

CHAPTER 4

China's Naval Modernization, Strategies, and Capabilities

Andrew S. Erickson

China is striving to reclaim its historical role as the pre-eminent power in East Asia, with considerable influence beyond. Critical to its trajectory will be its maritime development, which has typically waxed and waned with the nation's fortunes. Many continue to see China as a continental power, and this was indeed a fitting characterization of the decaying empire of the late Qing, embattled Republican China, and the People's Republic in the throes of revolution, Maoist excesses, and anti-Soviet struggle. Starting with Deng's reforms, however, China turned partially to the seas, a process that has been deepened, diversified, and sharpened in the Jiang, Hu, and Xi eras. Beijing's defense priorities, increasing resources for defense as the economy surged together with an improving defense industrial base and R&D infrastructure gradually yielded a modern navy. This chapter will survey the remarkable course of China's naval and larger maritime development in order to elucidate its key dynamics and offer insights into its future prospects and possible consequences for order at sea in East Asia.

The views expressed here are solely those of the author, who may be contacted via www.andrewerickson.com. He thanks Dennis Blasko, Bernard Cole, Peter Dutton, and Paul Godwin for helpful comments.

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J.I. Bekkevold, G. Till (eds.), *International Order at Sea*,
DOI 10.1057/978-1-137-58663-6_4

DENG ERA: SEAWARD AT LAST

Under Deng Xiaoping, China underwent stabilization, reform and institutionalization, and economic opening and marketization. Maoist China's armed forces had been bloated, poorly-led, poorly-trained, lacking modern, well-maintained equipment, and utterly without advanced doctrine, concepts of operations, tactics and logistic support. China's 1979 Vietnam incursion demonstrated the consequences of these deficiencies. Deng had to establish military modernization priorities in the face of a dysfunctional PLA and a broken economy together with a largely disrupted obsolescent defense industrial base and R&D infrastructure. Still, there were few indications that Beijing perceived the need for much more than its existing coastal defense navy, or that the People's Liberation Army Navy (PLAN) would receive precedence. Navies are expensive to build, maintain, and train. Obsolescent though its ships and land-based aircraft were, the PLAN's condition was no worse than that of the other PLA's other services and branch. After Lin Biao's fall in 1971, the navy, like the rest of the PLA, faced a strategic and budgetary crisis as rapprochement with the U.S. deprived it of strategic rationale.

Ambitious, open-minded officers purged during the Cultural Revolution (e.g., Su Zhenhua and Liu Daosheng) were reinstated by 1972, however (Muller 1983, pp. 151-152). Meanwhile, naval warfare presaged a return to maritime development in China. While supporting North Vietnamese forces during the Vietnam War, Beijing opposed Saigon during the 1974 Battle of the Paracel Islands. On 11 January the PRC Ministry of Foreign Affairs declared that China had incontestable sovereignty over the Paracels and their surrounding waters. Over several days, a PLAN force of 11 vessels and 600 assault troops attacked South Vietnamese ships after they resisted PRC patrol boats and maritime militiamen. Within two days, this largest PLA amphibious operation since the 1954-1955 operation to seize the Dachen from the KMT seized the Crescent Group, leaving all Paracel features in Chinese possession.

On 3 May 1975, Mao called a Central Military Commission (CMC) meeting and requested a plan to develop a modern ocean-going navy, which he received and approved that July. Implementation of most related programs was thwarted, however, by Cultural Revolution leftists who opposed the major weapons imports that were likely to be required (using analogies to debates between advocates of indigenous development and ultimately unsuccessful naval imports in Qing China, as well as statements

that China was familiar with such currency (Muller 1983, p. 158).

It was Mao's Gang of Four's maritime modernization reflected in the *Daily* stated:

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This new era Deng Xiaoping's military Communist Party General Staff I appearance in 1971, a Marxist who had been opposing elemental stability and simply dismantling Deng unleashed.

During the 1970s, China to make the *Yang Hong 5* class. Follow-on missile there were no sent submarine Chain into the fronted Japanese Diaoyu Islands. ries about purchase but budgetary stressed improv

that China was a "continental" power), Young School traditionalists unfamiliar with such weapons, and bureaucratic competitors for scarce foreign currency (Muller 1983, p. 156).

