China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress

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Summary

The question of how the United States should respond to China's military modernization effort, including its naval modernization effort, has emerged as a key issue in U.S. defense planning. Admiral Michael Mullen, the Chairman of the Joints Chiefs of Staff, stated in June 2010 that "I have moved from being curious to being genuinely concerned" about China's military programs. The question of how the United States should respond to China's military modernization effort is of particular importance to the U.S. Navy, because many U.S. military programs for countering improved Chinese military forces would fall within the Navy's budget.

Decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military capabilities could affect the likelihood or possible outcome of a potential U.S.-Chinese military conflict in the Pacific over Taiwan or some other issue. Some observers consider such a conflict to be very unlikely, in part because of significant U.S.-Chinese economic linkages and the tremendous damage that such a conflict could cause on both sides. In the absence of such a conflict, however, the U.S.-Chinese military balance in the Pacific could nevertheless influence day-to-day choices made by other Pacific countries, including choices on whether to align their policies more closely with China or the United States. In this sense, decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military forces could influence the political evolution of the Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Pacific and elsewhere.

China's naval modernization effort, which began in the 1990s, encompasses a broad array of weapon acquisition programs, including anti-ship ballistic missiles (ASBMs), submarines, and surface ships. China's naval modernization effort also includes reforms and improvements in maintenance and logistics, naval doctrine, personnel quality, education, training, and exercises.

Observers believe that the near-term focus of China's military modernization effort has been to develop military options for addressing the situation with Taiwan. Consistent with this goal, observers believe that China wants its military to be capable of acting as a so-called anti-access force—a force that can deter U.S. intervention in a conflict involving Taiwan, or failing that, delay the arrival or reduce the effectiveness of intervening U.S. naval and air forces. Observers believe that China's military modernization effort, including its naval modernization effort, is increasingly oriented toward pursuing additional goals, such as asserting or defending China's territorial claims in the South China Sea and East China Sea; enforcing China's view—a minority view among world nations—that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zone (EEZ); protecting China's sea lines of communications; protecting and evacuating Chinese nationals living and working in foreign countries; displacing U.S. influence in the Pacific; and asserting China's status as a major world power.

Placing an increased emphasis on U.S. Navy programs for countering improved Chinese maritime military capabilities in coming years could lead to one or more of the following: developing and procuring highly capable ships, aircraft, and weapons for defeating Chinese anti-access systems; assigning a larger percentage of the Navy to the Pacific Fleet; homeporting more of the Pacific Fleet's ships at forward locations such as Hawaii, Guam, and Japan; increasing training and exercises in operations relating to countering Chinese maritime anti-access forces; and increasing activities for monitoring and understanding developments in China's navy, as well as activities for measuring and better understanding operating conditions in the Western Pacific.

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Issue for Congress

The question of how the United States should respond to China's military modernization effort, including its naval modernization effort, has emerged as a key issue in U.S. defense planning. A June 10, 2010, press report stated that

> Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, said he was worried by China's "heavy investments" in sea and air capabilities and its rejection of military contacts with the U.S. that had resumed last year, according to the text of a speech he gave to the Asia Society Washington last night.
>
> "A gap as wide as what seems to be forming between China's stated intent and its military programs leaves me more than curious about the end result," Mullen said. "Indeed, I have moved from being curious to being genuinely concerned."[1]

On January 8, 2011, Secretary of Defense Robert Gates, in response to a question about what concerns he had regarding the development of certain new Chinese military capabilities, stated: "They clearly have the potential to put some of our capabilities at risk and we have to pay attention to them, we have to respond appropriately with our own programs. My hope is that through the [U.S.-proposed] strategic dialogue [with China on strategy and policies and perhaps outlooks] that I'm talking about that maybe the need for some of these capabilities is reduced."[2]

The question of how the United States should respond to China's military modernization effort is of particular importance to the U.S. Navy, because many U.S. military programs for countering improved Chinese military forces would fall within the Navy's budget.

Decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military capabilities could affect the likelihood or possible outcome of a potential U.S.-Chinese military conflict in the Pacific over Taiwan or some other issue. Some observers consider such a conflict to be very unlikely, in part because of significant U.S.-Chinese economic linkages and the tremendous damage that such a conflict could cause on both sides. In the absence of such a conflict, however, the U.S.-Chinese military balance in the Pacific could nevertheless influence day-to-day choices made by other Pacific countries,

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[1] Viola Gienger, "U.S. Concern Over China's Military Intent Growing, Mullen Says," *Bloomberg.com*, June 10, 2010. See also Daniel Ten Kate, "U.S. Criticism Of China's Military May Overshadow Asian Security Meeting," *Bloomberg.com*, July 15, 2010; and Jon Rabiroff, "Mullen Moves From 'Curious' To 'Concerned' Over China's Military," *Stripes.com*, July 21, 2010. A September 30, 2010, press report states:

> Adm. Mullen said during a breakfast meeting hosted by the Christian Science Monitor that China's military is making a "tremendous investment" in naval forces and is "very aggressive in the waters off their east coast, South China Sea, East China Sea, even ... in the waters in the Yellow Sea."
>
> "A country has a right to build its defense capability tied to its national interests. I don't have any problem with that," Adm. Mullen said. "It's the kinds of capabilities that will prevent others, that prevent access, which is one of their overarching strategic objectives, as best I can tell, although sometimes it's difficult to see what their strategy is."
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> (Bill Gertz, "Inside the Ring," *Washington Times*, September 30, 2010. Ellipsis as in original.)

[2] Source: Transcript of media availability with Secretary Gates en route to Beijing, China, from Andrews Air Force Base, accessed online on January 11, 2011, at http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4748.

including choices on whether to align their policies more closely with China or the United States. In this sense, decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military forces could influence the political evolution of the Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Pacific and elsewhere.

Scope, Sources, and Terminology

This report focuses on the potential implications of China's naval modernization for future required U.S. Navy capabilities. Other CRS reports address separate issues relating to China.

This report is based on unclassified open-source information, such as the annual Department of Defense (DOD) report to Congress on military and security developments involving China,[3] an August 2009 report from the Office of Naval Intelligence (ONI),[4] and published reference sources such as *Jane's Fighting Ships*.

For convenience, this report uses the term China's naval modernization to refer to the modernization not only of China's navy, but also of Chinese military forces outside China's navy that can be used to counter U.S. naval forces operating in the Western Pacific, such as land-based anti-ship ballistic missiles (ASBMs), land-based surface-to-air missiles (SAMs), land-based air force aircraft armed with anti-ship cruise missiles (ASCMs), and land-based long-range radars for detecting and tracking ships at sea.

China's military is formally called the People's Liberation Army, or PLA. Its navy is called the PLA Navy, or PLAN (also abbreviated as PLA[N]), and its air force is called the PLA Air Force, or PLAAF. The PLA Navy includes an air component that is called the PLA Naval Air Force, or PLANAF. China refers to its ballistic missile force as the Second Artillery Force.

Background

Overview of China's Naval Modernization Effort[5]

Date of Inception

Observers date the beginning of China's naval modernization effort to various points in the 1990s.[6] Design work on some of China's newer ship classes appears to have begun in the later

[3] U.S. Department of Defense, *Annual Report to Congress [on] Military and Security Developments Involving the People's Republic of China 2010*. Washington, 2010. Hereafter *2010 DOD CMSD*. The 2009 and earlier editions of the report were known as the China military power report. The 2009 edition is cited as *2009 DOD CMP*, and earlier editions are cited similarly.

[4] Office of Naval Intelligence, *The People's Liberation Army Navy, A Modern Navy with Chinese Characteristics*, Suitland (MD), Office of Naval Intelligence, August 2009. 46 pp. (Hereafter *2009 ONI Report*.)

[5] Unless otherwise indicated, shipbuilding program information in this section is taken from *Jane's Fighting Ships 2010-2011*, and previous editions. Other sources of information on these shipbuilding programs may disagree regarding projected ship commissioning dates or other details, but sources present similar overall pictures regarding PLA Navy shipbuilding.

1980s.[7] Some observers believe that China's naval modernization effort may have been reinforced or accelerated by a 1996 incident in which the United States deployed two aircraft carrier strike groups to waters near Taiwan in response to Chinese missile tests and naval exercises near Taiwan.

Elements of Modernization Effort

China's naval modernization effort encompasses a broad array of weapon acquisition programs, including programs for anti-ship ballistic missiles (ASBMs), anti-ship cruise missiles (ASCMs), land-attack cruise missiles (LACMs), surface-to-air missiles, mines, manned aircraft, unmanned aircraft, submarines, destroyers and frigates, patrol craft, amphibious ships and craft, mine countermeasures (MCM) ships, and supporting C4ISR[8] systems. In addition, observers believe that China may soon begin (or already has begun) an indigenous aircraft carrier construction program. Some of these acquisition programs have attracted particular interest and are discussed in further detail below. China's naval modernization effort also includes reforms and improvements in maintenance and logistics, naval doctrine, personnel quality, education and training, and exercises.[9]

Limitations and Weaknesses

Although China's naval modernization effort has substantially improved China's naval capabilities in recent years, observers believe China's navy continues to exhibit limitations or weaknesses in several areas, including capabilities for sustained operations by larger formations in distant waters, joint operations with other parts of China's military,[10] C4ISR systems, anti-air

(...continued)

[6] China ordered its first four Russian-made Kilo-class submarines in 1993, and its four Russian-made Sovremenny-class destroyers in 1996. China laid the keel on its first Song (Type 039) class submarine in 1991, its first Luhu (Type 052) class destroyer in 1990, its Luhai (Type 051B) class destroyer in 1996, and its first Jiangwei I (Type 053 H2G) class frigate in 1990.

[7] First-in-class ships whose keels were laid down in 1990 or 1991 (see previous footnote) likely reflect design work done in the latter 1980s.

[8] C4ISR stands for command and control, communications, computers, intelligence, surveillance, and reconnaissance.

[9] For a discussion of improvements in personnel, training, and exercises, see *2009 ONI Report*, pp. 31-40.

[10] For example, Vice Admiral David J. Dorsett, the Deputy Chief of Naval Operations for Information Dominance, stated the following at a January 5, 2011, meeting with defense reporters:

> Sophisticated in a joint warfighting, complex combat environment. I don't see China with those capabilities right now. I see them delivering individual components, individual weapon systems. Those things are being developed. But as soon as they acquire that proficiency, the question is how competent are they really going to be?
>
> So one of the areas that I focus on is how good are they at developing their operational proficiency to manage across the spectrum of warfare? And that's one where I don't want to get the assessment wrong. I don't want to underestimate or overestimate. I want to get it pretty right about when we think they're going to become operationally proficient. We're not seeing that. We're seeing it in individual elements of warfare, but not across the joint spectrum of the fight.
>
> (Source: Transcript of Defense Writers Group roundtable with Vice Admiral David J. Dorsett, Deputy CNO for Information Warfare. Dorsett expands on the points at other places in the transcript.)

warfare (AAW), antisubmarine warfare (ASW), MCM, a dependence on foreign suppliers for certain key ship components,[11] and a lack of operational experience in combat situations.[12]

The sufficiency of Chinese naval capabilities is best assessed against its intended missions. Although China's navy has limitations and weaknesses, it may nevertheless be sufficient for performing certain missions of interest to Chinese leaders. As China's navy reduces its weaknesses and limitations, it may become sufficient to perform a wider array of potential missions.

Goals of Naval Modernization Effort

Capabilities for Taiwan Scenarios, Including Acting as Anti-Access Force

DOD and other observers believe that the near-term focus of China's military modernization effort, including its naval modernization effort, has been to develop military options for addressing the situation with Taiwan. Consistent with this goal, observers believe that China wants its military to be capable of acting as a so-called anti-access force—a force that can deter U.S. intervention in a conflict involving Taiwan, or failing that, delay the arrival or reduce the effectiveness of intervening U.S. naval and air forces. ASBMs, attack submarines, and supporting C4ISR systems are viewed as key elements of China's emerging anti-access force, though other force elements—such as ASCMs, LACMs (for attacking U.S. air bases and other facilities in the Western Pacific), and mines—are also of significance. China's emerging maritime anti-access force can be viewed as broadly analogous to the sea-denial force that the Soviet Union developed during the Cold War to deny U.S. use of the sea or counter U.S. forces participating in a NATO-Warsaw Pact conflict. One potential difference between the Soviet sea-denial force and China's emerging maritime anti-access force is that China's force includes ASBMs capable of hitting moving ships at sea. DOD states that

> As part of its planning for a Taiwan contingency, China continues to develop measures to deter or counter third-party intervention, including by the United States, in any future cross-Strait crisis. China's approach to dealing with this challenge is manifest in a sustained effort to develop the capability to attack, at long ranges, military forces that might deploy or operate within the western Pacific, which the Department of Defense characterizes as "anti-access" and "area denial" capabilities, respectively. China is pursuing a variety of air, sea, undersea, space and counterspace, and information warfare systems and operational concepts to achieve this capability, moving toward an array of overlapping, multilayered offensive capabilities extending from China's coast into the western Pacific.[13]

DOD also states that in addition to efforts in information warfare,

> China's anti-access/area-denial focus appears oriented toward restricting or controlling access to China's periphery, including the western Pacific. China's current and projected

[11] DOD states that "China continues to rely on foreign suppliers for some propulsion units and, to a lesser degree, fire control systems, cruise missiles, ship-to-air missiles, torpedo systems, sensors, and other advanced electronics." (*2010 DOD CMSD*, p. 44.) For an additional discussion, see John Pomfret, "Military Strength Is Eluding China," *Washington Post*, December 25, 2010: 1.

[12] DOD states that "the PLA remains untested in modern combat. This lack of operational experience continues to complicate outside assessment of the progress of China's military transformation." (*2010 DOD CMSD*, p. 22)

[13] *2010 DOD CMSD*, p. 29.

force structure improvements, for example, will provide the PLA with systems that can engage adversary surface ships up to 1,000 nautical miles from the PRC coast. These include:

- Anti-Ship Ballistic Missiles: MRBMs designed to target forces at sea, combined with overhead and over-the-horizon targeting systems to locate and track moving ships.

- Conventional and nuclear-powered attack submarines: KILO, SONG, YUAN, and SHANG attack submarines capable of firing advanced ASCMs.

- Surface Combatants: LUYANG I/II, SOVREMENNYY-II, guided missile destroyers with advanced long-range anti-air and anti-ship missiles.

- Maritime Strike Aircraft: FB-7 and FB-7A and the SU-30 MK2, armed with ASCMs to engage surface combatants.

