals continue to advocate preemptive strikes against Vietnam and the Philippines, however, and Chinese civil maritime forces engaged in a

<sup>53</sup>*Report on the Implementation of the Central and Local Budgets in 2013 and on the Draft Central and Local Budgets for 2014*, Second Session of the Twelfth National People's Congress (Beijing: Ministry of Finance 5 March 2014), <[http://online.wsj.com/public/resources/documents/2014Budget\\_Eng.pdf](http://online.wsj.com/public/resources/documents/2014Budget_Eng.pdf)>.

<sup>54</sup>IISS, 'Chapter 6: Asia', *The Military Balance 2013*, 210.

standoff with a Filipino naval vessel in April 2012 by the contested Scarborough Reef. In February 2012, Beijing rebuffed Manila's proposal for UN arbitration of their disputes.<sup>55</sup> China appears open to resource sharing, but only on its terms, and may reassert itself in the future.

The Yellow Sea remains, in contrast, somewhat calm with respect to Beijing's involvement. Chinese disagreements with both Korea are ongoing but limited. Mutually-disputed areas are the EEZ in the Yellow Sea, including in the area containing the Leodo underwater elevation, and fishing zones. Seoul (and perhaps Pyongyang) dispute Beijing's claim of Bohai Bay as an historic bay, and its straight baseline claim, including its use of Dongdao (Barren Island, a desolate islet about 70 nautical miles east of Shanghai) as a basepoint, and several other basepoints north of Shanghai. Beijing's primary goal is to limit outside military influence, so as to control both adjacent sea areas and the peninsula's future.

### Possible Posture Spectrum

Now that the PLAN has begun moderate blue water deployments in the form of anti-piracy missions, what are its prospects for developing power projection capabilities by 2020–30? Theoretically, the PLAN's future force posture may progress along a continuum defined by the ability to sustain high intensity combat under contested conditions at progressively greater distances from China's shores.

The first three benchmarks (Near-Coast Defense, Near Seas Active Defense, and Regional Counterintervention) fall under the rubric of 'sea denial', or the ability to prevent opponent(s) from using a given sea area without controlling it oneself. Implemented from 1949–80s, Near-Coast Defense was designed to delay enemy invasion of waters/airspace up to ~12 nautical miles from China's coastline. The PLAN defended the strategic Bohai, Taiwan, and Qiongzhou straits. Today, Near Seas Active Defense calls for the PLAN to achieve sea control for certain time in certain area(s) of Near Seas, First Island Chain and its inner and outer rims. Defensive and offensive missions are intended to deter enemy interference by conventional and nuclear means, safeguard resources, defend major wartime SLOCs, and recover Taiwan and other claimed territories. Similar in scope to present efforts, but far more robust in realization, Regional Counterintervention implies

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<sup>55</sup>Peter Dutton, 'The Sino-Philippine Maritime Row: International Arbitration and the South China Sea', *East and South China Seas Bulletin* 10, Center for a New American Security, 15 March 2013, <[www.cnas.org/files/documents/publications/CNAS\\_Bulletin\\_Dutton\\_TheSinoPhilippineMaritimeRow\\_0.pdf](http://www.cnas.org/files/documents/publications/CNAS_Bulletin_Dutton_TheSinoPhilippineMaritimeRow_0.pdf)>.

holding opposing forces at risk throughout China's periphery (sea and air within and on either side of First Island Chain).

The second four benchmarks (Extended Blue Water Counterintervention, Limited Expeditionary, Blue Water Expeditionary, and Global Expeditionary) may be considered variants of sea control. Two postures represent the low-end and high-end versions of a regional blue water defensive and offensive type navy. Extended Blue Water Counterintervention implies ability to 'deny' access by holding opposing forces at risk to a distance of 1,000+ nautical miles from China's territorial waters and airspace, to include holding opposing forces at risk throughout China's periphery and approaches thereto (out to and beyond Second Island Chain and the full extent of the South China Sea).<sup>56</sup> Going beyond counterintervention to proactively conduct high-level opposed NEO and perhaps, if desired, even some form of Marine Interdiction Operations (MIO) in/above Far Seas (Western Pacific and Indian Ocean), by contrast, with a Limited Expeditionary posture would require all the aforementioned capabilities. Related airpower skills and weapons include 'air refueling, anti-ship missiles, over-water flight training, long-duration maritime patrol and intelligence collection, and ... strategic bombing capabilities'.<sup>57</sup>