It was Mao's death in September 1976 and subsequent purge of the Gang of Four that finally ended Maoist malaise and enabled broad-based maritime modernization, though maritime policy changes were not reflected in the media until March 1977. On 13 August 1977, *People's Daily* stated:

The revolutionary spirit... for the building of a powerful navy—long repressed by the Gang of Four—has erupted like a volcano.... The commanders and fighters again revised their plans and measures for the building of a powerful navy.... In just a few months, many units completed the training which they had not carried out for many years in the past. (Muller 1983, p. 158)

This new ethos reflected the 'reform and opening up' associated with Deng Xiaoping's consolidation of power. Deng, who had served in a variety of military leadership roles during the civil war, was named Chinese Communist Party (CCP) vice chairman, CMC vice chairman, and PLA General Staff Department head in 1975. From 1978 until his last public appearance in 1994, he would be China's pre-eminent leader. A pragmatist who had been branded a "capitalist roader" and repeatedly purged for opposing elements of Mao's radical policies, Deng believed that political stability and economic development were essential for China. By simply dismantling Maoist collectives and allowing market forces to operate, Deng unleashed China's continuing economic revolution.

During the late 1970s, this newly permissive political climate enabled China to make initial forays seaward. In spring 1976, research ship *Xiang Yang Hong 5* conducted the PLAN's first open-ocean mission near Fiji. Follow-on missions occurred in 1977–1979, without PLAN escort as there were no underway replenishment ships until 1980. The PLAN sent submarines into the South China Sea and beyond the First Island Chain into the Pacific Ocean for the first time. In 1978, the PLAN confronted Japanese forces in the area surrounding the disputed Senkaku/Diaoyu Islands. In that same year, China apparently began to make inquiries about purchasing naval vessels and weapons systems from overseas, but budgetary limitations postponed initial efforts. The PLAN instead stressed improving organization, doctrine, and training. Nevertheless, a

major breakthrough occurred in May 1980 when eighteen ships sailed to the previously-surveyed Fiji Islands area to retrieve the instrument package from China's first successful DF-5/CSS-4 ICBM test. This was the first major instance of Chinese maritime power projection since Zheng He's voyages and the first ever into the Western Pacific. *Liberation Army Daily* announced, "Today's victory is only a beginning. The development and strengthening of the navy... will be pursued continuously...." (Muller 1983, p. 164).

Meanwhile, on the continental front, China launched 'Self-Defensive Counterattack against Vietnam' from 17 February to 17 March 1979, supposedly because of border incursions, but in reality to punish Vietnam for preparing to overthrow its ally Pol Pot in Cambodia. While moving 30-40 divisions to the Vietnamese border, China simultaneously prepared to deter an attack by the USSR, which had concluded a Treaty of Friendship and Cooperation with Vietnam in 1978. Encountering heavy resistance when its forces crossed the border, Beijing stated that the PLA would not proceed further than 50 km into Vietnam. While the PLAAF refrained from air combat, the PLAN increased deployments near the Tonkin Gulf, Hainan, and Paracels to deter both Vietnamese retaliatory attacks on islands and oilrigs and the Soviet naval contingency force. This was the first of several political uses of the PLAN against Vietnam over the next few years.

After sustaining what it claimed were 20,000 casualties but Vietnam claimed were 42,000, the PLA withdrew systematically. Severe problems with coordination, command, control, and logistics demonstrated how unprepared for combat the PLA had become. Yet, while Deng criticized the PLA for being "bloated" and pursued successive major force reductions to modernize the PLA, he stressed domestic economic development over military spending. To compensate, he ushered the PLA into business. The PLAN had become a significant regional force by 1983 with its fleet of over 100 rudimentary submarines (the world's third largest fleet numerically), and the launch of its first SSBN two years before (and successful testing of its SLBM the following year). But rapid modernization remained elusive. As Table 4.1 (below) indicates, China's navy then contained substantial numbers of basic platforms, all obsolescent by modern standards.