Similarly, current and projected systems will allow the PLA to strike regional air bases, logistical facilities, and other ground-based infrastructure. PRC military analysts have concluded that logistics and power projection are potential vulnerabilities in modern warfare, given the requirements for precision in coordinating transportation, communications, and logistics networks. China is fielding an array of conventionally armed ballistic missiles, ground- and air-launched land-attack cruise missiles, special operations forces, and cyberwarfare capabilities to hold targets at risk throughout the region.[14]

Additional Goals Not Directly Related to Taiwan

DOD and other observers also believe that China's military modernization effort, including its naval modernization effort, is increasingly oriented toward pursuing additional goals not directly related to Taiwan, including the following:

- asserting or defending China's territorial claims in the South China Sea and East China Sea—claims that overlap with those of other countries and, in the case of the South China Sea, are somewhat ambiguous but potentially expansive enough to go well beyond what would normally be supported by international legal norms relating to territorial waters;
- enforcing China's view—a minority view among world nations—that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zone (EEZ);
- protecting China's sea lines of communications, including those running through the Indian Ocean to the Persian Gulf, on which China relies for some of its energy imports;[15]
- protecting and evacuating Chinese nationals living and working in foreign countries;
- displacing U.S. influence in the Pacific; and

[14] 2010 DOD CMSD, p. 31.

[15] The August 2009 ONI report, for example, states that a 2004 expansion in missions for China's Navy "levied new requirements on the PLA(N) to prepare for contingencies beyond the immediacy of Taiwan, such as addressing China's economic dependence on sea lines of communication." *2009 ONI Report*, p. 9.

- asserting China's status as a major world power.

DOD states that

> In addition to preparing for a Taiwan contingency, the PLA has been developing new platforms and capabilities that will extend its operational reach to address other concerns within the East and South China Seas, and possibly to the Indian Ocean and beyond the second island chain in the western Pacific.[16]
>
> In describing the modernization tasks for each of the service arms, the 2008 Defense White Paper [issued by China] places emphasis on acquiring a capability to operate with great mobility and distance from China's mainland. The main avenues for the PLA to realize this capability are through its naval, ballistic missile, and air forces….
>
> The PLA Navy is at the forefront of efforts to extend operational reach beyond China's regional waters. The PLA Navy's investment in platforms such as nuclear-powered submarines and progress toward its first aircraft carrier (a refurbished ex-Russian Kuznetsov-class carrier) suggest China is seeking to support additional missions beyond a Taiwan contingency. The PLA Navy has also demonstrated the capability to conduct limited deployments of modern surface platforms outside the second island chain, including four separate deployments to the Gulf of Aden to support counter-piracy operations as of December 2009. The PLA Navy also has acquired new classes of ships capable of supporting conventional military operations, as well as humanitarian assistance and disaster relief missions, including the Type 071 landing platform dock amphibious ship and the Type 920 hospital ship.[17]

DOD also states that

> While remaining focused on Taiwan as a primary mission, China will, by 2020, lay the foundation for a force able to accomplish broader regional and global objectives. By the latter half of this decade, it is likely that China will 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. It is unlikely, however, that China will be able to project and sustain large forces in high-intensity combat operations far from China until well into the following decade.[18]

A December 28, 2010, press report states:

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[16] For a map depicting maritime perimeters in the Western Pacific that China refers to as the first and second island chains, see 2010 DOD CMSD, p. 23.

[17] *2010 DOD CMSD*, p. 33. DOD also states that

> China continues to invest in military programs designed to improve extended-range power projection. Current trends in China's military capabilities are a major factor in changing East Asian military balances, and could provide China with a force capable of conducting a range of military operations in Asia well beyond Taiwan….
>
> Analysis of China's weapons development and deployment patterns suggests Beijing is already looking at contingencies beyond Taiwan as it builds its force…. Advanced destroyers and submarines could protect and advance China's maritime interests up to and beyond the second island chain…. Over the long term, improvements in China's C4ISR, including space-based and over-the-horizon sensors, could enable Beijing to identify, track, and target military activities deep into the western Pacific Ocean.
>
> (*2010 DOD CMSD*, p. 37.)

[18] *2010 DOD CMSD*, p. 29.

> Adm. Robert Willard, commander of the U.S. Pacific Command, said he believes that China aspires to become a "global military (power)" by extending its influence beyond its regional waters.
>
> "In the capabilities that we're seeing develop, that is fairly obvious," Willard told The Asahi Shimbun in a recent exclusive interview in Hawaii.
>
> "They are focused presently on what they term their 'near seas'—the Bohai, Yellow Sea, South China Sea, East China Sea," he said. "(But) I think they have an interest in being able to influence beyond that point."[19]

Another observer states:

> China's active defense strategy has a maritime component that aligns with the PRC's 1982 naval maritime plan outlined by then-Vice Chairman of the Military Commission, Liu Huaqing. This naval strategy delineated three stages. In the first stage, from 2000 to 2010, China was to establish control of waters within the first island chain that links Okinawa Prefecture, Taiwan and the Philippines. In the second stage, from 2010 to 2020, China would seek to establish control of waters within the second island chain that links the Ogasawara island chain, Guam and Indonesia. The final stage, from 2020 until 2040, China would put an end to U.S. military dominance in the Pacific and Indian Oceans, using aircraft carriers as a key component of their military force.
>
> Recent Chinese military developments, rhetoric, and actions reflect implementation of this maritime strategy, on pace with the projections to seek control of the first island chain.[20]

Potential Significance of Goals Not Directly Related to Taiwan

The above goals not directly related to Taiwan are potentially significant for at least four reasons:

- First, they imply that if the situation with Taiwan were somehow resolved, China could find continuing reasons to pursue its naval modernization effort.
- Second, they suggest that if China completes its planned buildup of Taiwan-related naval force elements, or if the situation with Taiwan were somehow resolved, the composition of China's naval modernization effort could shift to include a greater emphasis on naval force elements that would be appropriate for supporting additional goals not directly related to Taiwan, such as aircraft carriers, a larger number of nuclear-powered attack submarines, serial production of destroyers, larger amphibious ships, underway replenishment ships, hospital ships, and overseas bases or support facilities. Some observers believe a shift to a greater emphasis on naval force elements of this kind is now underway.
- Third, they suggest that China's maritime territorial claims and China's view that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zones (EEZ) have the potential for acting as a continuing

[19] Yoichi Kato, "U.S. Commander Says China Aims to Be A 'Global Military' Power," *Asahi.com (Asahi Shimbun)*, December 28, 2010.

[20] Prepared statement by Stacy A. Pedrozo, Capt, JAGC, USN, U.S. Navy Military Fellow, Council on Foreign Relations, Before the U.S.-China Economic & Security Review Commission, January 27, 2011, p. 2.

cause of friction or tension in U.S.-Chinese relations, and as an ongoing source of potential incidents at sea between the two countries' ships and aircraft.

- Fourth, they suggest that even if China's military were never to engage in combat with an opposing military, China's military forces, including in particular its naval forces, would still be used on a day-to-day basis to promote China's political position in the Pacific. This would create an essentially political (as opposed to combat-related) reason for the United States or other countries to maintain a competitive presence in the region with naval and other forces that are viewed by observers in the Pacific as capable of effectively countering China's forces. Even if a U.S.-Chinese military conflict in the Pacific over Taiwan or some other issue were never to occur, the U.S.-Chinese military balance in the Pacific could nevertheless influence day-to-day choices made by other Pacific countries, including choices on whether to align their policies more closely with China or the United States. In this sense, decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military forces could influence the political evolution of the Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Pacific and elsewhere.

For additional discussion of China's maritime territorial claims and China's position regarding foreign military operations in China's EEZ, see **Appendix A**.

Selected Elements of China's Naval Modernization Effort

Anti-Ship Ballistic Missiles (ASBMs)

Overview

China for several years has been developing and testing an anti-ship ballistic missile (ASBM), which is a theater-range ballistic missile[21] equipped with maneuverable reentry vehicles (MaRVs) designed to hit moving ships at sea. The ASBM is referred to as the DF-21D, and is believed to be a new variant of China's existing DF-21 (aka CSS-5) road-mobile medium-range ballistic missile (MRBM). In December 2010 and January 2011, it was reported that DOD believes the missile has achieved the equivalent of what for a U.S. weapon would be called Initial Operational Capability (IOC) (see "December 2010-January 2011 Press Reports Regarding IOC" below).

Observers have expressed strong concern about the DF-21D, because such missiles, in combination with broad-area maritime surveillance and targeting systems, would permit China to attack aircraft carriers, other U.S. Navy ships, or ships of allied or partner navies operating in the Western Pacific. The U.S. Navy has not previously faced a threat from highly accurate ballistic missiles capable of hitting moving ships at sea. Due to their ability to change course, the MaRVs on an ASBM would be more difficult to intercept than non-maneuvering ballistic missile reentry vehicles. DOD stated in 2010 that:

[21] Depending on their ranges, these theater-range ballistic missiles can be divided into short-, medium-, and intermediate-range ballistic missiles (SRBMs, MRBMs, and IRBMs, respectively).

> China is developing an anti-ship ballistic missile (ASBM) based on a variant of the CSS-5 medium-range ballistic missile (MRBM). The missile has a range in excess of 1,500 km, is armed with a maneuverable warhead, and when integrated with appropriate command and control systems, is intended to provide the PLA the capability to attack ships, including aircraft carriers, in the western Pacific Ocean.[22]

The August 2009 ONI report states:

> The PRC [People's Republic of China] has been conducting advanced research into an anti-ship ballistic missile (ASBM) program since the 1990s. This ASBM may be a variant of the DF-21 Medium Range Ballistic Missile (MRBM), with the capability to perform a mid-course ballistic correction maneuver to update the target's location, and then guide a Maneuvering Reentry Vehicle (MaRV) to the target. As ASBM's long range, high-reentry speed (Mach 10-12), radical maneuvers, and munitions designed to attach aircraft carrier sub-systems combine to create a complex threat.[23]

December 2010-January 2011 Press Reports Regarding IOC

A December 28, 2010, press report states:

> [Admiral Robert Willard, commander of the U.S. Pacific Command] said he believes that China's anti-ship ballistic missile (ASBM) system, known as [an] "aircraft carrier killer," has achieved initial operational capability (IOC), even though "it will continue to undergo testing … for several more years."[24]

This press report was based on an interview with Admiral Willard. A transcript of the interview, which was appended to the press report, states in part:

> Q: Let me go into China's anti-access/area denial (A2/AD) capabilities. What is the current status of China's anti-ship ballistic missile development, and how close is it to actual operational deployment?
>
> A: The anti-ship ballistic missile system in China has undergone extensive testing. An analogy using a Western term would be "initial operational capability," whereby it has—I

[22] *2010 DOD CMSD*, p. 2. See also *2009 ONI Report*, pp. 26-27. For further discussion of China's ASBM-development effort and its potential implications for U.S. naval forces, see Craig Hooper and Christopher Albon, "Get Off the Fainting Couch," *U.S. Naval Institute Proceedings*, April 2010: 42-47; Andrew S. Erickson, "Ballistic Trajectory—China Develops New Anti-Ship Missile," *Jane's Intelligence Review*, January 4, 2010; Michael S. Chase, Andrew S. Erickson and Christopher Yeaw, "Chinese Theater and Strategic Missile Force Modernization and its Implications for the United States," The Journal of Strategic Studies, February 2009: 67-114; Andrew S. Erickson and David D. Yang, "On the Verge of a Game-Changer," *U.S. Naval Institute Proceedings*, May 2009: 26-32; Andrew Erickson, "Facing A New Missile Threat From China, How The U.S. Should Respond To China's Development Of Anti-Ship Ballistic Missile Systems," *CBSNews.com*, May 28, 2009; Andrew S. Erickson, "Chinese ASBM Development: Knowns and Unknowns," *China Brief*, June 24, 2009: 4-8; Andrew S. Erickson and David D. Yang, "Using the Land to Control the Sea? Chinese Analysts Consider the Antiship Ballistic Missile," *Naval War College Review*, Autumn 2009: 53-86; Eric Hagt and Matthew Durnin, "China's Antiship Ballistic Missile, Developments and Missing Links," *Naval War College Review*, Autumn 2009: 87-115; Mark Stokes, "China's Evolving Conventional Strategic Strike Capability, *The Anti-ship Ballistic Missile Challenge to U.S. Maritime Operations in the Western Pacific and Beyond*, Project 2049 Institute, September 14, 2009. 123 pp.

[23] *2009 ONI Report*, p. 26.

[24] Yoichi Kato, "U.S. Commander Says China Aims to Be A 'Global Military' Power," *Asahi.com (Asahi Shimbun)*, December 28, 2010.

> think China would perceive that it has—an operational capability now, but they continue to develop it. It will continue to undergo testing, I would imagine, for several more years.
>
> Q: China has achieved IOC?
>
> A: You would have to ask China that, but as we see the development of the system, their acknowledging the system in open press reporting and the continued testing of the system, I would gauge it as about the equivalent of a U.S. system that has achieved IOC.
>
> Q: Has China already perfected the technology to fly that missile and also the sensor systems for targeting? Has the entire system integration been completed?
>
> A: Typically, to have something that would be regarded as in its early operational stage would require that that system be able to accomplish its flight pattern as designed, by and large.
>
> Q: But they have not conducted the actual flight test or the test to attack moving ships yet, have they?
>
> A: We have not seen an over-water test of the entire system.
>
> Q: But do you believe they already have that capability?
>
> A: I think that the component parts of the anti-ship ballistic missile have been developed and tested.[25]

A January 3, 2011, press report states:

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[25] Yoichi Kato, "U.S. Commander Says China Aims to Be A 'Global Military' Power," *Asahi.com (Asahi Shimbun)*, December 28, 2010. See also Andrew Erickson and Gabe Collins, "China Deploys World's First Long-Range, Land-Based 'Carrier Killer': DF-21D Anti-Ship Ballistic Missile (ASBM) Reaches "Initial Operational Capability" IOC," *China SignPost*, December 26, 2010; Bill Gertz, "China Has Carrier-Killer Missile, U.S. Admiral Says," *Washington Times*, December 28, 2010: 1; Associated Press, "China Moving Toward Deploying Anti-Carrier Missile," *Washington Post*, December 28, 2010; Kathrin Hille, "Chinese Missile Shifts Power In Pacific," *Financial Times*, December 29, 2010: 1.

An August 26, 2010, news report stated:

> A ballistic missile under development in China for the purpose of deterring and attacking U.S. aircraft carriers in the western Pacific is close to becoming operational, according to Adm. Robert Willard, commander of U.S. Pacific Command.
>
> Willard provided the assessment in a recent round table discussion with Japanese media in Tokyo….
>
> Asked how he perceives the current status of development [of China's anti-ship ballistic missile], Willard said, "To our knowledge, it has undergone repeated tests and it is probably very close to being operational."
>
> (Yoichi Kato, "China's Anti-Ship Missile Is Nearly Operational," *Asahi.com (Asahi Shimbun)*, August 26, 2010.)