Most ambitious would be a Global Expeditionary, or 'global blue-water type' posture, as PLAN planners categorize today's US Navy. China does not aspire to such a navy in the medium-term,<sup>58</sup> although some interpret Liu Huaqing's writings as calling for such a navy by 2050. At the low end of a Global Expeditionary posture, beyond all aforementioned capabilities, a Blue Water Expeditionary posture would require some form of limited-intensity global presence, and the ability to surge combat-ready forces in/above core strategic Far Oceans areas (e.g., Persian Gulf). At the summit of scope and intensity, a Global Expeditionary posture would require this and the robust presence of combat-ready naval/air forces in all major strategic regions of world.

Most naval theorists would differentiate between sea denial and sea control, the latter of which is far more demanding than the former and requires a much broader range of capabilities, even for operations within the same geographic area – it is not simply a question of 'being able to do more from further away'. As such, a robust version of Regional Counterintervention is arguably within China's grasp today;

<sup>56</sup>Nan Li, 'The Evolution of China's Naval Strategy and Capabilities', 160.

<sup>57</sup>Phillip Saunders and Erik Quam, 'Future Force Structure of the Chinese Air Force', in Roy Kamphausen and Andrew Scobell (eds), *Right-Sizing the People's Liberation Army: Exploring the Contours of China's Military* (Carlisle, PA: US Army War College 2007), 381, <[www.strategicstudiesinstitute.army.mil/pdffiles/pub784.pdf](http://www.strategicstudiesinstitute.army.mil/pdffiles/pub784.pdf)>.

<sup>58</sup>Nan Li, 'The Evolution of China's Naval Strategy and Capabilities', 168.

there is no guarantee that it will ever pursue a Global Expeditionary posture fully.

Naval Military Studies Research Institute experts, who are developing and promoting the concept, envision that by 2020 China will have a 'regional [blue water] defensive and offensive type' navy – a form of Extended Blue Water Counterintervention.<sup>59</sup> US government projections appear compatible with these Chinese aspirations. According to OSD, between now and 2020 'the PLA is likely to steadily expand its military options for Taiwan, including those to deter, delay, or deny third party intervention'.<sup>60</sup> Specifically, while US intervention could likely prevent China from implementing a full blockade, China's ability to blockade Taiwan 'will improve significantly' by 2018–23.<sup>61</sup> In addition, 'by the latter half of the current decade, China will likely be able to project and sustain a modest-sized force, perhaps several battalions of ground forces or a naval flotilla of up to a dozen ships in low-intensity operations far from China'.<sup>62</sup> As Nan Li explains, 'This type of navy can operate effectively for control of the seas within its own region. In the meantime, it also possesses the capability to project power beyond its own region and compete effectively for sea-control and impose sea-denial in the seas of the other oceans, as did the British Navy during the Falklands War.' This category includes the navies of the UK, France, Germany, Italy, Japan, and Russia today.<sup>63</sup>

### *New Currents: Drivers and Debate*

China appears poised to have capabilities and resources for significant naval expansion. Many have underestimated China's military-technological development in terms of both pace and intensity. In reviewing its last four quadrennial reports, the US National Intelligence Council (NIC) concluded that 'China's power has consistently increased faster than expected ... A comprehensive reading of the four reports leaves a strong impression that [we] tend toward underestimation of the rates of change....'<sup>64</sup> Most fundamentally, China's economic might, combined with its preeminent position in world trade, seems likely to fuel maritime development. The NIC projects that China will become the world's largest economy by GDP in 2022 as measured by purchasing power parity, which

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<sup>59</sup>Ibid., 161, 168.