Simultaneously, however, Deng promulgated policies that would drive Chinese maritime development for the next several decades and thereby greatly expand the scope of interests that the PLAN might be asked to

Table 4.1 PLAN primary order of battle in late Deng Xiaoping Era, 1985

Year	Ballistic missile submarines (SSBNs)	Nuclear-powered attack submarines (SSNs)	Diesel attack submarines (SSs)	Total submarine rines	Aircraft carriers	Destroyers	Frigates	Corvettes	Larger amphibious ships: LSTs	Smaller amphibious ships: LSMs	Missile-armed coastal patrol craft	Total surface ships	Total naval vessels
1985	1	2 <0%>	100 <0%>	103	0	14 <0%>	22 <0%>	0	N/A		333 (28 Hainan/Type 037, 305 Shanghai III/Type 072/I)	369	472

Note: Smaller and/or auxiliary (e.g., mine warfare) vessels not itemized. Figure in () from U.S. Office of Naval Intelligence (ONI), PLA Navy Orders of Battle 2000–2020, written response to request for information provided to the U.S.-China Economic and Security Review Commission, Suitland, MD, 24 June 2013. Figure in <%> indicates “approximate percentage modern” as assessed by ONI, 2013.

Sources: IHS *Military Balance*, 1985 and IHS *Jane's*, op. cit.

protect. China's shipbuilding industry, which had benefited from the fact that it could not easily be relocated into interior hinterlands during Mao's 'Third Line' policy, was prioritized as a commercial industry by Deng in 1982. The Sixth Ministry of Machine Building became the China State Shipbuilding Corporation, which introduced market principles that facilitated foreign joint ventures and technology transfer. Situated primarily on China's eastern seaboard near major cities and newly-created special economic zones, the industry has benefited greatly from China's dedication to using Chinese-built ships to transport burgeoning exports. Thanks to these and such developments as increased offshore oil and gas prospecting and production, China's marine economy expanded at an annual rate of 17% during the 1980s.

In a major break with China's Cold War "coastal defense" tradition, it adopted a "Near Seas active defense" (积极防御, 近海作战) strategy in 1987 (Li 2009, p. 150). This major paradigm shift, driven by Deng's assessment that great power war was not imminent and that coastal economic development deserved precedence, was further articulated and implemented by PLAN commander Admiral Liu Huaqing, who served as deputy director of the Defense Science and Technology Commission in the 1960s, chief of the PLAN (1982–1988), and vice chairman of the CMC (1989–1997).

It must be emphasized that Admiral Liu was not a Chinese Mahan or Gorshkov. Deng's economic prioritization, itself predicated on close U.S.-China relations, made it inappropriate for a PLAN commander to advocate ambitious visions of Chinese naval power. Moreover, while Deng's reforms would ultimately unleash commercial maritime development, seaborne exports, and consequent heightened reliance on seaborne imports of oil and other resources, the future remained unclear. While Liu was Soviet-trained and said to have been influenced by Gorshkov, he had nothing near the resources that the latter had available to direct seaward. Publishing a Chinese version of *Sea Power and the State* would have been politically incorrect. When China finally substantially increased naval funding in the late 1990s, Liu was entering retirement. He is noteworthy for having helped to transform the PLAN into a more modern, professional force from a very low baseline, for developing and popularizing the Island Chains concept of demarcating PLAN power projection, and for advocating aircraft carrier development to further such power projection.

Liu and others have defined the First Island Chain, or current limit of most PLAN operations, as comprising Japan and its northern and southern

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archipelagos (the latter disputed by China), South Korea, Taiwan, the Philippines, and the Greater Sunda Islands. The Second Island Chain, which Liu envisioned as being fully within the scope of future PLAN activities, ranges from the Japanese archipelago south to the Bonin and Marianas Islands (including Guam) and finally to the Palau group.

In his 2004 autobiography, coverage of which by China's *Xinhua* press agency implies quasi-official endorsement, Liu recalled that the question of Chinese aircraft carrier development had weighed particularly heavily on him when he became PLAN commander in 1982. "With the development of maritime undertakings and the change in the mode of sea struggles, the threats from sea we were facing differed vastly from the past," Liu assessed. "We had to deal with SSBNs and ship-based air forces, both capable of long-range attacks. To meet that requirement, the strength of the Chinese navy seemed somewhat inadequate. Despite our long coastal defense line, we had only small and medium-sized warships and land-based air units, which were merely capable of short-distance operations. In case of a sea war, all we could do was to deplore our weakness." But "by developing aircraft carriers," Liu believed, "we could solve this problem successfully" (Liu Huaqing 2004, p. 478).