On March 23, 2010, Admiral Willard testified that China was "developing and testing a conventional anti-ship ballistic missile based on the DF-21/CSS-5 MRBM designed specifically to target aircraft carriers." (Statement of Admiral Robert F. Willard, U.S. Navy, Commander, U.S. Pacific Command, Before the House Armed Services Committee on U.S. Pacific Command Posture, March 23, 2010, p. 14.) Some observers believe this was the first time that a DOD official stated publicly that China's ASBM was not only in development, but that is had reached the testing stage. (See, for example, Wendell Minnick, "Chinese Anti-Ship Missile Could Alter U.S. Power," *Defense News*, April 5, 2010: 6; and Greg Torode, "Beijing Testing 'Carrier Killer,' U.S. Warns, *South China Morning Post*, April 3, 2010.)

> China doesn't yet have the capability to use its new anti-ship missiles effectively against U.S. aircraft carriers and other warships, according to U.S. Navy analysts.
>
> While the Chinese have deployed an early version of the world's first anti-ship ballistic missile system, U.S. naval intelligence officials downplay the near-term impact, since China's military hasn't conducted a full-scale test or established an operational unit for the missiles.
>
> China has a "workable design" for an anti-ship missile but "it is unknown to us and probably the Chinese as to how effective the missile will be without a full-scale test," the Navy's Office of Naval Operations for Information Dominance, which includes Navy intelligence, said in a statement yesterday to Bloomberg News.
>
> The statement confirms and adds context to remarks last month by Admiral Robert Willard, the head of U.S. Pacific Command, to the Japanese newspaper Asahi Shimbun that China has acquired an "initial operational capability."
>
> Neither the Navy statement nor Willard speculated on when China might have an effective system….
>
> A senior Pentagon official who briefed reporters on [DOD's 2010 report on Military and Security Developments Affecting China] August 16 said the U.S. "continued to be concerned" about the missile's development.
>
> Among the "roadblocks" China faced was "integrating" the missile system with China's command, control, intelligence and reconnaissance systems, said the official, who spoke at a background briefing on condition of anonymity.
>
> "They still have a ways to go before they manage to get that integrated so that they have an operational and effective system," the official said.
>
> China is developing an over-the-horizon radar network to spot U.S. ships at great distances from its mainland, and its navy since 2000 has tripled to 36 from 12 the number of vessels carrying anti-ship weapons, Scott Bray, the Office of Naval Intelligence's senior officer for intelligence on China, said in an e-mail to Bloomberg last year.
>
> The Navy statement yesterday said China now "likely has the space-based intelligence and ground processing necessary to support employment. China operates a wide spectrum of satellites which can provide useful targeting within its maritime region."
>
> Before launch, the missile also could receive targeting coordinates from non-space intelligence and reconnaissance such as aircraft, drones, fishing boats and over-the-horizon radar, the Navy said.[26]

A January 4, 2011, blog entry related to the above press article states:

> In response to a query from Bloomberg news reporter Tony Capaccio, the Deputy Chief of Naval Operations for Information Dominance (N2/N6) provided the following responses on Monday 3 January 2011:

[26] Tony Capaccio, "China's Anti-Ship Missiles Aren't Effective Yet, U.S. Navy Says," *Bloomberg.com*, January 3, 2011.

1. Does the US Navy agree with ADM Willard's view that the Chinese have reached Initial Operational Capability (IOC) with the DF 21D?

Answer: The U.S. Navy agrees with Admiral Willard's characterization of the DF-21D as [having reached] IOC. China has developed a workable design for an antiship ballistic missile. However, several definitions of IOC used by U.S. agencies include the requirement that an operational unit be capable of effectively employing the system in question. The U.S. Navy does not believe this is the case for China and the DF-21D.

2. Do the Chinese have the C2, satellite links, and other systems in place and operational to potentially employ the missile?

Answer: China likely has the space based intelligence, surveillance and reconnaissance (ISR), command and control structure, and ground processing capabilities necessary to support DF-21D employment. China operates a wide spectrum of satellites which can provide data useful for targeting within its maritime region. China employs an array of non-space based sensors and surveillance assets capable of providing the targeting information necessary to employ the DF-21D.

3. How effective can it be if it has not been flight tested?

Answer: It is unknown to us, and probably the Chinese, as to how effective the missile will be without a full-scale test.

4. Has the satellite and command and control system needed to cue the weapon been IOC'd? If not, any sense of how many more years?

Answer: Yes, the satellite C2 systems are likely in place.

5. Does N2 assess that the missile itself, without the satellite cuing system, is a threat to Navy carriers and other vessels?

Answer: Yes, China's non-space based ISR could provide the necessary information to support DF-21D employment. This includes aircraft, UAVs, fishing boats, and over-the-horizon radar for ocean surveillance and targeting.[27]

Vice Admiral David J. Dorsett, the Deputy Chief of Naval Operations for Information Dominance, stated the following at a January 5, 2011, meeting with defense reporters:

Question: You mentioned the DF-21. Is that a game-changer? Do you consider that operational, or is that like what we did with Global Hawk where we rushed something out to the field really before it was fully shaken out?

Dorsett: I think [inaudible] has written an article on it just recently, and our assessment, Admiral Willard's assessment at PACOM is that it has reached an initial operational capability. I think that's true.

[27] "Deputy Chief of Naval Operations for Information Dominance (N2/N6): China Has Space-Based & Non-Space-Based C2 + ISR 'capable of providing the targeting information necessary to employ the DF-21D' Anti-Ship Ballistic Missile (ASBM)," blog entry dated January 4, 2011, accessed by CRS on January 7, 2011, at http://www.andrewerickson.com/.

> The Chinese have tested the DF-21D missile system over land a sufficient number of times that the missile system itself is truly competent and capable. The entire weapon capability, they have ISR, they have sensors on board ship that can feed into the targeting aspect of it. So could they start to employ that and field it operationally? Yes, I think so. It gets back to that question of proficiency. How proficient are they, though, in the end-to-end employment of that capability? Their 2nd Artillery's been around for over five decades, so they have a competent missile system, or missile command and control capability. But the question of fusing all the information to use it in targeting, I think there's still some questions of how proficient they would be to fully employ that at this point. But are they at the initial operational capability? Yes, I think so.
>
> **Question**: One follow-up of that. The [Navy] people told me a year or two ago that the chances of hitting a carrier with a ballistic missile is pretty remote. Has that assessment changed?
>
> **Dorsett:** Yes. The technology that the Chinese have developed and are employing in their DF-21D missile system has increased their probability of being able to employ a salvo of missiles to be able to hit a maneuvering target. How proficient they are, what that level of probability is, we don't know. Frankly, I'm guessing that they don't know. I'm assessing that they don't know. The reason I say that is they've probably simulated this in laboratories. They've certainly test-fired it over land. But to our knowledge they have not test-fired this over water against maneuvering targets. If you're an engineer and you've developed a weapon system, you pretty much want to make sure that you use the entire weapon system and employ it in an operational environment to understand how really competent and effective it is.
>
> But to answer your question, yeah, they're demonstrating the technology to be able to hit maneuvering targets. A few years ago our assessment was no one had a capability.
>
> **Question:** A salvo would be like two, three, four missiles?
>
> **Dorsett:** Several missiles, let's put it that way.[28]

On January 8, 2011, Secretary of Defense Robert Gates, when asked whether he believed the ASBM had achieved IOC, stated: "I think that the development [of the system] has proceeded fairly – I think they're fairly far along, but whether it's actually reached IOC or not, I just don't know."[29]

A February 18, 2011, press report from China quoted an unnamed source as saying that the DF-21D "is already deployed in the army."[30]

[28] Source: Transcript of Defense Writers Group roundtable with Vice Admiral David J. Dorsett, Deputy CNO for Information Warfare. Material in brackets as in the transcript. The transcript shows "BF-21" and "BF-21B;" the excerpt as shown here corrects the transcribing error to "DF-21" and "DF-21D."

[29] Source: Transcript of media availability with Secretary Gates en route to Beijing, China, from Andrews Air Force Base, accessed online on January 11, 2011, at http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4748.

[30] Zhang Han and Huang Jingling, "New Missile 'Ready by 2015," *Global Times (*http://military.globaltimes.cn*)*, February 18, 2011. The new missile referred to in the title of the article is a missile other than the DF-21 that the article said is to have a range of up to 4,000 km, or about 2,160 nm.

Earlier Press Reports

An August 16, 2010, news report stated:

> China will test its new the [sic] Dong Feng 21D anti-ship ballistic missile, the country's state media said Friday [August 13]. There is speculation that Beijing is responding to the U.S. deployment of the nuclear-powered aircraft carrier George Washington to the West Sea [i.e., the Yellow Sea] and the South China Sea to join naval exercises with Korea and Vietnam, which China considers too close for comfort.
>
> Internet China National Radio said the China Aerospace Science and Industry Corporation will soon test-fire "a weapon under an important state weapons project."
>
> Although it did not specify what this project was, it carried a photo of a Dong Feng 21C medium-range ballistic missile, the same series as the Dong Feng 21D, and an artist's drawing of such missiles attacking an American aircraft carrier.[31]

An August 5, 2010, news report stated:

> Analysts say final testing of the missile could come as soon as the end of this year [2010], though questions remain about how fast China will be able to perfect its accuracy to the level needed to threaten a moving carrier at sea….
>
> Questions remain over when—and if—China will perfect the technology; hitting a moving carrier is no mean feat, requiring state-of-the-art guidance systems, and some experts believe it will take China a decade or so to field a reliable threat. Others, however, say final tests of the missile could come in the next year or two.[32]

A November 17, 2009, news report stated:

> China's military is close to fielding the world's first anti-ship ballistic missile, according to U.S. Navy intelligence….
>
> Scott Bray, who wrote the [August 2009] ONI report on China's Navy, said China has made "remarkable progress" on the missile. "In little over a decade, China has taken the program from the conceptual phase" to "near fielding a combat-ready missile," he said....
>
> China has ground-tested the missile three times since 2006 and conducted no flight tests yet, Navy officials said....
>
> Bray said China has the initial elements of its new over-the-horizon radar that can provide the general location of U.S. vessels before launching the new missile....
>
> The radar is supplemented by reconnaissance satellites, another Navy official said, requesting anonymity. There are 33 in orbit and that number may grow to 65 by 2014, 11 of which would be capable of conducting ocean surveillance, he said.[33]

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[31] "China to Test-Fire New Anti-Ship Missile," *The Chosen Ilbo (English edition) (english.chosen.com)*, August 16, 2010.

[32] Eric Talmadge, "AP Enterprise: Chinese 'Carrier-Killer' Missile Raises Concerns of Pacific Power Shift," Canadian Press, August 5, 2010.

[33] Tony Capaccio, "China's New Missile May Create A 'No-Go Zone' For U.S. Fleet," *Blooomberg.com*, November (continued...)

Anti-Ship Cruise Missiles (ASCMs)

Among the most capable of the new ASCMs that have been acquired by China's navy are the Russian-made SS-N-22 Sunburn (carried by China's four Russian-made Sovremenny-class destroyers) and the Russian-made SS-N-27 Sizzler (carried by 8 of China's 12 Russian-made Kilo-class submarines). China's large inventory of ASCMs also includes several indigenous designs. In August 2010, it was reported that China "is work[ing] on an antiship cruise missile the Pentagon has newly designated the CH-SS-NX-13. The missile is to be put on the Song- and Yuan-class diesel electric submarines, as well as the Shang nuclear-powered submarine."[34]

Land-Based Aircraft

China has introduced modern and capable land-based fighters and strike fighters into the PLA Air Force and PLA Naval Air Force. These include Russian-made Su-27s and Su-30s and indigenously produced F-10s and F-11s. At least some of the strike fighters will be armed with modern ASCMs. China's land-based naval aircraft inventory includes, among other things, 24 Russian-made Su-30 MKK 2 Flanker land-based fighters, whose delivery was completed in 2004. The Su-30 is a derivative of the Su-27. Some of the Su-30s might eventually be fitted with the Russian-made Kh-35 ASCM. (China's air force operates at least 150 Su-27s; these aircraft could be used for fleet-defense operations.) China's navy also operates 54 ASCM-armed JH-7 land-based fighter-bombers that were delivered between 1998 and 2004, and older ASCM-armed land-based maritime bombers. The effectiveness of China's combat aircraft could be enhanced by new support aircraft, including tankers and airborne warning and control system (AWACS) aircraft.

China in January 2011 reportedly began testing a stealthy, land-based, fighter-type aircraft, called the J-20. Some observers believe, based on the aircraft's size and design, that it might be intended as a land-based strike aircraft for attacking ships at sea.[35]

Unmanned Aerial Vehicles (UAVs)

DOD states that "acquisition and development of longer-range UAVs and UCAVs [Unmanned Combat Aerial Vehicles, i.e., armed UAVs], including the Israeli HARPY, expands China's options for long-range reconnaissance and strike." [36] The August 2009 ONI report states that

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(...continued)

17, 2009.

[34] Robert Wall and Bettina H. Chavanne, "Reaching Out," *Aviation Week & Space Technology*, August 23/30, 2010: 30.

[35] See, Bill Sweetman, "Chinese J-20 Stealth Fighter In Taxi Tests," *AviationWeek.com*, January 3, 2011; Jeremy Page, "A Chinese Stealth Challenge," *Wall Street Journal*, January 5, 2011: 1; Phil Stewart, "U.S. Downplays Chinese Stealth Fighter Status," *Reuters.com*, January 5, 2011; Agence France-Presse, "US Downplays Concern Over Chinese Stealth Fighter," *DefenseNews.com*, January 6, 2011; Tony Capaccio, "China's J-20 Stealth Fighter Meant to Counter F-22, F-35, U.S. Navy Says," *Bloomberg.com*, January 6, 2011; David A. Fulgham, et al, "Stealth Slayer?" *Aviation Week & Space Technology*, January 17, 2011: 20-21, Andrew S. Erickson and Gabriel B. Collins, "China's New Project 718/J-20 Fighter: Development outlook and strategic implications," *China SignPost*, January 17, 2011, 13 pp.; Dave Majumdar, "U.S. Opinions Vary Over China's Stealthy J-20," *Defense News*, January 24, 2011: 16; Stephen Trimble, "J-20: China's Ultimate Aircraft Carrier-Killer?" *The DEW Line (www.flightglobal.com)*, February 9, 2011; Carlo Kopp, "An Initial Assessment of China's J-20 Stealth Fighter," *China Brief*, May 6, 2011: 9-11.

[36] *2010 DOD CMSD*, p. 33.

China is developing UAVs that have the potential to bring multimission capabilities to the maritime environment. In recent years, Chinese officials have openly touted the benefits of UAVs, such as low manufacturing costs, lack of personnel casualties, and inherent "stealth-like" characteristics. Of note are the CH-3 (which has reportedly been fielded with operational units) and China's unmanned combat aerial vehicle (UCAV) concepts. Not only can the CH-3 provide real time video for various intelligence purposes, it is being advertised with the ability to carry out strike missions with two on-board anti-tank missiles. The UCAV concepts reportedly being developed can not only perform intelligence gathering and strike missions, but an air-to-air capability is also noted as a primary mission. Overall, China is openly highlighting the importance of UAVs in modern warfare and is allocating resources to develop multimission candidates for this role.