<sup>60</sup>OSD (2011), 2.

<sup>61</sup>OSD (2013), 56.

<sup>62</sup>Ibid., 27.

<sup>63</sup>Nan Li, 'The Evolution of China's Naval Strategy and Capabilities', 161, 168.

<sup>64</sup>'Track Record of Global Trends Works', *Global Trends 2030: Alternative Worlds* (Washington DC: National Intelligence Council Dec. 2012), <[www.dni.gov/index.php/about/organization/global-trends-2030](http://www.dni.gov/index.php/about/organization/global-trends-2030)>.

it deems likely to be the strongest indicator of ‘fundamental economic strength,’ and ‘sometime near 2030’ by market exchange rates.<sup>65</sup>

No other great power today enjoys China’s ability to dedicate such vast amounts of capital and personnel so dynamically to such a wide range of new programs. Beijing enjoys financial flexibility and the willingness and technical knowhow to approach military problems through multiple angles and through experimentation and innovation. China’s massive, relatively advanced shipbuilding industry (SBI), for instance, is simultaneously developing and producing at least seven types of submarines and surface combatants; only the US matches this level of major programs. Here China enjoys unparalleled flexibility and adaptability. China’s SBI could increase production rapidly overall if desired, though limitations might remain in specific areas.<sup>66</sup> Within a decade, China is likely to become the world’s foremost military shipbuilder in tonnage, and might well approach top levels of value as well. This process may be shaped and hastened by efforts to bolster business amid global economic doldrums by lobbying for PLAN orders.<sup>67</sup>

Under a wide range of foreseeable scenarios, Chinese energy/natural resource imports will continue to rise. PLAN-affiliated writers use the terms ‘energy security’ and ‘resource security’ fairly interchangeably, and often advocate that their service develop further capabilities to protect maritime transit and resources. They view such comparatively abundant resources, newly accessible thanks to emerging technologies, as timely replacements for increasingly scarce continental resources. While some researchers emphasize China’s proximity to Russian energy sources, domestic energy supplies, and political ability to ration supplies for military use in a crisis, few serious experts dispute overall resource trends. There is greater debate concerning how Beijing is likely to respond. Some analysts go so far as to view seaborne import defense as a potent, rapid driver of Chinese blue water expansion. They tend to cite statements by Chinese experts expressing grave concern about Chinese seaborne energy reliance, which is growing and increasingly Middle East-linked. Others emphasize the inherent difficulty of blockading China<sup>68</sup> or Chinese

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<sup>65</sup>Ibid., 15.

<sup>66</sup>At present, for instance, only Huludao Shipyard can build nuclear-powered submarines. Only the Huangpu and Hudong-Zhonghua shipyards can build *Jiangkai IIs*.

<sup>67</sup>Gabriel Collins, ‘Assessing China’s Key Defense Sectors: Shipbuilding’, presented at ‘China’s Defense Science, Technology, and Innovation System: Current State and Development Prospects over the Next Decade,’ Univ. of California Institute for Global Conflict and Cooperation (IGCC), Washington DC Center, 15 Jan. 2013.

<sup>68</sup>Gabriel Collins and William Murray, ‘No Oil for the Lamps of China?’ *Naval War College Review* 61/2 (Spring 2008), 79–95, <[www.usnwc.edu/getattachment/22821a31-a443-4bc7-95a6-54527ad8924a/No-Oil-for-the-Lamps-of-China—Collins,-Gabriel->](http://www.usnwc.edu/getattachment/22821a31-a443-4bc7-95a6-54527ad8924a/No-Oil-for-the-Lamps-of-China—Collins,-Gabriel->).



expressions of the advantages of relying on American public goods provision and openness to cooperation<sup>69</sup> as reasons why Beijing has not (yet) assumed defense of its critical sea lanes.