Liu described aircraft carriers as providing air coverage essential to offshore defense. An aircraft carrier would thus facilitate Chinese air operations in the Taiwan Strait by obviating the need for short-range fighters to sortie from land bases. This, Liu believed, would maximize the utility of China's existing aircraft. However, Liu made these statements in 1987, before modern precision weaponry had demonstrated its startling effectiveness in the first Gulf War. Indeed, a concomitant shift in operational scenarios may at least partially explain subsequent apparent indecision in China concerning aircraft carrier development. Though periodically considered, it may have been repeatedly postponed in favor of submarines. Even Liu acknowledged that nuclear submarines are "one of the very most important pieces of naval equipment." According to Ian Storey and You Ji, "With the retirement of Liu in 1997 ... the aircraft carrier lost its champion in the Chinese navy. At the same time, the need to control the South China Sea as a strategic priority was downgraded as reunification with Taiwan hurtled to the top of Beijing's agenda" (Storey and Ji 2004, p. 90).

Support for China's naval development gradually coalesced with increasing PRC concerns with maritime resources and sovereignty (particularly over Taiwan as it began to democratize in the late 1980s, a process that would raise popular questions about its status vis-à-vis the mainland).

Beijing's 1987 announcement that it would establish an "ocean observation station" on Fiery Cross Reef on behalf of UNESCO helped trigger a 1988 skirmish on nearby Johnson South Reef (Xu Zhiliang 2014). In March 1988, in the Johnson South Reef Skirmish, the PLAN sank three Vietnamese supply vessels, killed 64 Vietnamese sailors, and seized seven features in the disputed Spratly islands (Erickson and Strange 2014). In 1995, China would seize Mischief Reef in the Spratlys, also claimed by the Philippines.

Meanwhile, Deng's reforms were awakening demand for further liberalization throughout Chinese society. In 1988, China Central Television (CCTV) broadcast *He Shang* [River Elegy], which used the theme of China's early development centering on the Yellow River to criticize "the mentality of a servile, static, and defensive people who always meekly hug to mother earth to eke out a miserable living, rather than boldly venturing forth on the dangerous deep blue sea in search of a freer, more exalted existence" (Chen and Jin 1997, pp. 221–222). Viewers were challenged to consider: "How can the 'yellow' culture of the earth be transformed into the 'blue' culture of the ocean?" (Ibid., p. 222). *River Elegy* suggested that China had much to learn from the West, was later viewed by Chinese officials as having helped to inspire the 1989 Tiananmen Square demonstrations, and was subsequently banned (Wang 2006).¹

JIANG ERA: LIMITED BUT INCREASINGLY POWERFUL NAVY

Deng's stepping down as CCP CMC chairman in 1989 and State CMC chairman in 1990 smoothed his ultimate hand-picked successor Jiang Zemin's path to power. By Deng's death in 1997, Jiang was China's unchallenged leader. During his decade in office, he increased PLA(N) budgets and directed significant PLA(N) modernization, in part to uphold "maritime rights and interests" increasingly prioritized as China's maritime reliance and capacity grew.

During the 1995–1996 Taiwan Strait Crisis, the PLA fired 10 DF-15 short-range ballistic missiles to the north and south of (not over) Taiwan (or in the Strait) as part of large-scale military exercises and accompanying political rhetoric to discourage independence moves by Taiwanese president Lee Deng-hui before and during his election. This suggested an increased PLA focus on asserting sovereignty over claimed territory on its maritime periphery. Apparent inability to challenge U.S. Navy intervention in the 1995–1996 Taiwan Strait Crisis may have motivated Beijing to

accelerate PLA evolving platform strategy consistent under Jiang's leaders of increasing maritime platforms.

Statements on maritime interests. Huaqing, "Coastal and oceans are seas and oceans. Zemin has taken and oceans the marine economy. As Jiang declared Island, "Development to China: stand the sea first sea consciousness stated, "the people's sovereignty of maritime rights. Jiang has been become sharper become sites of. In a future war power is an important the navy should navy building a navy buildup" (had supported: Jiang never appeared.