China has reportedly purchased the Israeli-made Harpy UCAV. Harpys are "fire and forget" weapons designed to loiter in a patrol area, detect enemy radar and engage targets in any weather condition. After identifying a radar emitter, the Harpy executes an almost vertical dive and detonates just above the target. The small, relatively inexpensive and independently operated air vehicles have the ability to stay in the air for extended periods of time and can be launched from trucks or potentially from surface ships.[37]

Submarines

China's submarine modernization effort, which is producing a significantly more modern and capable submarine force, has attracted substantial attention and concern. The August 2009 ONI report states that "since the mid-1990s, the PRC has emphasized the submarine force as one of the primary thrusts of its military modernization effort."[38]

Types Acquired in Recent Years

China since the mid-1990s has acquired 12 Russian-made Kilo-class non-nuclear-powered attack submarines (SSs) and deployed four new classes of indigenously built submarines, including the following:

- a new nuclear-powered ballistic missile submarine (SSBN) design called the Jin class or Type 094;
- a new nuclear-powered attack submarine (SSN) design called the Shang class or Type 093;[39]
- a new SS design called the Yuan class or Type 041 (or Type 039A);[40] and
- another (and also fairly new) SS design called the Song class or Type 039/039G.

[37] 2009 ONI Report, pp. 28-29.

[38] *2009 ONI Report*, p. 20.

[39] Some sources state that a successor to the Shang class SSN design, called the Type 095 SSN design, is in development.

[40] Some observers believe the Yuan class to be a variant of the Song class and refer to the Yuan class as the Type 039A. The August 2009 ONI report states that the Yuan class may be equipped with an air-independent propulsion (AIP) system. (*2009 ONI Report*, p. 23.)

Figure 1. Jin (Type 094) Class Ballistic Missile Submarine

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

The Kilos and the four new classes of indigenously built submarines are regarded as much more modern and capable than China's aging older-generation submarines.[41] At least some of the new indigenously built designs are believed to have benefitted from Russian submarine technology and design know-how.[42]

DOD and other observers believe the Type 093 SSN design will be succeeded by a newer SSN design called the Type 095. The August 2009 ONI report includes a figure (see **Figure 3**) that shows the Type 095 SSN, along with the date 2015, suggesting that ONI projects that the first Type 095 will enter service that year.

In September 2010, it was reported that China launched the first of a new kind of SS, possibly as a successor to the Yuan class.[43]

[41] A graph in the August 2009 ONI report shows that the Jin-class SSBN is quieter than China's earlier Xia-class SSBN, but less quiet than Russia's Delta III-class SSBN, and that the Shang-class SSN is quieter than China's earlier Han-class SSN, but less quiet than Russia's Victor III-class SSN. The graph shows that the Song-class SS is quieter than the less capable 877 version of the Kilo class, but not as quiet as the more capable 636 version of the Kilo class. (Two of China's 12 Kilos are 877 models, the other 10 are 636s.) The graph shows that the Yuan class is quieter than the Song class, but still not as quiet as the 636 version of the Kilo class. (*2009 ONI Report*, p. 22.)

[42] The August 2009 ONI report states that the Yuan class may incorporate quieting technology from the Kilo class, and that it may be equipped with an air-independent propulsion (AIP) system. (*2009 ONI Report*, p. 23.)

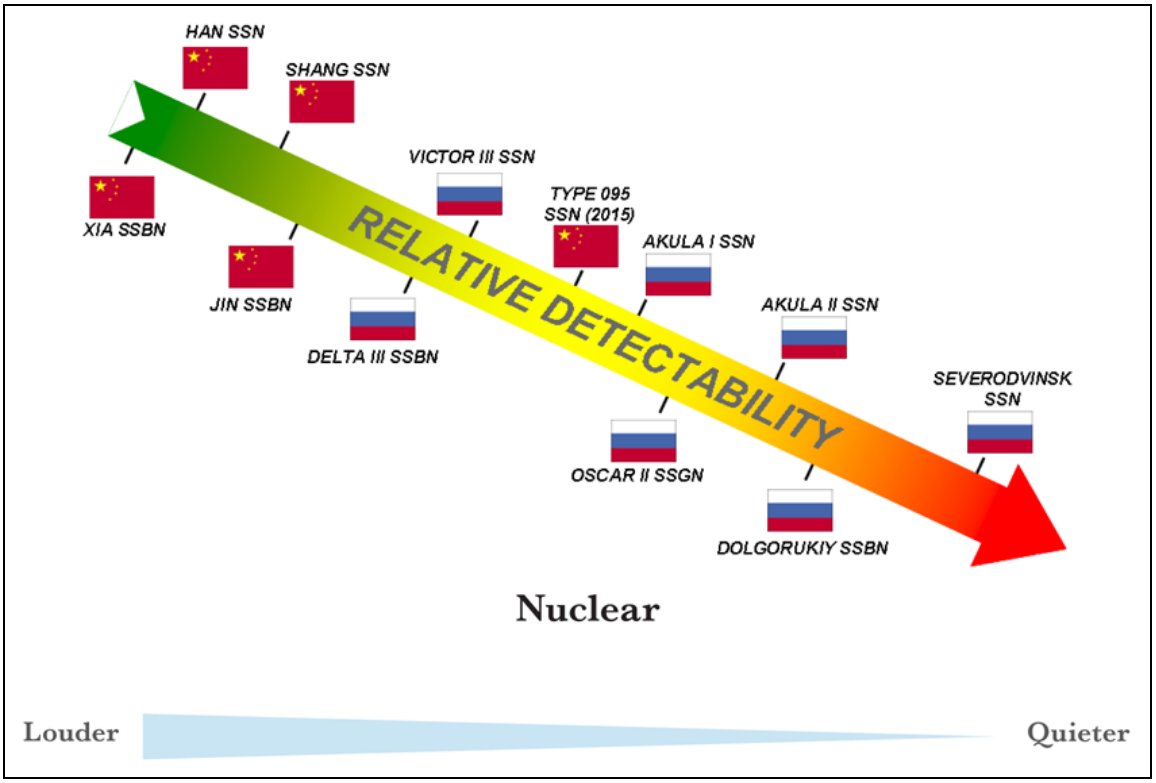
[43] See, for example, Ted Parsons, "China Launches New SSK," *Jane's Defence Weekly*, September 22, 2010: 16. A similar article was published as Ted Parsons, "Launch of Mystery Chinese SSK Fuels Submarine Race in Asia," *Jane's Navy International*, October 2010: 4. See also the blog entry at http://www.informationdissemination.net/2011/04/recent-photos-from-chinese-shipyards.html.

Figure 2.Yuan (Type 041) Class Attack Submarine

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

Figure 3 and **Figure 4**, which are taken from the August 2009 ONI report, show the acoustic quietness of Chinese nuclear- and non-nuclear-powered submarines, respectively, relative to that of Russian nuclear- and non-nuclear-powered submarines. In general, quieter submarines are more difficult for opposing forces to detect, so increasing quietness is a measure of a submarine force's improving quality.

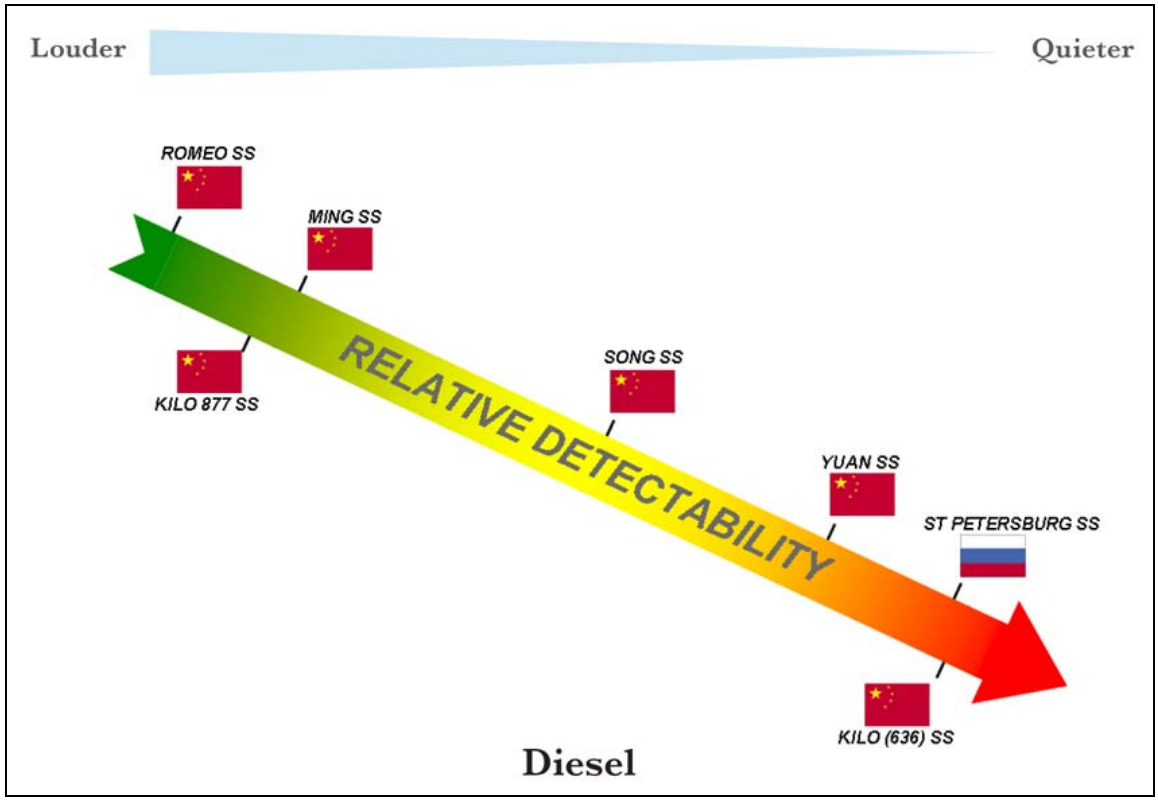
Figure 3. Acoustic Quietness of Chinese and Russian Nuclear-Powered Submarines



Source: *2009 ONI Report*, p. 22.

Figure 4. Acoustic Quietness of Chinese and Russian Non-Nuclear-Powered Submarines

(Non-nuclear-powered submarines are commonly referred to as diesel or diesel-electric submarines)



Source: *2009 ONI Report*, p. 22.

DOD states that

> China continues production of its newest JIN-class (Type 094) nuclear powered ballistic missile submarine (SSBN). China may field up to five new SSBNs. One JIN-class SSBN has entered service alongside two new SHANG-class (Type 093) nuclear-powered attack submarines (SSN), four older HAN-class SSNs, and China's single XIA-class SSBN.
>
> China is further expanding its current force of nuclear-powered attack submarines and may add up to five advanced Type 095 SSNs to the inventory in the coming years.
>
> China has 13 SONG-class (Type 039) diesel-electric attack submarines (SS) in its inventory. The SONG-class SS is designed to carry the YJ-82 ASCM. The follow-on to the SONG is the YUAN-class SS, as many as four of which are already in service. China may plan to construct 15 additional hulls for this class. The YUAN-class SS are armed similarly to the SONGclass SS, but also include a possible air independent propulsion system. The SONG SS, YUAN SS, and SHANG SSN will be capable of launching the new CH-SS-NX-13 ASCM, once the missile completes development and testing.[44]

[44] *2010 DOD CMSD*, pp. 2-3.

China's submarines are armed with one or more of the following: ASCMs, wire-guided and wake-homing torpedoes, and mines. The final eight Kilos purchased from Russia are reportedly armed with the highly capable Russian-made SS-N-27 Sizzler ASCM. In addition to other weapons, Shang-class SSNs may carry LACMs. Although ASCMs are often highlighted as sources of concern, wake-homing torpedoes are also a concern because they can be very difficult for surface ships to counter.

Although China's aging Ming-class (Type 035) submarines are based on old technology and are much less capable than China's newer-design submarines, China may decide that these older boats have continued value as minelayers or as bait or decoy submarines that can be used to draw out enemy submarines (such as U.S. SSNs) that can then be attacked by other Chinese naval forces.

In related areas of activity, China reportedly is developing new unmanned underwater vehicles,[45] and has modernized its substantial inventory of mines.[46]

Submarine Acquisition Rate and Potential Submarine Force Size

Table 1 shows actual and projected commissionings of Chinese submarines by class since 1995, when China took delivery of its first two Kilo-class boats. The table includes the final nine boats in the Ming class, which is an older and less capable submarine design. As shown in **Table 1**, China is projected to have a total of 31 relatively modern attack submarines—meaning Shang, Kilo, Yuan, and Song class boats—in commission by the end of 2010. As shown in the table, much of the growth in this figure occurred in 2004-2006, when 18 boats (including 8 Kilos) were added.

The figures in **Table 1** show that between 1995 and 2010, China placed into service a total of 42 submarines of all kinds, or an average of about 2.6 submarines per year. This average commissioning rate, if sustained indefinitely, would eventually result in a steady-state submarine force of about 53 to 79 boats of all kinds, assuming an average submarine life of 20 to 30 years.

Excluding the 12 Kilos purchased from Russia, the total number of domestically produced submarines placed into service between 1995 and 2007 is 30, or an average of about 1.9 per year. This average rate of domestic production, if sustained indefinitely, would eventually result in a steady-state force of domestically produced submarines of about 38 to 56 boats of all kinds, again assuming an average submarine life of 20 to 30 years.

As shown in **Table 1**, only four of the submarines placed into service between 1995 and 2010 are nuclear powered. If the mix of China's submarine-production effort shifts at some point to include a greater proportion of nuclear-powered boats, it is possible that the greater resources required to produce nuclear-powered boats might result in a reduction in the overall submarine production rate. If so, and if such a reduced overall rate were sustained indefinitely, it would eventually result in a smaller steady-state submarine force of all kinds than the figures calculated in the preceding two paragraphs.

[45] Lyle Goldstein and Shannon Knight, "Coming Without Shadows, Leaving Without Footprints," *U.S. Naval Institute Proceedings*, April 2010: 30-35.

[46] See, for example, *2009 ONI report*, p. 29.