In fact, China appears at a strategic crossroads. Today's objects of focus in the Near Seas offer compelling strategic cohesion and consensus. There is far less consensus concerning the ability and advisability for China to develop similarly kinetic capabilities to support 'Far Seas defense'. It thus seems likely that Far Seas defense will be largely a slowly-growing, lower-level supplement to Near Seas counterintervention until one or more of the following conditions are met: China makes major progress concerning Near Seas objectives, achieves economic strength sufficient to pursue both arenas intensely, or is convinced by significant events or strategic changes that further action is needed.

Certainly China is already pursuing the ability to project naval power further than would be necessary in a Taiwan contingency. And Chinese defense policy intellectuals who are not directly connected with the PLAN generally consider SLOC security to be a major issue.<sup>70</sup> But proponents of SLOC defense as a mission for the PLAN are not the only ones contributing to what seems to have become a robust debate within China. Some Chinese views acknowledge the costs and difficulty of building the power-projection capabilities (e.g., deck aviation) necessary to execute credible SLOC defense missions, as well as the potential for balancing against China by regional neighbors and the political costs that would likely occur in the event that China pursued a major buildup in this area. Many writers express similar or related reservations, either directly or indirectly. Moreover, there are competing priorities: enhanced expeditionary capabilities (e.g., LPDs, landing helicopter assault ships/LHAs, helicopters) that could be used to protect overseas Chinese workers may become more important over the next decade. It could well be argued that China is more likely to need to conduct a NEO somewhere in Africa or the Middle East than to protect its SLOCs against a major naval threat. The presence of these views within China may help explain why robust arguments for energy/SLOC-defense missions have not yet prevailed.

Chinese writings suggest a range of views on how to organize the PLAN for operations further afield. A sustained movement of assets to the South China Sea could imply a PLAN mission beyond Taiwan, in

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<sup>69</sup>Feng Liang (senior colonel and professor), Strategy Teaching and Research Section, and Duan Tingzhi (lieutenant colonel and associate professor); Naval Command College, 'Characteristics of China's Sea Geostrategic Security and Sea Security Strategy in the New Century', *China Military Science* (Jan. 2007), 27.

<sup>70</sup>Peng Guangqian and Yao Youzhi (eds), *The Science of Military Strategy* (Beijing: Military Science Press 2005), 446.



pursuit of genuine, if limited, SLOC protection capability. Increased PLAN presence in key SLOC areas could also have a valuable shaping function, as it can ‘strengthen [China’s] power of influence in key sea areas and straits’ in peacetime and thereby decrease the chance of its interests being threatened in war.<sup>71</sup>

### *Naval Buildup Indicators*

After the question of whether or not it is ordered to coerce another military (e.g., that of Taiwan or Japan), the biggest uncertainty for the PLA over the next two decades is thus the extent to which it will develop the capabilities to support major force projection beyond the Near Seas. Specifically, can the PLAN go beyond sea-denial (supported primarily by submarines, long-range ballistic and cruise missiles, mines, and reconnaissance) to blue-water sea-control (requiring air dominance, perhaps through deck aviation)?

Here hardware acquisition and deployment are useful indicators, because both are relatively easy to monitor. The PLAN’s capabilities in key areas (assets, trained personnel, experience) are currently insufficient to support long-range SLOC defense missions if opposed by another major military. Still, it may gradually acquire the necessary funding and mission scope. China’s growing maritime interests and energy dependency may gradually drive more thoroughgoing naval development. China’s developing deck aviation capability for national prestige, coercing South China Sea neighbors, and limited missions further afield represents an initial step in this direction. ‘Although it will be several years before the *Liaoning* aircraft carrier and its air wing can be considered truly operational’, ONI assesses, ‘By 2020, carrier-based aircraft will be able to support fleet operations in a limited air-defense role.’ China has reportedly started constructing its first indigenous carrier.<sup>72</sup>

To be sure, modern warships are capable of performing many missions, and hence are not restricted to a specific role in specific waters. Future political masters would presumably find them useful to perform a variety of missions in a wide range of circumstances and locations (e.g., both a Near Seas context *and* deployments farther afield). With respect to force structure, indicators of a more ambitious Chinese naval presence, particularly in the area of SLOC protection, would likely include the following:

<sup>71</sup>Zhang Yuncheng, ‘Energy Security and Sea Lanes,’ in Yang Mingjie (ed.), *Sea Lane Security and International Cooperation* (Beijing: Current Affairs Press 2005), 124.