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accelerate PLAN development, with submarines as a major focus. China's evolving platforms and weaponry increasingly suggested an 'access denial' strategy consistent with Beijing's focus on Taiwan. As Table 4.2 indicates, under Jiang's leadership the PLAN shrunk dramatically as smaller numbers of increasingly advanced platforms began replacing numerous obsolete platforms.

Statements by Chinese leaders focused increasingly on the nation's maritime interests. According to former PLAN Political Commissar Yang Huaqing, "Comrade Deng Xiaoping unequivocally pointed out that seas and oceans are not a moat and China must face the world and go beyond seas and oceans in order to become prosperous and strong. Comrade Jiang Zemin has taken a further step and put forward a new outlook on Seas and oceans that combines the outlook on territorial waters, outlook on marine economy and outlook on maritime security" (Yang 2000, p. 26). As Jiang declared during a 1995 inspection of a PLAN unit on Hainan Island, "Developing and using the sea will have more and more significance to China's long-term development. We certainly need to understand the sea from a strategic highpoint, and increase the entire nation's sea consciousness" (Jiao 2007). In a 1999 speech to the PLAN, Jiang stated, "the people's navy shoulders the sacred mission of safeguarding the sovereignty of our country's territorial waters and defending the state's maritime rights and interests" (Erickson and Goldstein 2009, p. xviii). Jiang has been quoted as saying: "the struggle over seas and oceans has become sharper and more complex day by day, and sea and ocean have become sites of intense contention and confrontation among countries. ... In a future war, the navy's role is very important and prominent. Sea power is an important strategic direction of our national security. Since the navy shoulders major defense tasks, we must attach importance to navy building and treat the navy as one of the major services in our military buildup" (Yang 2000). Though he advocated a "powerful navy," and had supported its accelerated development since the mid-1990s, however, Jiang never apparently referred to China as a "sea power."

In accordance with these leadership pronouncements, Beijing's official documents began to reflect an increasing maritime focus. Chinese laws sought to enforce China's maritime claims. On 25 February 1992, Beijing ratified the "Law of the Territorial Sea and the Contiguous Zone," which defined its extant territorial claims, including the waters surrounding Taiwan. In 1998, China passed a law regarding the "Exclusive Economic Zone and Continental Shelf."

Table 4.2 PLAN primary order of battle in Jiang Zemin Era, 1990–2002

Year	Ballistic missile submarines (SSBNs)	Nuclear-powered attack submarines (SSNs)	Diesel attack submarines (SSs)	Total submarine-rines	Aircraft carriers	Frigates	Larger amphibious ships: LSTs & LPDs	Smaller amphibious ships: LSMs	Missile-armed coastal ships: patrol craft	Total surface naval vessels
1990	(1)	(4) <0%>	(38) <0%>	(93)	(0)	(37) <0%>	(0)	(58)	(215)	(329) (422)
1995	(1)	(5) <0%>	(43) <0%>	(49)	(0)	(37) <5%>	(0)	N/A	(217)	(272) (312)
2000	(1)	5 (5) <0%>	~60 (60) <7%>	~65 (66)	0 (0)	~40 (37) <25%>	(0)	Almost 50 (60)	(100)	~110 ~175 (218) (284)
2002	N/A	5	~60	~65	0	~60	N/A	~40	~50	~150 ~215

Note: Smaller and/or auxiliary (e.g., mine warfare) vessels not itemized. Default figure from that year's DoD report. Figure in () from U.S. Office of Naval Intelligence (ONI), PLA Navy Orders of Battle 2000–2020, written response to request for information provided to the U.S.-China Economic and Security Review Commission, Suitland, MD, 24 June 2013. Figure in <%> indicates “approximate percentage modern” as assessed by ONI, 2013: “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”

Sources: Anthony H. Cordesman, Chinese Military Modernization and Force Development: Chinese and Outside Perspectives (Washington, DC: Center for Strategic and International Studies, 2 July 2014), http://csis.org/files/publication/140702_Chinese_MilBal.pdf

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Related efforts included Beijing's National Marine Development Program, Policy on Marine Technology, and Agenda on Marine Development in twenty-first century. A "White Paper on Maritime Programs," promulgated by Beijing in 1998, outlined a "sustainable marine development strategy" to "safeguard the new international maritime order and the state's maritime rights and interests" and to improve management of maritime resources. It stated that China's marine economy grew at an annual rate of 20% during the 1990s, reaching 0.33 trillion yuan (2% of GDP) by 1998. China's defense white papers offered increasing oceanic content. China's 2000 Defense White Paper alluded to "maritime rights and interests" as part of "border defense." According to China's 2002 Defense White Paper, "goals and tasks of China's national defense" included "taking effective defensive and administrative measures to defend national security and safeguard maritime rights and interests."