The August 2009 ONI report states:

> As PLA(N) strategy and capabilities have changed, Chinese submarine procurement has focused on smaller numbers of modern, high-capability boats. In keeping with the overarching PLA(N) strategy of the time, the 1980s submarine force featured a relatively high number of low-technology platforms. Now there are fewer submarines in the PLA(N) inventory than there were at any point in the 1980s. Currently, the submarine force consists of six nuclear[-powered] attack submarines [SSNs], three nuclear[-powered] ballistic missile submarines [SSBNs], and 53 diesel[-electric] attack submarines [SSs]. Over the next 10 to 15 years, primarily due to the introduction of new diesel-electric and [non-nuclear-powered] air independent power (AIP) submarines, the force is expected to increase incrementally in size to approximately 75 submarines.[47]

Table 1. PLA Navy Submarine Commissionings

Actual (1995-2010) and *Projected (2011-2014)*

	Jin (Type 094) SSBN	Shang (Type 093) SSN	Kilo SS (Russian-made)	Ming (Type 035) SS[b]	Song (Type 039) SS	Yuan (Type 041) SS[a]	Annual total for all types shown	Cumulative total for all types shown	Cumulative total for modern attack boats[c]
1995			2[d]	1			**3**	**3**	**2**
1996				1			**1**	**4**	**2**
1997				2			**2**	**6**	**2**
1998			1[d]	2			**3**	**9**	**3**
1999			1[d]		1		**2**	**11**	**5**
2000				1			**1**	**12**	**5**
2001				1	2		**3**	**15**	**7**
2002				1			**1**	**16**	**7**
2003					2		**2**	**18**	**9**
2004			1		3		**4**	**22**	**13**
2005			4		3		**7**	**29**	**20**
2006		1	3		2[e]	1	**7**	**36**	**27**
2007	1	1[f]					**2**	**38**	**28**
2008							**0**	**38**	**28**
2009	1					2	**3**	**41**	**30**
2010						1	**1**	**42**	**31**
2011							***0***	***42***	***31***
2012	*1*					*1*	***2***	***44***	***32***
2013	*1*					*n/a*	***n/a***	***n/a***	***n/a***
2014	*1*[g]					*n/a*	***n/a***	***n/a***	***n/a***

Source: *Jane's Fighting Ships 2010-2011*, and previous editions.

Note: n/a = data not available.

a. Some observers believe the Yuan class to be a variant of the Song class and refer to the Yuan class as the Type 039A.

[47] *2009 ONI Report*, p. 21. The report states on page 46 that "Because approximately three-quarters of the current submarine force will still be operational in 10-15 years, new submarine construction is expected to add approximately 10 platforms to the force." See also the graph on page 45, which shows the submarine force leveling off in size around 2015.

b. Figures for Ming-class boats are when the boats were launched (i.e., put into the water for final construction). Actual commissioning dates for these boats may have been later.

c. This total excludes the Jin-class SSBNs and the Ming-class SSs.

d. First four Kilo-class boats, commissioned in the 1990s, are to be refitted in Russia; upgrades are likely to include installation of SS-N-27 ASCM. *Jane's* reports that the first of the two boats shown in the table as entering service in 1995 was commissioned into service on December 15, 1994, while it was still in Russia, and arrived in China by transporter ship in February 1995.

e. No further units expected after the 12th and 13th shown for 2006.

f. *Jane's Fighting Ships 2010-2011* states that production of the two Shang-class boats shown in the table may be followed by production of a new SSN design possibly known as the Type 095 class. A graph on page 22 of *2009 ONI Report* suggests that ONI expects the first Type 095 to enter service in 2015.

g. A total of six Jin-class boats is expected by *Jane's*, with the sixth unit projected to be commissioned in 2016.

JL-2 SLBM on Jin-Class SSBN

Each Jin-class SSBN is expected to be armed with 12 JL-2 nuclear-armed submarine-launched ballistic missiles (SLBMs).[48] DOD estimates that these missiles will have a range of more than 7,200 kilometers (about 3,888 nautical miles).[49] Such a range could permit Jin-class SSBNs to attack

- targets in Alaska (except the Alaskan panhandle) from protected bastions close to China;
- targets in Hawaii (as well as targets in Alaska, except the Alaskan panhandle) from locations south of Japan;
- targets in the western half of the 48 contiguous states (as well as Hawaii and Alaska) from mid-ocean locations west of Hawaii; and
- targets in all 50 states from mid-ocean locations east of Hawaii.

DOD states that

> The first of the new JIN-class (Type 094) SSBN appears ready, but the associated JL-2 SLBM appears to have encountered difficulty, failing several of what should have been the final round of flight tests. The date when the JIN-class SSBN/JL-2 SLBM combination will be operational is uncertain….
>
> The introduction of more mobile systems will create new command and control challenges for China's leadership, which now confronts a different set of variables related to deployment and release authorities. For example, the PLA has only a limited capacity to communicate with submarines at sea, and the PLA Navy has no experience in managing a SSBN fleet that performs strategic patrols with live nuclear warheads mated to missiles. Land-based mobile missiles may face similar command and control challenges in wartime, although probably not as extreme as with submarines.[50]

[48] *2009 DOD CMP*, p. 24.

[49] *2010 DOD CMSD*, pp. 35 (figure), and 66 (table).

[50] *2010 DOD CMSD*, p. 34.

Aircraft Carriers

China is completing the ex-Ukrainian aircraft carrier *Varyag*, which China purchased as an unfinished ship in 1998. Observers expect the ship to enter service in 2011 or 2012, probably as an aviation training ship, although the ship might also be used for operational missions.

Observers for some time have believed that that China would soon begin building its first indigenous aircraft carrier, or that it had already begun building it. On June 8, 2011, it was reported that the chief of the General Staff of the PLA stated that China is building an aircraft carrier. The report quoted the general as saying, "The aircraft carrier is under construction now," and that he would not respond to questions about the ship "before it completes construction."[51] It is not certain from the press reports whether the general was referring to the *Varyag* or to an indigenous carrier. If it is the latter, then the general's statement could be the first time that the PLA has officially confirmed the construction of an indigenous aircraft carrier.

Observers expect that China may build a total of one to six indigenous carriers in coming years. Chinese officials since 2006 have been talking talk openly about the possibility of China operating aircraft carriers in the future.[52]

DOD states that:

> China has an active aircraft carrier research and development program. The PRC shipbuilding industry could start construction of an indigenous platform by the end of this year. China is interested in building multiple operational aircraft carriers with support ships in the next decade.
>
> The PLA Navy has reportedly decided to initiate a program to train 50 pilots to operate fixed-wing aircraft from an aircraft carrier. The initial program, presumably land-based, would be followed in about four years by ship-borne training involving the ex-VARYAG—a former Soviet Kuznetsov-class aircraft carrier—which was purchased by China from Ukraine in 1998 and is being renovated at a shipyard in Dalian, China.[53]

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[51] Liu Chang, "PLA Chief Confirms Vessel is 'Under Construction,'" *Global Times (military.globaltimes.cn)*, June 8, 2011, accessed online June 8, 2011, at http://military.globaltimes.cn/china/2011-06/662887.html. See also "China Aircraft Carrier Confirmed by General," BBC News (www.bbc.co.uk), June 8, 2011, accessed online June 8, 2011, at http://www.bbc.co.uk/news/world-asia-pacific-13692558.

[52] The August 2009 ONI report states that "Beginning in early 2006, PRC-owned media has reported statements from high-level officials on China's intent to build aircraft carriers."

[53] *2010 DOD CMSD*, p. 2. DOD also states that

> China has an aircraft carrier research and design program, which includes continued renovations to the former Soviet Kuznetsov-class Hull-2, the ex-VARYAG. Beginning in early 2006 with the release of China's 11th Five Year Plan (2006-2010), PRC-owned media reported high-level government and military official statements on China's intent to build aircraft carriers. In April 2009 PRC Navy Commander Admiral Wu Shengli stated that "China will develop its fleet of aircraft carriers in a harmonious manner. We will prudently decide the policy [we will follow with regard to building aircraft carriers]. I am willing to listen to the views of experts from the navies of other countries and to seek opinions from our country." While meeting with Japanese Defense Minister Yasukazu Hamada in March 2009, PRC Minister of Defense General Liang Guanglie stressed that China is the only big nation that does not have aircraft carriers and stated that "China cannot be without aircraft carriers forever."
>
> China continues to show interest in procuring Su-33 carrier-borne fighters from Russia. Since 2006 China and Russia had been in negotiations for the sale of 50 Su-33 Flanker-D fighters at a cost of

(continued...)

Figure 5. Ex-Ukrainian Carrier Varyag Being Completed at Shipyard in Dalian, China

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

The August 2009 ONI report states that "China is undertaking a program to both operationalize [the Varyag] (likely as a training platform) and build an indigenous carrier to join the fleet between 2015 and 2020."[54]

(...continued)

> up to $2.5 billion. These negotiations reportedly stalled after Russia refused a request from China for an initial delivery of two trial aircraft. Russian defense ministry sources confirmed that the refusal was due to findings that China had produced its own copycat version of the Su-27SK fighter jet.
>
> The PLA Navy has reportedly decided to initiate a program to train 50 navy pilots to operate fixed-wing aircraft from an aircraft carrier. In May 2009, Brazilian Defense Minister Nelson Jobim announced that the Brazilian Navy would provide training to PLA Navy officers in aircraft carrier operations.
>
> Analysts in and out of government project that China will not have an operational, domestically produced carrier and associated ships before 2015. However, changes in China's shipbuilding capability and degree of foreign assistance to the program could alter those projections. In March 2009, PLA Navy Admiral Wu Huayang stated that "China is capable of building aircraft carriers. We have such strength. Building aircraft carriers requires economic and technological strength. Given the level of development in our country, I think we have such strength." The PLA Navy is considering building multiple carriers by 2020.
>
> (*2010 DOD CMSD*, p. 48)

[54] *2009 ONI Report*, p. 17. The report similarly states on page 1 that China "is refurbishing [the Varyag] and plans to build its own [aircraft carrier] within the next five to ten years," and on page 19 that "the PRC will likely have an operational, domestically produced carrier sometime after 2015." The report states on page 19 that the Varyag "is expected to become operational in the 2010 to 2012 timeframe, and will likely be used to develop basic proficiencies in carrier operations." For a press article discussing China's aircraft carrier program, see Richard Scott, "Joining the Club," *Jane's Defence Weekly*, November 17, 2010: 29-31.

An April 18, 2011, press report states:

> China is expected to begin harbor trials of its first aircraft carrier this summer, with near-sea and open-sea trials starting next year, a Taiwan defense official said.
>
> But aircraft for the Soviet-built Varyag are not expected to be ready for at least two years, and escorts and support ships for a carrier battle group are at least five to 10 years off….
>
> Still, the carrier's presence is "already being felt" in the region, a "loud declaration that the People's Liberation Army Navy (PLAN) is now a blue-water force," said Dean Cheng, a China defense specialist at the Heritage Foundation.[55]

At an April 12, 2011, hearing before the Senate Armed Services Committee, the following exchange occurred:

> SENATOR MCCAIN: Admiral Willard, how would the successful deployment of a Chinese aircraft carrier change the perception of balance of power in the Pacific?
>
> ADMIRAL ROBERT WILLARD, COMMANDER, U.S. PACIFIC COMMAND: Based on the feedback that we received from our partners and allies in the Pacific, I think the change in perception by the region will be significant. We recognize that when their – their rebuilt aircraft carrier begins its sea trial period and test and evaluation period, perhaps as early as this summer, that there will be a long period of training and development and eventual exercising preceding any operational capability that it could demonstrate.
>
> But I think as a symbol, the feedback that we receive in our dialogue throughout the region is that the regional partners regard this step by the Chinese in the midst of what has otherwise been a remarkable growth in their military capability as significant.[56]

An April 8, 2011, press report states:

> The Chinese state news agency has posted photographs of an aircraft carrier under reconstruction that appears to show the warship near completion. Captions with the photos said that the work would end soon and that the carrier was expected to sail later this year.
>
> The photos of the carrier, the Varyag, which China bought from Ukraine in 1998, appeared Wednesday on the Web site of Xinhua, the state news agency.
>
> It was the first time that Xinhua had given visual evidence of the carrier project, which is widely seen as a linchpin of China's military modernization and naval ambitions. The country's efforts have raised fears among foreign governments that China will use a more robust military for expansionist purposes or to press for regional dominance.
>
> Xinhua cited a military analysis magazine based in Canada, Kanwa Asian Defense Review, as saying that the ship would be ready to sail this year. The fact that Xinhua used that information in a photo caption appeared to be an official endorsement of that view.
>
> Xinhua's headline with the photos said: "Huge warship on the verge of setting out, fulfilling China's 70-year aircraft carrier dreams." One caption said: "A few days ago, domestic online

[55] Wendell Minnick, "Sea Trials Expected for China's 1st Carrier," *Defense News*, April 18, 2011: 4.

[56] Source: Transcript of hearing.

> military forums consecutively published photographs of the Varyag aircraft carrier being reconstructed at China's Dalian shipyard. From the pictures, we can see that this project is entering its final stage." The caption noted that construction on the ship's bridge was almost done, with the exception of a radar system.
>
> The online sites it referred to are discussion forums used by Chinese military enthusiasts.
>
> Andrei Chang, the founder of the Canadian magazine and a Hong Kong resident, said in a telephone interview on Thursday that the photographs published by Xinhua showed the carrier at a much more advanced stage of reconstruction than he had expected.
>
> He said that his magazine had received photos of the carrier taken in February, but that those photographs did not show any paint on the ship's upper structure, while the ones published by Xinhua did.
>
> "The speed is very, very amazing," Mr. Chang said. "It's surprised me."
>
> The day before Xinhua posted the photos, another Chinese news organization, Global Times, a populist newspaper that is not considered an official Communist Party mouthpiece, ran the same photos. The images appeared first on military forums starting on Monday.[57]

A January 19, 2011, press report states:

> China has nearly finished restoring an old Soviet aircraft carrier bought in 1998, which will be used for training and as a model for a future indigenously built ship, an expert said Jan. 19….
>
> "They have fixed the inside at 100 percent," said Andrei Chang, head of the Kanwa Information Centre, which monitors China's military.
>
> According to Chang, the renovation process has included fixing the boilers, electricity, electronic systems, living quarters and engines. The hull and deck of the ship have also been refurbished, other experts have said….
>
> The carrier, currently based in the northeast port of Dalian, could make its first sea trip "very soon," Chang told AFP [Agence France-Presse], adding the refurbishment of the ship had taken place "at unexpected speed."
>
> But he said the ship's radars still needed work, and the fighter planes that will train on the carrier are still being tested.
>
> The refurbished ship will be used as a model for China's first indigenously built aircraft carrier, which, unlike the Varyag, will be nuclear-powered. Construction on this ship could start soon, he said.[58]

A December 23, 2010, news report states:

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[57] Edward Wong, "Chinese Warship May Be Nearly Ready," *New York Times*, April 8, 2011: 10. See also "China's First Aircraft Carrier to Be Completed Soon: Reports," *Focus Taiwan News Channel (*http://focusataiwan.tw*)*, April 6, 2011.

[58] Agence France-Presse, "China Restores Soviet Aircraft Carrier: Expert," *DefenseNews.com*, January 19, 2011.