<sup>72</sup>Karotkin, ‘Trends in China’s Naval Modernization’.

*Expansion.*

- *Increased production of major ships.* Qualitative improvement is rapid; ONI estimates that by 2020 China's percentage of 'modern' destroyers and frigates will rise from 65 to 85 per cent. Establishment of new, modern shipyards dedicated to military ship production or expansion of military areas in coproduction yards would be an important bellwether of quantitative buildup. ONI forecasts submarine fleet expansion from 60+ to 75 hulls, but surface vessel trends remain less clear.<sup>73</sup>
- *Long-range airpower enhancement through procurement/development of aircraft to operate off carriers and overseas land bases, aerial refueling capabilities, and related doctrine and training programs.* Relevant airframes include helicopters, carrier-borne J-15 and land-based J-20 aircraft, long-range transport aircraft, and possibly as-yet-absent long-range stealthy bombers. Carriers, more LPDs or even an LHA or two along with more hospital ships and modern warships call for a dramatic increase in rotary wing force structure. This will also mean more pilots, more mechanics, and attendant support infrastructure.

*Support.*

- Expansion of the PLAN auxiliary fleet, particularly long-range, high-speed oilers and replenishment ships. Here China appears to have shipyard capacity but not yet the intention to use it in this fashion. Two of China's seven fleet auxiliaries are approaching obsolescence, and require replacement before 2020. China's other 43 major auxiliaries and over 400 minor auxiliaries and service/support craft are unsuited for distant seas.<sup>74</sup> Supporting more than limited long-range operations would require additional replenishment ships.
- *Development of the ability to conduct sophisticated ship repairs remotely, either through tenders or overseas repair facilities.* If China wishes to maintain a limited posture that is focused on day-to-day operations in peacetime or the ability to participate in non-traditional security operations, it will not need tenders. The US has two submarine tenders because of its large forward presence and a requirement to conduct a full range of fleet combat operations; even so it has retired its destroyer tenders and conducts most overseas repairs in host-nation shipyards, for example, at Yokosuka or Rota. Unless China goes that route, it only needs minor repair capability; any ship needing sophisticated repairs could be sent back to China.

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<sup>73</sup>Ibid.

<sup>74</sup>Ibid.

In the absence of tenders, a navy determined to conduct significant blue-water SLOC security missions would probably need the ability to bring technicians along in some capacity, access to technologically sophisticated port facilities, or both. A sprawling global infrastructure supported by dozens of negotiated agreements allows the US military to move parts globally. China would presumably require the same to support similar operations.

- *Acquisition of locations for supply, equipping, and servicing, e.g., in the Indian Ocean and Gulf of Aden.* The PLAN already utilizes a network of access points, with Port Salalah, Oman perhaps foremost among them. It has reportedly been offered basing access in Djibouti and the Seychelles. While ‘places’ for logistics supply are already being developed, enduring non-interference policies will likely constrain acquisition of US-style ‘bases’ for the foreseeable future.

#### *Defense.*

- *ASW through increasingly quiet long-range nuclear submarines, maritime patrol aircraft, and helicopters.* Construction of nuclear attack submarines (e.g., 095 SSN) and deployment of additional units of these and other platforms with significant demonstrated ASW capabilities such as helicopters and fixed-wing aircraft. Just as manifold factors optimize diesel submarines for littoral operations, nuclear submarines’ speed and range (and relative stealth within these demanding performance parameters), together with their ability to shoot formidable anti-ship weapons, make them especially useful for blue-water SLOC defense. However, their high cost and need for highly-trained crews and sophisticated maintenance facilities make them worth acquiring in substantial numbers only if SLOC defense and/or the ability to destroy military and commercial shipping is prioritized.
- Area air defense via advanced surface vessels with long-range air defense systems, such as *Luyang II and III*, are also useful for Near Seas Counterintervention, but their further development can strengthen expeditionary capabilities farther away from China’s robust layers of land-based and coastal defense systems.