China's Five Year Plans (now "Guidelines") outline official national priorities. The outline for Beijing's 10th Five Year Plan (2001–2005) stated that China needed to "strengthen ocean resources surveys, development, protection, and management," and to "use and management of sea areas and protection of our maritime rights and interests" (Erickson and Goldstein 2009, p. xxviii).

HU ERA: GREAT MARITIME POWER FOR "HARMONIOUS OCEANS"

In his role as paramount leader from 2003 to 2013, Hu Jintao, like his predecessors, chaired the CMC (albeit with a two-year delay) in addition to serving as General Secretary of the CCP and President of the PRC. Despite the numerous continental concerns that he addressed in his public speeches, Hu became China's first leader to publicly characterize it as a growing sea power. He stated, "whether it is about promoting development or safeguarding national security, our country has tremendous strategic interests in the maritime space. The[se]... have a direct bearing on the great rejuvenation of the Chinese nation" (Zuo 2010, pp. 8–14).

Manifold Chinese leadership pronouncements, state media statements, and official documents reflected gradually-increasing maritime emphasis. Beijing augmented its naval and civil maritime force structure and capabilities, developed an increasingly broad-based maritime surveillance and security network, signed various international conventions, and passed relevant domestic laws.

Meanwhile, Chinese strategic thinkers increasingly turned seaward. Rising consumption and pollution were making China's low per-capita arable land and water, and substantial import reliance, increasingly acute. Sr. Col. Lin Dong, associate professor at the Strategy Teaching and Research Department, PLA National Defense University, described a correspondingly important domain as "Submarine land, or 'sea land', defined as "the land covered by seawater, including the seafloor, the bottom soil, the submarine vegetation, and the mountain ranges at the bottom of the sea. ...sea land contains and carries seawater resources, marine species resources (marine food chain), and marine mineral resources, and constitutes another type of land on earth, which is also full of vigor." Lin argued that the seas, water column, and seabed offered replacements for diminishing land resources, new interdisciplinary economic sectors, and an important arena for national competition:

At present, mankind has already stood at the new starting point of constructing the centennial undertaking for future survival and development, and a wave of exploring and exploiting the marine frontiers is surging along the shores of the Pacific Ocean, the Atlantic Ocean, the Indian Ocean, and the Arctic Ocean, thus raising the curtain for the rise of the human maritime industrial civilization. The definition of great powers will no longer merely be determined by the ground area of a country, but will be tilted toward the area of a country's sea land along with the rising status of the maritime economy. Whether or not one is able to stand in the forefront of the world and light the torch of the maritime industrial revolution has a bearing on the outcome of the strategic competition among the countries.

Accordingly, Lin went so far as to contend:

Sea land expansion stirs up a new wave of territorial expansion. ...expanding the actual sea land occupation has become a new coordinate of territorial contention among countries. ...various countries strive to seek the international legal status for the self-delimited sea land. ... The emergence of maritime national boundaries will reshape the concept of nation-state. The division of maritime territories will lead to the emergence of maritime national boundaries, and the yardstick for defining big countries will be tilted toward the sea land area. (Lin 2010, pp. 133-140)

In a speech to China's CMC in September 2004, Hu introduced the "historical mission" concept, which states that the PLA must "provide

a security guaranteeing national article in *Liberalists*" (Liu et. officers attention since our nation's important role as safeguarding an honorable for military at all times...." strive to build historical misperceptions compared "at any process of promoting our maritime (Lague 2006 the PLAN's concept of "harmonious relation to provide imports, and