> China may be ready to launch its first aircraft carrier in 2011, Chinese military and political sources said on Thursday, a year ahead of U.S. military analysts' expectations….
>
> "The period around July 1 next year [2011] to celebrate the (Chinese Communist) Party's birthday is one window (for launch)," one source with ties to the leadership told Reuters, requesting anonymity because the carrier programme is one of China's most closely guarded secrets….
>
> "The Varyag will allow us to familiarize ourselves with aircraft carrier tactics of war," one Chinese military source said….
>
> The Varyag will be based in the southern province of Hainan.[59]

Observers have speculated on the potential size and capabilities of new-construction Chinese aircraft carriers. Given the technical challenges involved in building and operating carriers, China might elect to begin by building conventionally powered carriers and then possibly progress to construction of nuclear-powered carriers. (The January 19, 2011, news report quoted above, however, suggests that China's first indigenously built carrier could be nuclear-powered.) Some observers have speculated that China's first new-construction aircraft carriers might displace between 50,000 and 70,000 tons. (The *Varyag* has an estimated full load displacement of about 58,500 tons.) A new-construction Chinese carrier with a displacement of 50,000 to 70,000 tons might be able to operate an air wing of 30 or more aircraft, including vertical/short takeoff or landing (VSTOL) airplanes and possibly conventional takeoff and landing (CTOL) airplanes.[60]

A December 17, 2010, news report states:

> China has officially admitted for the first time that it has embarked on an aircraft carrier building program, part of a grand strategy to "build itself up as a maritime power."
>
> A report published by the State Oceanic Administration says the country's leaders decided last year to back plans to build China's first aircraft carrier. The Chinese government and military had kept the program under wraps until now.
>
> The annual national ocean development report says that asserting China's power at sea is "indispensible to accomplishing the great resurgence of the Chinese people."
>
> Chinese military sources said initial plans had called for launching a conventional powered carrier with a displacement of between 50,000 and 60,000 tons in 2015. But, with construction progressing quickly, the launch of the first Chinese-made aircraft carrier now appears to be set for 2014.

[59] Benjamin Kang Lim, "China Speeds Plans To Launch Aircraft Carrier: Sources," *Reuters.com*, December 23, 2010.

[60] For comparison, the U.S. Navy's Midway (CV-41), Forrestal (CV-59), and Kitty Hawk (CV-63) class conventionally powered carriers, none of which is still in service, had displacements of 69,000 to 85,000 tons, and could operate air wings of 70 or more aircraft, most of which were CTOL airplanes. The Navy's current Nimitz (CVN-68) class nuclear-powered aircraft carriers displace about 100,000 tons and operate air wings or 70 or more aircraft, most of which are CTOL airplanes. Additional points of comparison include the French aircraft carrier *Charles de Gaulle* (commissioned in 2001), which has a displacement of about 42,000 tons, and aircraft carriers that the United Kingdom and France plan to commission into service between 2014 and 2016, which are to have displacements of 65,000 to 70,000 tons. The *Charles de Gaulle* can operate an air wing of about 36 aircraft, and the future UK and French carriers are to operate air wings of about 40 to 45 aircraft.

> Construction has already begun at six military-affiliated companies and research institutes in Shanghai and other locations.
>
> The plan calls for a nuclear-powered aircraft carrier to be launched by around 2020.
>
> Meanwhile, the Varyag, a Soviet-era Kuznetsov-class aircraft carrier bought from the Ukraine, is undergoing repairs in the northeastern port of Dalian and is expected to be pressed into service as a training vessel from 2012.
>
> The Chinese military is developing a fighter jet to be used on its new carrier and about 50 pilots have begun land-based training.
>
> Facilities to train the pilots in landing and taking off at sea are being constructed at Xingcheng, Liaoning province, and Xian, Shaanxi province, and a full-scale model of an aircraft carrier has been completed in Wuhan, Hubei province, to test radar systems.
>
> The report, written by a research institute affiliated to the State Oceanic Administration, sketches a strategy for expanding the reach of Chinese sea power and strengthening its ability to protect its maritime interests.
>
> As part of that strategy, the report says, the Chinese military "came out in 2009 with a vision and plan to construct aircraft carriers."
>
> It also maps out a longer-term drive to build China into a mid-level maritime power by about 2020, able to counter challenges and threats at sea.
>
> The report indicates that possessing aircraft carriers is seen not only as necessary to compete with the United States, but also as a way to heighten patriotic sentiment in China.
>
> Military sources said the Chinese leadership decided in April 2009 at an expanded meeting of the Communist Party's Politburo to give the go-ahead to the aircraft carrier building program.
>
> But there appears to have been a tug-of-war within the Chinese regime about publicly announcing the program. Initial plans to announce the program were put off because of concerns that it would fan concerns in neighboring nations about the Chinese military threat.
>
> However, the military has been insistent that the construction plan should be announced. The report by the State Oceanic Administration, an agency of China's land ministry with close ties to the Chinese Navy, may have been a convenient vehicle for that lobby.
>
> All the aircraft carriers will likely be based at Sanya, a South China Sea port on the southern tip of Hainan Island.[61]

Although aircraft carriers might have some value for China in Taiwan-related conflict scenarios, they are not considered critical for Chinese operations in such scenarios, because Taiwan is within range of land-based Chinese aircraft. Consequently, most observers believe that China would

[61] Kenji Minemura, "Beijing Admits It Is Building An Aircraft Carrier," *Asahi.com (Asahi Shimbun)*, December 17, 2010. For follow-on press reports based on this initial report, see Kathrin Hille and Mure Dickie, "China Reveals Aircraft Carrier Plans," *FT.com (Financial Times)*, December 17, 2010 (a similar story was published as Kathrin Hille, "China Reveals Aircraft Carrier Plans," *Financial Times*, December 18, 2010: 1); Kathrin Hille, "Carriers Back China's Global Reach," *Financial Times*, December 18, 2010.

build and operate carriers primarily because of their value in other kinds of operations that are more distant from China's shores. Chinese aircraft carriers could be used for power-projection operations, particularly in scenarios that do not involve opposing U.S. forces. Chinese aircraft carriers could also be used for humanitarian assistance and disaster relief (HA/DR) operations, maritime security operations (such as anti-piracy operations), and non-combatant evacuation operations (NEOs). Politically, aircraft carriers could be particularly valuable to China for projecting an image of China as a major world power, because aircraft carriers are viewed by many as symbols of major world power status. In a combat situation involving opposing U.S. naval and air forces, Chinese aircraft carriers would be highly vulnerable to attack by U.S. ships and aircraft, but conducting such attacks could divert U.S. ships and aircraft from performing other missions in a conflict situation with China.[62]

A June 1, 2011, blog entry states:

> Her new guns are installed. Her light-gray paint job has dried. Her airplanes are flying and her engines are turning. Thirteen years after she was purchased from Ukraine half-complete and lacking engines, the Chinese navy's very first aircraft carrier is ready to set sail from Dalian shipyard in northeast China. The former Soviet carrier Varyag, renamed Shi Lang in Chinese service, could begin sea trials this summer.
>
> Just how worried should the world be?
>
> The answer depends on who you ask. To China's closest neighbors, the prospect of a carrier speeding heavily-armed Chinese jet fighters across the world's oceans is an alarming one. But the U.S. Navy, the world's leading carrier power and arguably the Chinese navy's biggest rival, seems oddly unaffected.
>
> There are good reasons for the Pentagon's calm. For starters, Shi Lang, pictured above, could be strictly a training carrier, meant to pave the way for bigger, more capable carriers years or decades in the future.
>
> But even if she is meant for combat, there's probably little reason to fear Shi Lang. A close study of the 990-foot-long vessel—plus the warships and airplanes she'll sail with—reveals a modestly-sized carrier lacking many of the elements that make U.S. flattops so powerful.
>
> When Shi Lang finally gets underway in coming months, she will boost the ability of the People's Liberation Army Navy (PLAN) to patrol airspace over contested sea zones, provided they're not too far from the Chinese mainland. And more to the point, she'll look good doing it. "I think the change in perception by the region will be significant," Adm. Robert Willard, commander of U.S. Pacific forces, told the Senate in April.
>
> Willard said he is "not concerned" about the ship's military impact.[63]

An October 1, 2010, press report states:

[62] For further discussion, see Andrew Erickson and Gabe Collins, "The 'Flying Shark' Prepares to Roam the Seas: pros and cons [for China] of China's aircraft carrier program," *China SignPost*, May 18, 2011, 5 pp.

[63] David Axe, "Relax: China's First Aircraft Carrier is a Piece of Junk," *Danger Room (www.wired.com)*, June 1, 2011, accessed online June 2, 2011, at http://www.wired.com/dangerroom/2011/06/relax-chinas-first-aircraft-carrier-is-a-piece-of-junk.

> Concerns about Chinese plans to acquire an aircraft carrier capability need to be tempered by the reality that it takes years to master the tactics of operating a carrier battle group, the head of the US navy said yesterday.
>
> Speaking in Canberra during an official visit, Gary Roughead said it was important for China to convey to its neighbours how it intended to use its carriers once they became operational.
>
> There was ''no question'' the Chinese navy was growing in capability and capacity, and concerns in the Asia-Pacific region about the build-up were valid because Beijing was not being transparent about its military plans, Admiral Roughead said.
>
> But the chief of the world's largest navy said carrier fleet operations were highly complex and would take years to master.
>
> ''It takes time,'' he said. ''It's very, very complex. It's not something like you get an aircraft carrier and an airplane and then you are effective.
>
> ''We continue to evolve our aircraft carrier capability.''
>
> Admiral Roughead said the US navy's experience in operating carrier fleets had evolved over 75 years.
>
> ''From the day an aircraft carrier is delivered to when it becomes effective will take quite some time. There's no question they're building up their navy, but I'm confident where we are as a navy and the commitment we have to the Pacific and to our friends in the western Pacific and allies here (in Australia), and that is not going to change,'' he said.[64]

Carrier-Based Aircraft

China reportedly is training its first 50 fixed-wing carrier aviators and was engaged in lengthy negotiations with Russia to purchase up to 50 Russian-made carrier-capable Su-33 fighter aircraft. Although the negotiations with Russia reportedly did not lead to a purchase of Su-33s, China reportedly is now developing its own carrier-capable fighter, called the J-15, or Flying Shark, which reportedly is based on the Su-33 (or is a derivative of China's J-11B land-based fighter, which in turn is based on Russia's land-based Su-27 Flanker, the aircraft that Russia used as the basis for the carrier-capable Su-33).[65] Some press reports suggest that China may be developing a short takeoff, vertical landing (STOVL) jet called the J-18 for use on its aircraft carriers, but observers are divided on whether such a program exists and, if so, what its specific aims or current status may be.[66]

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[64] Mark Dodd, "Don't Fear Chinese Carrier Fleet: US Admiral," *The Australian*, October 1, 2010: 2.

[65] See Michael Wines, "Chinese State Media, In A Show Of Openness, Print Jet Photos," *New York Times*, April 26, 2011: 4; David A. Fulghum, "New Chinese Ship-Based Heavy Fighter Readied For Flight Tests," *Aerospace Daily & Defense Report*, April 27, 2011: 1-2; David A. Fulghum, "New Chinese Ship-Based Fighter Progresses," *Aviation Week & Space Technology*, April 28, 2011; Wendell Minnick, "China Confirms J-15 Carrier-Based Fighter; Aircraft Based on Russian-Designed Su-33," *Defense News*, May 2, 2011: 4; Andrew Erickson and Gabe Collins, "'Flying Shark' Gaining Altitude: How might new J-15 strike fighter improve China's maritime air warfare ability?" China SignPost, June 7, 2011, 11 pp.

[66] See, for example, Wendell Minnick, "Is China Developing a VSTOL Fighter?" *DefenseNews.com*, April 22, 2011; David Axe, "China's Jump Jet Mystery," The Diplomat (the-diplomat.com), April 25, 2011, accessed online May 19, 2011, at http://the-diplomat.com/flashpoints-blog/2011/04/25/chinas-jump-jet-mystery/; Dave Majumdar, "Analysts Skeptical About China's J-18," *Defense News*, May 2, 2011: 8; Wendell Minnick, "China Confirms J-15 Carrier-Based (continued...)

Surface Combatants

China since the early 1990s has purchased four Sovremenny-class destroyers from Russia and deployed nine new classes of indigenously built destroyers and frigates (some of which are variations of one another) that demonstrate a significant modernization of PLA Navy surface combatant technology. China has also deployed a new kind of missile-armed fast attack craft that uses a stealthy catamaran hull design. The August 2009 ONI report states that "the PLA(N) surface force is one of the largest in the world, and its capabilities are growing at a remarkable rate,"[67] and that "in recent years, the most notable upgrade to the PLA(N) surface force has been its shipboard area-air-defense (AAD) capability."[68] DOD similarly states that "the PLA Navy continues its acquisition of domestically produced surface combatants…. These ships reflect the leadership's priority on an advanced anti-air warfare capability for China's naval forces, which has historically been a weakness of the fleet."[69]

Sovremenny-Class Destroyers

China in 1996 ordered two Sovremenny-class destroyers from Russia; the ships entered service in 1999 and 2001. China in 2002 ordered two additional Sovremenny-class destroyers from Russia; the ships entered service in 2005 and 2006. Sovremenny-class destroyers are equipped with the Russian-made SS-N-22 Sunburn ASCM, a highly capable ASCM. DOD stated in 2007 that the two ships delivered in 2005-2006 "are fitted with anti-ship cruise missiles (ASCMs) and wide-area air defense systems that feature qualitative improvements over the [two] earlier SOVREMENNYY-class DDGs China purchased from Russia."[70] In light of these improvements, DOD refers to these two ships as Sovremenny II class destroyers.[71]

Five New Indigenously Built Destroyer Classes

China since the early 1990s has deployed five new classes of indigenously built destroyers, one of which is a variation of another. Compared to China's 14 remaining older Luda (Type 051) class destroyers, which entered service between 1971 and 1991, these five new indigenously built destroyer classes are substantially more modern in terms of their hull designs, propulsion systems, sensors, weapons, and electronics. One author states that "the new Chinese missile destroyers were apparently designed, at least on the basic level, at the Russian Northern Design Bureau."[72] Like the older Luda-class destroyers, these new destroyer classes are armed with ASCMs.

(...continued)

Fighter; Aircraft Based on Russian-Designed Su-33," *Defense News*, May 2, 2011: 4.

[67] *2009 ONI Report*, p. 16. This comment may relate not solely to China's surface combatants (e.g., destroyers, frigates, and fast attack craft), but to China's entire surface fleet, which includes other types of ships as well, such as aircraft carriers, amphibious ships, and auxiliary and support ships.

[68] *2009 ONI Report*, p. 18.

[69] *2010 DOD CMSD*, p. 3.