#### *Connection.*

- *An increasingly complete, integrated C4ISR network that offers enhanced ability to detect, report, and direct activities over the Pacific and Indian Oceans.* Ground- (radar, electronic surveillance, Automatic Identification System (AIS) vessel tracking stations) and

sea-based ISR systems can provide persistent, accurate surveillance with massive data transmission to ~100 nautical miles from shore, but farther afield, patrol ships and air- and space-based systems are required despite their intermittent coverage.<sup>75</sup> Even space systems are often tailored for specific area coverage and signals transmission. As China's *Beidou/Compass* system achieves global coverage by 2020, it will offer extra-regional Position, Navigation, and Timing (PNT). Such capabilities also support Near Seas counterintervention, but are especially important to support expeditionary operations further afield for which far fewer alternatives are available.

#### *Preparation.*

- *Maturation of advanced levels of PLA doctrine, training, and human capital.* More all-weather, over-water, attack training for pilots. Jointness is not necessarily essential, but sophistication and realism are.
- *Heightened readiness through more complex, joint, long-range exercises.* Coordinated multi-axis anti-ship/carrier operations. Steady deployment of PLAN forces to vulnerable SLOCs to increase familiarity, and readiness.

#### **Implications**

At the strategic level, many uncertainties remain, including the trajectory of China's rise. Key internal and external challenges may slow Chinese growth and limit defense spending increases. Political instability could threaten government investment. Because of this, and the diminishing returns on strategic investment, there is great uncertainty concerning the precise extent of China's ability to/interest in developing robust capabilities beyond the Near Seas and their immediate approaches. Nevertheless, overall dynamics seem clear: the tide of Chinese seapower is rising, but the waves disperse rapidly with distance; this pattern is likely to persist.

Assuming China avoids major internal problems, and the behavior of its neighbors does not pose insuperable obstacles, the Near Seas environment could well become more favorable to China's territorial and maritime claims as its overall power and military capabilities increase. Further afield, however, China will probably continue to rely on the

<sup>75</sup>Eric Pedersen, 'Land- and Sea-Based C4ISR Infrastructure in China's Near Seas,' in *China's Near Seas Combat Capabilities*, 80, 83–4.

global system, where it benefits as a ‘free’/minimum payment’ rider. Containing no Chinese claims and serving as a major conduit for Chinese commerce, the Far Seas offer a positive-sum game with major deterrents to conflictual approaches for China. The Indian Ocean contains great and middle-power navies, including those of the US, UK, India, Australia, Japan, and South Korea, which will prioritize its security given their nation’s location and reliance on its commerce and energy flows. Given their significant, wide-ranging capabilities, such navies are difficult to compete with, but promising to cooperate with. The US Navy will likely retain access to strategically-located Diego Garcia. India’s Navy will enjoy increasingly strong presence in its ‘backyard,’ as favorable demographics propel its economy to support fleet buildup. New Delhi will make considerable diplomatic efforts to thwart excessive Chinese influence in littoral nations. The Japanese, Korean, and Australian navies will leverage presence and partnerships to safeguard their nations’ supply lines.

At the operational level, then, ‘Near Seas counterintervention plus,’ with strengthening control, growing influence, and expanding reach, will likely remain the PLA’s focus for some time. Uncertainties include how far and how comprehensively its ‘range rings’ extend, and how extensive and robust its Far Seas capabilities become. At the tactical level, the key question will be to what extent the PLA can mitigate vulnerabilities along new exterior lines. At the strategic level, the key question is whether China can compromise American access to the East Asian portion of the global commons and establish a zone of Chinese suzerainty there.