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a security guarantee for national interests," for the party, and for ensuring national development (*PLA Daily* 2004). According to a subsequent article in *Liberation Army Daily*, this included "maritime rights and interests" (Liu et al 2005, p. 6). On 27 December 2006, in a speech to PLAN officers attending a Communist Party meeting, Hu reportedly "stressed, since our nation is a great maritime power [海洋大国],² our Navy plays an important role in defending our national sovereignty and security, as well as safeguarding our marine rights and interests, and hence is undertaking an honorable mission. ... We must also solidly make good preparations for military competition so as to ensure effective fulfillment of tasks at all times...." (Ding et al. 2006, p. 1). Hu similarly declared, "we should strive to build a powerful navy that adapts to the needs of our military's historical mission in this new century and at this new stage" and is prepared "at any time" for military struggle (*New York Times* 2006). "In the process of protecting the nation's authority and security and maintaining our maritime rights," Hu emphasized, "the navy's role is very important" (Lague 2006). Meanwhile, at the 2009 international fleet review marking the PLAN's 60th anniversary in 2009, Hu Jintao introduced the concept of "harmonious oceans," indicating emphasis on international cooperation to provide a stable environment for China's development, resource imports, and product exports.

Beijing's increasing maritime focus was reflected by its official documents. China's 11th Five Year Guideline (2006–2010) contained an entire section titled "Protect and Develop Ocean Resources." It directed China to "Strengthen the protection of islands ... improve the demarcation of maritime areas, regulate the orderly use of the sea" and to "develop in a focused way the resources in the exclusive economic zone, continental shelf, and international seabed."

China's 2004 Defense White Paper, the fifth that the State Council's Information Office had issued since 1998, was the first public announcement of a priority shift in defense resource allocation to the PLAN, PLAAF, and SAF. This priority order was no accident, and heralded a decisive move into the Near Seas and beyond. Lacking aircraft carriers, PLAN flotillas would need aviation support, whether PLAN or PLAAF, to provide land-based air cover for its surface ships. Moreover, surface combatants would still need their own organic area air defenses to patrol the Near Seas even as aviation improved. Equally important was the induction of the PLAN, PLAAF, and Second Artillery commanders into the CMC for the very first time.

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China's 2006 Defense White Paper explained how its growing maritime interests might be defended. It stated that China's "Navy is working to build itself into a modern maritime force... consisting of combined arms with both nuclear and conventional means of operations" by "[t]aking informationization as the goal and strategic focus in its modernization drive," and prioritizing "development of maritime information systems, and new-generation weaponry and equipment." China "endeavors to strengthen its border and coastal defense, administration and control, and to build a modern border and coastal defense force," it stated. "...[R]elevant laws and regulations and updated its border and coastal defense policies and regulations pursuant to international laws and practices." In an unprecedented statement, it charged the PLAN with achieving "gradual extension of strategic depth for offshore defensive operations and enhancing its capabilities in integrated maritime operations and nuclear counterattacks" (State Council Information Office 2006). On Hu's watch, as Table 4.3 documents, the PLAN continued rapid qualitative improvements while registering overall quantitative growth, concentrated particularly in selected areas. Prioritized for development since the Cold War's end, attack submarines were outfitted increasingly as cruise missile delivery platforms. Surface vessels grew rapidly in versatility, defensibility, and attack capacity.

In a sign that Chinese leadership statements, planning documents, and white papers were being implemented at the strategic level, Beijing attempted to assert control over its claimed maritime territories by passing multiple domestic laws while participating in and attempting to influence important international maritime law proceedings. In June 2003, the State Oceanic Administration (SOA), the Ministry of Civil Affairs, and the PLA jointly issued China's first "National Regulation on Uninhabited Islands" (Xinhua 2003). Many Chinese observers, particularly within the PLA, doubted the power of international law alone to safeguard China's territorial claims. Nevertheless, in accordance with its "peaceful development" strategy, Beijing constantly strives to harmonize *its interpretations* of major international laws with the aforementioned domestic maritime ones, particularly at the rhetorical level. In one representative example, China's Foreign Ministry spokesman declared in September 2005 that "universally recognized international law and the contemporary law of the sea, including the fundamental principles and legal regimes set forth in the UNCLOS" (Foreign Ministry 2005).