[70] *2007 DOD CMP*, p. 3. The DOD report spells Sovremenny with two "y"s at the end.

[71] *2008 DOD CMP*, p. 2.

[72] Norman Friedman, "Russian Arms Industry Foundering," *U.S. Naval Institute Proceedings*, September 2009: 90-91.

Table 2 shows commissionings of Chinese destroyers by class since 1994. As shown in the table, China has commissioned only one or two ships in each of its five new indigenously built destroyers classes, suggesting that these classes might have been intended as stepping stones in a plan to modernize the PLA Navy's destroyer technology incrementally before committing to larger-scale series production of destroyers.[73] China did not commission any new destroyers in 2008-2010. *Jane's* states that "construction of a further batch of destroyers is expected to start in 2010. The design is likely to be a further development of the Luyang II class or of the Luzhou class."[74] Some observers believe that four new Luyang II (Type 052C) destroyers are currently under construction, following a change in location for the shipyard producing destroyers.[75]

Table 2. PLA Navy Destroyer Commissionings

	Sovre-menny (Russian-made)	Luhu (Type 052)	Luhai (Type 051B)	Luyang I (Type 052B)	Lyugang II (Type 052C)	Louzhou (Type 051C)	Annual total	Cumulative total
1994		1					**1**	**1**
1995							**0**	**1**
1996		1					**1**	**2**
1997							**0**	**2**
1998							**0**	**2**
1999	1		1				**2**	**4**
2000							**0**	**4**
2001	1						**1**	**5**
2002							**0**	**5**
2003							**0**	**5**
2004				2	1		**3**	**8**
2005	1				1		**2**	**10**
2006	1					1	**2**	**12**
2007						1	**1**	**13**
2008							**0**	**13**
2009							**0**	**13**
2010							**0**	**13**

Source: *Jane's Fighting Ships 2010-2011*, and previous editions.

[73] One observer says the limited production runs of these four designs to date "might be financially related, or may relate to debate over what ships should follow the Type 051C air defence and Type 052C multi-role classes, or that once the Type 054A [frigate design] is accepted as the future missile frigate design, three or four of the major warship shipyards will all be assigned to construction of this design, delaying a future CG/DDG class." (Keith Jacobs, "PLA-Navy Update," *Naval Forces*, No. 1, 2007: 24.) Another observer stated I 2007 that "It looks like [the] 052C [class] was stopped for a few years due to [the] JiangNan relocation [and the] sorting out [of] all the issues on [the] 052B/C [designs]. ("2018—deadline for Taiwan invasion?" a September 22, 2007, entry in a blog on China naval and air power maintained by an author called "Feng," available online at http://china-pla.blogspot.com/2007/09/2018-deadline-for-taiwan-invasion.html.)

[74] *Jane's Fighting Ships 2010-2011*, p. 134.

[75] See, for example, the blog entry dated November 7, 2010, available online at http://www.informationdissemination.net/2010/11/2010-is-start-of-plans-second-building.html.

The *Luhu-class ships* reportedly were ordered in 1985 but had their construction delayed by a decision to give priority to the construction of six frigates that were ordered by Thailand. The *Luhai-class ship* is believed to have served as the basis for the Luyang-class designs. Compared to the Luhai, the *Luyang I-class ships* appear stealthier. DOD stated in 2008 that the Luyang I design is equipped with the Russian-made SA-N-7B Grizzly SAM and the Chinese-made YJ-83 ASCM.[76]

The *Luyang II-class ships* appear to feature an even more capable AAW system that includes a Chinese-made SAM system called the HHQ-9 that has an even longer range, a vertical launch system (VLS), and a phased-array radar that is outwardly somewhat similar to the SPY-1 radar used in the U.S.-made Aegis combat system.[77]

DOD stated in 2007 the *Luzhou-class design* "is designed for anti-air warfare. It will be equipped with the Russian SA-N-20 SAM system controlled by the TOMBSTONE phased-array radar. The SA-N-20 more than doubles the range of current PLA Navy air defense systems marking a significant improvement in China's ship-borne air defense capability."[78]

[76] *2007 DOD CMP*, pp. 3-4

[77] The August 2009 report from the Office of Naval Intelligence states that "the Luyang II DDG possesses a sophisticated phased-array radar system similar to the western AEGIS radar system." *2009 ONI Report*, p. 1. Another author states that "the Chinese bought their active-array destroyer radar from the Ukrainian Kvant organization, which is unlikely to have the resources to develop the project much further." (Norman Friedman, "Russian Arms Industry Foundering," *U.S. Naval Institute Proceedings*, September 2009: 90-91.)

[78] *2007 DOD CMP*, p. 3.

Figure 6. Luyang II (Type 052C) Class Destroyer

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

Four New Indigenously Built Frigate Classes

China since the early 1990s has deployed four new classes of indigenously built frigates, two of which are variations of two others. Compared to China's 29 remaining older Jianghu (Type 053) class frigates, which entered service between the mid-1970s and 1989, the four new frigate classes feature improved hull designs and systems, including improved AAW capabilities.

Table 3 shows commissionings of Chinese frigates by class since 1991. Unlike the new destroyer designs, some of the new frigate designs have been put into larger-scale series production. Production of Jiangkai II-class ships continues, and *Jane's* projects an eventual total of 12.

Table 3. PLA Navy Frigate Commissionings

Actual (1991-2010) and *Projected (2011-2012)*

	Jiangwei I (Type 053 H2G)	Jiangwei II (Type 053H3)	Jiangkai I (Type 054)	Jiangkai II (Type 054A)	Annual total	Cumulative total
1991	1				**1**	**1**
1992	1				**1**	**2**
1993	1				**1**	**3**
1994	1				**1**	**4**
1995					**0**	**4**
1996					**0**	**4**
1997					**0**	**4**
1998		1			**1**	**5**
1999		4			**4**	**9**
2000		1			**1**	**10**
2001					**0**	**10**
2002		2			**2**	**12**
2003					**0**	**12**
2004					**0**	**12**
2005		2	1		**3**	**15**
2006			1		**1**	**16**
2007					**0**	**16**
2008				4	**4**	**20**
2009					**0**	**20**
2010				2	**2**	**22**
2011					***0***	***22***
2012				*2*	***2***	***24***

Source: *Jane's Fighting Ships 2010-2011*, and previous editions.

The *Jiangkai I-class ships* feature a stealthy design that somewhat resembles France's La Fayette-class frigate, which first entered service in 1996.[79] The *Jiangkai II-class ships* are a modified version of the Jiangkai I-class design that features a VLS system for its SAMs.

[79] France sold a modified version of the La Fayette-class design to Taiwan; the six ships that Taiwan built to the design entered service in 1996-1998.

Figure 7. Jiangkai II (Type 054A) Class Frigate

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

Houbei (Type 022) Fast Attack Craft

As an apparent replacement for at least some of its older fast attack craft, or FACs (including some armed with ASCMs), China in 2004 introduced a new type of ASCM-armed fast attack craft, called the Houbei (Type 022) class, that uses a stealthy, wave-piercing, catamaran hull. The Houbei class is being built in at least six shipyards. DOD states that "China has deployed some 60 of its new HOUBEI-class (Type 022) wave-piercing catamaran hull missile patrol boats. Each boat can carry up to eight YJ-83 ASCMs."[80] A total of as many as 100 might be built.[81] The August 2009 ONI report states that "the Houbei's ability to patrol coastal and littoral waters and react at short notice allows the PLA(N)'s larger combatants to focus on offshore defense and out-of-[home]area missions without leaving a security gap along China's coastline."[82]

[80] *2010 DOD CMSD*, p. 3.

[81] *Jane's Fighting Ships 2010-2011*, p. 149.

[82] *2009 ONI Report*, p. 20. For further discussion of the Houbei class, see John Patch, "A Thoroughbred Ship-Killer," *U.S. Naval Institute Proceedings*, April 2010: 48-53.

Figure 8. Houbei (Type 022) Class Fast Attack Craft

With an older Luda-class destroyer behind

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

Amphibious Ships

Yuzhao (Type 071) Amphibious Ship

China has built and deployed the lead ship of a new class of amphibious ships called the *Yuzhao* or *Type 071 class*, and two more such ships are reportedly under construction. The lead ship entered service in 2008. The second ship reportedly was put into the water in November 2010[83] and as of April 2011 was undergoing the final phase of its construction, and the third is reportedly in an earlier stage of construction.[84] Some observers believe China might build a total of four to six Type 071 class ships.

The Type 071 design has an estimated displacement of 17,600 tons, compared with about 15,900 tons to 16,700 tons for the U.S. Navy's Whidbey Island/Harpers Ferry (LSD-41/49) class amphibious ships, which were commissioned into service between 1985 and 1998, and about 25,900 tons for the U.S. Navy's new San Antonio (LPD-17) class amphibious ships, the first of which was commissioned into service in 2006. The Type 071 design features a hull with clean,

[83] A blog entry dated November 20, 2010, available online at http://www.informationdissemination.net/2010/11/updates-around-chinese-shipyards.html, shows photographs of an apparent second Type 071 class ship and states that this ship was launched "in the past 2 days." (Launched means that the ship's construction has progressed to the point where the ship can be put into the water for the final phase of its construction.) See also the blog entry dated November 7, 2010, available online at http://www.informationdissemination.net/2010/11/2010-is-start-of-plans-second-building.html.

[84] Source: blog entry date April 9, 2011, and available online at http://www.informationdissemination.net/2011/04/recent-photos-from-chinese-shipyards.html shows a photograph of an apparent second Type 071 class ship and states that "we are seeing the modules to the third Type 071 LPD under construction at HD shipyard. Of course, the second Type 071 LPD is still fitting out the different components at the dockside. I think it should be ready for sea trials soon."

sloped sides—a design that resembles the hulls of modern western amphibious ships and appears intended to reduce the ship's visibility to radar.

Figure 9. Yuzhao (Type 071) Class Amphibious Ship

With two Houbei (Type 022) fast attack craft behind

Source: Photograph provided to CRS by Navy Office of Legislative Affairs, December 2010.

Reported Potential Type 081 Amphibious Ship

China reportedly might also begin building a larger amphibious ship, called the Type 081 LHD, that might displace about 20,000 tons. Such a ship might have, among other things, a greater aviation capability than the Type 071 design. Some observers believe China may build a total of three or more Type 081s.

Potential Roles for Type 071 and Type 081 Ships

Although larger amphibious ships such as the Type 071 and the Type 081 might have some value for conducting amphibious landings in Taiwan-related conflict scenarios, some observers believe that China would build and operate such ships more for their value in conducting other kinds of operations that are more distant from China's shores. Larger amphibious ships can be used for conducting not only amphibious landings, but humanitarian assistance and disaster relief (HA/DR) operations, maritime security operations (such as anti-piracy operations),[85] and non-combatant evacuation operations (NEOs). (Some countries are acquiring larger amphibious ships as much, or more, for these kinds of operations as for conducting amphibious landings.)

[85] On June 30, 2010, it was reported that the Type 071 amphibious ship was one of three ships forming the sixth anti-piracy naval group sent by China to waters of Somalia for anti-piracy operations. "China Sends Sixth Naval Escort Flotilla to Gulf of Aden," *Xinhua*, June 30, 2010. (The story carries a mistaken dateline of July 30.)

Politically, larger amphibious ships can also be used for naval diplomacy (i.e., port calls and engagement activities).

Other New Amphibious Ships and Landing Craft

Aside from the Type 071 and Type 081 projects, China between 2003 and 2005 commissioned into service three new classes of smaller amphibious ships and landing craft. Each type was built at three or four shipyards. Between these three other classes, China commissioned into service a total of 20 amphibious ships and 10 amphibious landing craft in 2003-2005. China also has numerous older amphibious ships and landing craft of various designs.

Change in Amphibious Lift Capability Since 2000

Although China in recent years has deployed new amphibious ships and craft, DOD stated in 2009 that "PLA air and amphibious lift capacity has not improved appreciably since 2000 when the Department of Defense assessed the PLA as capable of sealift of one infantry division."[86]

Maritime Surveillance and Targeting Systems

China reportedly is developing or deploying maritime surveillance and targeting systems that can detect U.S. ships and submarines and provide targeting information for Chinese ASBMs and other Chinese military units. These systems reportedly include land-based over-the-horizon backscatter (OTH-B) radars, land-based over-the-horizon surface wave (OTH-SW) radars, electro-optical satellites, radar satellites, and seabed sonar networks.[87] DOD states that

> The PLA Navy is improving its over-the-horizon (OTH) targeting capability with Sky Wave and Surface Wave OTH radars. OTH radars could be used in conjunction with imagery satellites to assist in locating targets at great distances from PRC shores to support long range precision strikes, including by anti-ship ballistic missiles.[88]

Numbers of Chinese Navy Ships and Naval Aircraft

Numbers Provided by Office of Naval Intelligence (ONI)

Table 4 shows Office of Naval Intelligence (ONI) figures on numbers of Chinese navy ships and aircraft from 1990 to 2009, and projected figures for 2015 and 2020. *The figures in the table lump older and less capable ships together with newer and more capable ships discussed above.* The modern attack submarines, destroyers, and frigates shown in **Table 1**, **Table 2**, and **Table 3** for 2009 account for about half of the attack submarines, about half of the destroyers, and about 42% of the frigates shown in **Table 4** for 2009. DOD states that the percentage of modern units within China's submarine forces has increased from less than 10% in 2000 and 2004 to about 47% in

[86] *2009 DOD CMP*, p. viii.

[87] For a recent article discussing these systems, see Andrew S. Erickson, "Eyes in the Sky," *U.S. Naval Institute Proceedings*, April 2010: 36-41.

[88] *2010 DOD CMSD*, p. 2. See also Andrew Erickson, "Satellites Support Growing PLA Maritime Monitoring and Targeting Capabilities," *China Brief*, February 10, 2011: 13-18.

2008 and 50% in 2009, and that the percentage of modern units within China's force of surface combatants has increased from less than 10% in 2000 and 2004 to about 25% in 2008 and 2009.[89]

As can be seen in the table, ONI projects that, between 2009 and 2020, the total number of submarines will increase, a small number of aircraft carriers and major amphibious ships will be added to the fleet, the total number destroyers will remain more or less unchanged, and the total number of frigates will decline slightly. The total number of larger combat ships in China's navy (defined here as submarines, aircraft carriers, destroyers, and frigates) is projected to increase somewhat, mostly because of the projected increase in attack submarines. As these changes take place, the overall capability of China's navy will increase as newer and more capable units replace older and less capable ones. The August 2009 ONI report states that "as newer and more capable platforms replace aging platforms, the PLA(N)'s total order of battle may remain relatively steady, particularly in regard to the surface force."[90]

As can also be seen in the table, ONI projects that that the numbers of land-based maritime strike aircraft, carrier-based fighters, and helicopters, will almost triple between 2009 and 2020, and that most of this increase will occur between 2009 and 2015.