The PLAN’s evolving role in defending China’s expanding economic interests, as demonstrated in ongoing Gulf of Aden deployments, has broader significance. For now, China seems to be pursuing a multi-layered approach to naval development, with consistent focus on increasingly formidable counterintervention capabilities to support major combat operations on China’s maritime periphery (e.g., a Taiwan Strait scenario), and relatively low-intensity but gradually growing capabilities to influence strategic conditions further afield (e.g., Indian Ocean) in China’s favor.

Some expect Beijing to pursue a more ambitious approach in the near future. One American scholar believes that ‘the main disadvantage from Washington’s perspective could be that, should Chinese leaders consider the Somali [anti-piracy] mission a success, they would likely prove more willing to promote the continued growth of China’s maritime power projection capability’. He contends: ‘A well-executed [Gulf of Aden] operation might tip the balance in favor of those Chinese strategists who want their country to acquire aircraft carriers, large amphibious ships, more effective attack submarines, many more replenishment and refueling vessels, and other naval instruments

to defend Beijing's overseas interests.<sup>76</sup> Robert Ross envisions Chinese 'construction of a power-projection navy centered on an aircraft carrier'.<sup>77</sup> One pre-deployment Chinese analysis advocates just such a redirection of PLAN strategy: from a submarine-centric navy to one with aircraft carriers as the 'centerpiece'.<sup>78</sup> Such a shift would have major internal and international implications. Internally, it would mean that the PLAN would likely capture a much larger portion of the defense budget, especially as the carriers would need a complement of aircraft and a dedicated fleet of escort vessels. Its internal clout would be further enhanced by the fact that aircraft carriers might rapidly become an important diplomatic instrument for projecting Chinese presence and influence in Asia, and perhaps (eventually) globally.

By this logic, moving toward a carrier-centric navy could prompt other navies in the region and further afield to upgrade their own forces in anticipation of China taking a more assertive stance regarding naval power projection. Despite efforts both to channel China's maritime development in a peaceful direction and to portray it accordingly to the rest of the world, history suggests that any major military modernization program is likely to antagonize other powers. Internationally, China moving toward a carrier-centric navy could prompt other regional and global militaries to develop and upgrade their own counter-intervention forces in anticipation of China taking a more assertive stance regarding naval power projection.

While China could build several carriers over the next decade, however, the PLAN is likely to develop within the multi-layered rubric for the foreseeable future, with parallel implications for American security interests. China's military has achieved rapid, potent development by maintaining a counterintervention posture along interior lines and exploiting physics-based limitations inherent in the performance parameters of US and allied platforms and C4ISR systems. *This* should be of tremendous concern to Washington. But dramatic Chinese breakthroughs in Near Seas counterintervention should in no way be conflated with developments further afield: the core elements of this approach cannot easily be translated out of area. In perhaps the most graphic example of this strategic bifurcation, developing capabilities to target aircraft carriers makes the PLA acutely aware of their vulnerabilities – and hence probably reluctant to devote more than a modest and sustainable level of resources to their development.

<sup>76</sup>Richard Weitz, 'Operation Somalia: China's First Expeditionary Force?' *China Security* 5/1 (Winter 2009), 38.

<sup>77</sup>Robert Ross, 'China's Naval Nationalism: Sources, Prospects, and the US Response', *International Security* 34/2 (Fall 2009), 46.

<sup>78</sup>Gao Yue, 'Maritime Rights, Resources, and Security', *Modern Ships* (Dec. 2004), 7.

Just as these limiting factors threaten US platforms operating in or near China's maritime periphery increasingly, they likewise haunt China's Navy as it ventures further afield – a navy that still lags considerably behind its US counterpart in overall resources and experience. Thus far, Chinese decisionmakers, having internalized lessons of Soviet over-stretch, seem unlikely to expend overwhelming national resources to fight these realities. Despite their growing concerns abroad, they have too many imperatives closer to home competing for focus and funding. Given ongoing requirements for the PLAN to provide security for Chinese interests in the East and South China Seas, it is highly unlikely that a force growing far more qualitatively than quantitatively will soon deploy high-intensity combat capabilities in the Far Seas.

### Notes on Contributor

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