Table 4.3 PLAN primary order of battle in Hu Jintao Era, 2002–2012

Year	Ballistic missile	Nuclear-powered	Diesel attack submarine	Total	Aircraft carrier	Destroyers	Frigates	Corvettes	Larger	Smaller	Missile	Total
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Table 4.3 PLAN primary order of battle in Hu Jintao Era, 2002–2012

Year	Ballistic missile submarines (SSBNs)	Nuclear-powered attack submarines (SSNs)	Diesel attack submarines (SSs)	Total subma- rines	Aircraft carriers	Destroyers	Frigates	Corvettes	Larger amphib- ious ships: LSTs & LPDs	Smaller amphib- ious ships: LSMs	Missile- armed coastal patrol craft	Total surface ships	Total naval vessels
2003	N/A	~60	?	~60	0	>60	?	N/A	>40	?	~50	~150+	~210+
2005	(2)	6 (6) <33%>	51 (51) <40%>	57 (59)	0 (0)	21 (21) <40%>	43 (43) <35%>	(0)	20 (43)	23 (43)	51 (51)	158	215
2006	N/A	5	50	55	0	25	45	N/A	25	25	45	(158)	(217)
2007	N/A	5	53	58	0	25	47	N/A	25	25	41	165	220
2008	N/A	5	54	59	0	29	45	N/A	26	28	45	163	221
2009	N/A	6	54	60	0	27	48	N/A	27	28	70	173	232
2010	(3)	6 (6) <33%>	54 (54) <50%>	60 (63)	0 (0)	25 (25) <50%>	49 (49) <45%>	(0)	27	28	85 (85)	200	260
2011	1	5	49	54	0	26	53	N/A	27	28	86	(214)	(277)
2012	2	5	48	53	1	26	53	N/A	28	23	86	220	274
												217	270

Note: Smaller and/or auxiliary (e.g., mine warfare) vessels not itemized. Default figure from that year's DoD report. Figure in () from U.S. Office of Naval Intelligence (ONI), PLA Navy Orders of Battle 2000–2020, written response to request for information provided to the U.S. China Economic and Security Review Commission, Suitland, MD, 24 June 2013. Figure in <%> indicates “approximate percentage modern” as assessed by ONI, 2013: “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”

Sources: Anthony H. Cordesman, Chinese Military Modernization and Force Development: Chinese and Outside Perspectives (Washington, DC: Center for Strategic and International Studies, 2 July 2014), http://csis.org/files/publication/140702_Chinese_MilBal.pdf

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With the exception of the waters surrounding Taiwan, Beijing made increasing efforts to actually administer its claimed maritime territories and the natural resources therein. While Beijing had yet to unify its major maritime security agencies, it was using them to patrol coastal areas with increasing vigor. In 2005, China Maritime Surveillance launched its first 1000 ton, 5000 nm range *Haijian 27* multi-function marine surveillance, law enforcement, and public affairs ships, with other new maritime law enforcement and surveillance ships and marine surveillance aircraft planned.

Beijing sought improved maritime domain awareness. A growing network of land-based surveillance systems, ships, buoys, aircraft, and satellites helped monitor its maritime periphery in all weather conditions. From 2004-2009, China conducted the ~\$242 million "908 Project," its largest comprehensive survey ever of its "676,000 square kilometers" of "inland waters" and "maritime belts." This was first large-scale maritime survey since the 1980s; the last similar survey occurred in the 1950s (Xinhua 2005).

Meanwhile, China's marine economy continued developing rapidly. It rose from 1.01 trillion yuan (3.8 per cent of GDP) in 2003 to 1.7 trillion (4 per cent) in 2005 to 2.49 trillion (10.11 per cent) in 2007 and 3.2 trillion (9.53) in 2009 (Zhang and Jing 2013). While the size of China's 275,000-strong shipbuilding workforce stemmed in part from employment imperatives and relatively-low average per-worker productivity, capabilities were rapidly improving. Foreign industrialists viewed Chinese collocation of civilian and military shipbuilding production as inefficient, but civilian improvements promised gradual if indirect impact on military vessels, typically many times more complex to construct and outfit. Nearly 1500 marine engineers and naval architects were graduating from Chinese merchant academies and universities annually (approximately 7 times that from U.S. institutions). Beijing aimed to become the world's largest ship-builder by 2015, with 24 million tons of production capacity (35 per cent of global capacity).

China's burgeoning marine economy brought new security interests. Maritime strategists analyzed the force transformation required to safeguard them. According to a PLAN Military Studies Research Institute researcher,

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