[89] *2010 DOD CMSD*, p. 45 (figure).

[90] *2009 ONI Report*, p. 46.

Table 4. Numbers of PLA Navy Ships and Aircraft Provided by Office of Naval Intelligence (ONI)

(Figures include both older and less capable units and newer and more capable units)

	1990	1995	2000	2005	2009	Projection for 2015	Projection for 2020
Ships							
Ballistic missile submarines	1	1	1	2	3	4 or 5?	4 or 5?
Attack submarines (SSNs and SSs)	80	82	65	58	59	~70	~72
SSNs	*5*	*5*	*5*	*6*	*6*	*n/a*	*n/a*
SSs	*75*	*77*	*60*	*52*	*53*	*n/a*	*n/a*
Aircraft carriers	0	0	0	0	0	1?	2?
Destroyers	14	18	21	25	26	~26	~26
Frigates	35	35	37	42	48	~45	~42
Subtotal above ships	***130***	***136***	***124***	***127***	***136***	***~146 or ~147?***	***~146 or ~147?***
Missile-armed attack craft	200	165	100	75	80+	n/a	n/a
Amphibious ships	65	70	60	56	58	n/a	n/a
Large ships (LPDs/LHDs)	*0*	*0*	*0*	*0*	*1*	*~6?*	*~6?*
Smaller ships	*65*	*70*	*60*	*56*	*57*	*n/a*	*n/a*
Mine warfare ships	n/a	n/a	n/a	n/a	40	n/a	n/a
Major auxiliary ships	n/a	n/a	n/a	n/a	50	n/a	n/a
Minor auxiliary ships and support craft	n/a	n/a	n/a	n/a	250+	n/a	n/a
Aircraft							
Land-based maritime strike aircraft	n/a	n/a	n/a	n/a	~145	~255	~258
Carrier-based fighters	0	0	0	0	0	~60	~90
Helicopters	n/a	n/a	n/a	n/a	~34	~153	~157
Subtotal above aircraft	n/a	n/a	n/a	n/a	***~179***	***~468***	***~505***

Source: Prepared by CRS. Source for 2009, 2015, and 2020: *2009 ONI report*, page 18 (text and table), page 21 (text), and (for figures not available on pages 18 or 21), page 45 (CRS estimates based on visual inspection of ONI graph entitled "Estimated PLA[N] Force Levels"). Source for 1990, 1995, 2000, and 2005: Navy data provided to CRS by Navy Office of Legislative Affairs, July 9, 2010.

Notes: n/a is not available. The use of question marks for the projected figures for ballistic missile submarines, aircraft, carriers, and major amphibious ships (LPDs and LHDs) for 2015 and 2020 reflects the difficulty of resolving these numbers visually from the graph on page 45 of the ONI report. The graph shows more major amphibious ships than ballistic missile submarines, and more ballistic missile submarines than aircraft carriers. Figures in this table for aircraft carriers include the ex-Ukrainian carrier Varyag, which is likely to enter service before any new-construction indigenous carrier. The ONI report states on page 19 that China "will likely have an operational, domestically produced carrier sometime after 2015." Such a ship, plus the Varyag, would give China a force of 2 operational carriers sometime after 2015.

The graph on page 45 shows a combined total of amphibious ships and landing craft of about 244 in 2009, about 261 projected for 2015, and about 253 projected for 2015.

Since the graph on page 45 of the ONI report is entitled "Estimated PLA[N] Force Levels," aircraft numbers shown in the table presumably do not include Chinese air force (PLAAF) aircraft that may be capable of attacking ships or conducting other maritime operations.

Numbers Presented in Annual DOD Reports to Congress

DOD states that

> The PLA Navy has the largest force of principal combatants, submarines, and amphibious warfare ships in Asia. China's naval forces include some 75 principal combatants, more than 60 submarines, 55 medium and large amphibious ships, and roughly 85 missile-equipped patrol craft.[91]

Table 5 shows numbers of Chinese navy ships as presented in annual DOD reports to Congress on military and security developments involving China (previously known as the annual report on China military power). *As with **Table 4**, the figures in **Table 5** lump older and less capable ships together with newer and more capable ships discussed above.* The modern attack submarines, destroyers, and frigates shown in **Table 1**, **Table 2**, and **Table 3** for 2009 account for about half of the attack submarines, about half of the destroyers, and about 42% of the frigates shown in **Table 5** for 2009. As mentioned earlier, DOD states that the percentage of modern units within China's submarine forces has increased from less than 10% in 2000 and 2004 to about 47% in 2008 and 50% in 2009, and that the percentage of modern units within China's force of surface combatants has increased from less than 10% in 2000 and 2004 to about 25% in 2008 and 2009.[92]

Table 5. Numbers of PLA Navy Ships Presented in Annual DOD Reports to Congress

(Figures include both older and less capable units and newer and more capable units)

	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010
Nuclear-powered attack submarines	5	5	~ 60	n/a	6	5	5	5	6	6
Diesel attack submarines	~60	~ 50		n/a	51	50	53	54	54	54
Destroyers	~20	~ 60	> 60	n/a	21	25	25	29	27	25
Frigates	~40			n/a	43	45	47	45	48	49
Missile-armed coastal patrol craft	n/a	~ 50	~ 50	n/a	51	45	41	45	70	85
Amphibious tank landing ships (LSTs) and amphibious transport dock ships (LPDs)	almost 50	~ 40	> 40	n/a	20	25	25	26	27	27
Amphibious medium landing ships (LSMs)				n/a	23	25	25	28	28	28

Source: Table prepared by CRS based on data in 2002-2010 editions of annual DOD report to Congress on military and security developments involving China (known for 2009 and prior editions as the report on China military power).

Note: n/a means data not available in report.

Chinese Naval Operations Away from Home Waters

Chinese navy ships in recent years have begun to conduct operations away from China's home waters. Although many of these operations have been for making diplomatic port calls, some of them have been for other purposes, including in particular anti-piracy operations in waters off

[91] *2010 DOD CMSD*, p. 2.

[92] *2010 DOD CMSD*, p. 45 (figure).

Somalia. Reported examples of Chinese naval operations away from home waters include but are not limited to the following:

- In November 2004, a Han-class SSN was detected in Japanese territorial waters near Okinawa.[93] DIA states that, as part of the same deployment, this submarine traveled "far into the western Pacific Ocean."[94] Press reports state that the submarine operated in the vicinity of Guam before moving toward Okinawa.[95]
- On October 26, 2006, a Song-class SS reportedly surfaced five miles away from the Japan-homeported U.S. Navy aircraft carrier *Kitty Hawk* (CV-63), which reportedly was operating at the time with its strike group in international waters in the East China Sea, near Okinawa. According to press reports, the carrier strike group at the time was not actively searching for submarines, and the Song-class boat remained undetected by the strike group until it surfaced and was observed by one of the strike group's aircraft.[96] The Chinese government denied that the submarine was following the strike group.[97]
- In December 2008, China deployed two destroyers and a support ship to waters off Somalia to conduct anti-piracy operations. According to one source, this was only the third deployment of Chinese naval ships into the Indian Ocean in more than six centuries.[98] China since that time has deployed successive small groups of ships to waters of Somalia to maintain its anti-piracy operations there.[99] U.S. officials have stated that they welcome a Chinese contribution to the current multi-nation effort to combat piracy off Somalia. DOD states that

[93] Mark Magnier, "China Regrets Sub Incident, Japan Says," *Los Angeles Times*, November 17, 2004; Martin Fackler, "Japanese Pursuit Of Chinese Sub Raises Tensions," *Wall Street Journal*, November 15, 2004: 20; Kenji Hall, "Japan: Unidentified sub is Chinese," *NavyTimes.com (Associated Press)*, November 12, 2004. See also *2006 DOD CMP*, pp. 11-12.

[94] Current and Projected National Security Threats to the United States, Vice Admiral Lowell E. Jacoby, U.S. Navy, Director, Defense Intelligence Agency, Statement for the Record [before the] Senate Select Committee on Intelligence, 16 February 2005, p. 16-17. See also Current and Projected National Security Threats to the United States, Vice Admiral Lowell E. Jacoby, U.S. Navy, Director, Defense Intelligence Agency, Statement For the Record [before the] Senate Armed Services Committee, 17 March 2005, p. 17.

[95] Timothy Hu, "Ready, steady, go ... ," *Jane's Defence Weekly*, April 13, 2005: 27; "China Sub Tracked By U.S. Off Guam Before Japan Intrusion," *Japan Times*, November 17, 2004.

[96] Bill Gertz, "China Sub Secretly Stalked U.S. Fleet," *Washington Times*, November 13, 2006: 13; Philip Creed, "Navy Confirms Chinese Sub Spotted Near Carrier," *NavyTimes.com*, November 13, 2006; Bill Gertz, "Defenses On [sic] Subs To Be Reviewed," *Washington Times*, November 14, 2006; En-Lai Yeoh, "Fallon Confirms Chinese Stalked Carrier," *NavyTimes.com*, November 14, 2006; Bill Gertz, "Admiral Says Sub Risked A Shootout," *Washington Times*, November 15, 2006; Jeff Schogol, "Admiral Disputes Report That Kitty Hawk, Chinese Sub Could Have Clashed," *Mideast Starts and Stripes*, November 17, 2006.

[97] Associated Press, "China Denies Reports That Sub Followed Kitty Hawk," *NavyTimes.com*, November 16, 2006. A shorter version of the same story was published as Associated Press, "China Denies Sub Followed A Group Of U.S. Warships," *Asian Wall Street Journal*, November 17, 2006: 11.

[98] Andrew S. Erickson and Juston D. Mikolay, "Welcome China to the Fight Against Pirates," *U.S. Naval Institute Proceedings*, March 2009: 36.

[99] For a discussion of China's anti-piracy operations in waters off Somalia, see Andrew S. Erickson, "Chinese Sea Power in Action: The Counterpiracy Mission in the Gulf of Aden and Beyond," which is Chapter 7 (pages 295-376) of Roy Kamphausen, David Lai, and Andrew Scobell, editors, *The PLA At Home and Abroad: Assessing the Operational Capabilities of China's Military*, Strategic Studies Institute, U.S. Army War College, June 2010, available at http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=995.

> China continues the Gulf of Aden counter-piracy deployment that began in December 2008. The PLA Navy in December 2009 sent its fourth deployment, with three frigates and one supply ship. Outside of occasional ship visits, this represents the PLA Navy's first series of operational deployments beyond the immediate western Pacific region.[100]

- In March 2010, Chinese navy ships involved in China's antipiracy operations entered the Persian Gulf—reportedly, the first time that Chinese naval ships had entered that body of water.[101] Chinese ships have since made additional visits to the Persian Gulf. In July or August 2010, Chinese navy ships involved in China's antipiracy operations entered the Mediterranean Sea, during which time they reportedly conducted port calls at Alexandria, Egypt; Taranto, Italy; and Piraeus, Greece.[102]
- In April 2010, a group of about 10 Chinese ships, reportedly including two Sovremenny-class destroyers, three frigates, and two Kilo-class attack submarines, transited Japan's Miyako Strait on their way to and from anti-submarine warfare exercises in the Western Pacific. Helicopters from the formation flew close to Japanese destroyers that were sent to the area to observe the Chinese ships, prompting a protest from Japan.[103]
- In late-February/early-March 2011, China deployed a frigate through the Suez canal to waters off Libya to support China's operation to evacuate Chinese nationals from Libya. The frigate was diverted from anti-piracy operations off Somalia.[104]

One group of observers, reviewing out-of-area Chinese naval operations, concluded the following:

> The PLAN still has some ways to go before it can operate effectively out of area. At present, it can effectively replenish at sea, conduct intra–task force resupply, perform long-distance navigation, conduct formation-keeping with competent seamanship, and operate in all weather conditions. The PLAN cannot currently conduct a full-scale joint forcible entry operation, maintain maritime superiority out of area, conduct multicarrier or carrier strike group operations, or provide comprehensive protection against threats to an out of area task force (antiaircraft warfare, ASW, and antisurface warfare).
>
> The PLAN appears to be expanding its out of area operations incrementally. This will allow the United States, its allies, and other countries time to work out (with each other and with

[100] *2010 DOD CMSD*, p. 8.

[101] Greg Torode, "PLA Navy Ships Enter Gulf For The First Time," *South China Morning Post*, March 27, 2010: 1.

[102] "Chinese Naval Flotilla In Greece After Anti-Piracy Mission," *GreekReporter.com (via Zinhua)*, August 12, 2010; Christopher P. Cavas, "Chinese Warships Tour the Mediterranean," *DefenseNews.com*, August 9, 2010.

[103] Mure Dickie, "Japan Seeks Answers Over Chinese Warships," *Financial Times*, April 13, 2010; Jay Alabaster, "Tokyo Wary Of Chinese Military Vessels," *Washington Times*, April 14, 2010; Greg Torode, "Exercises Show PLA Navy's New Strength," *South China Morning Post*, April 18, 2010: 1; "Japan Protests Over Chinese Helicopter's Fly-By," *Agence France-Presse*, April 21, 2010; "Japan: Protest Over Chinese Helicopter," *New York Times*, April 22, 2010; "China's Naval Drills Near Japan 'Not A Threat,'" *Singapore Straits Times*, April 24, 2010: 59; "China Envoy Says Naval Chopper Fly-By Was Japan's Fault (Updated)," *Agence France-Presse*, April 27, 2010; L. C. Russell Hsiao, "In A Fortnight," *China Brief*, April 29, 2010: 1-2.

[104] See, for example, Andrew S. Erickson and Gabriel B. Collins, "Missile Frigate Xuzhou Transits Suez Canal, to Arrive off Libya ~Wednesday 2 March: China's first operational deployment to Mediterranean addresses Libya's evolving security situation," *China SignPost*, February 27, 2011, 5 pp.

> the Chinese) how to respond to opportunities for greater cooperation and potential challenges posed by a more capable PLAN.
>
> China has an even longer way to go before it can be considered a global military power. In particular, it has no network of facilities and bases to maintain and repair its ships. The possession or absence of such a network may ultimately be the best indication of China's future intentions. If China lacks such a support network, it will have great difficulty engaging in major combat operations (MCOs) far from its shores.
>
> Experience gained through out of area operations will help make the PLAN somewhat more effective (in areas such as navigation and seamanship) in some of its other operations. However, most of the tasks performed and lessons gained from out of area operations are not directly transferrable to either a Taiwan contingency or a notional out of area MCO. This implies that time spent on conducting nontraditional out of area deployments for a PLAN unit is time away from combat training for a Taiwan contingency or preparing for MCOs out of area.
>
> A more capable and active PLAN will present new challenges for U.S. policy. On the one hand, the United States wants China to "become a responsible stake holder" in support of international security objectives, which implies a need for greater naval capability to operate out of area. On the other hand, improved PLAN operational capabilities potentially pose a greater military threat to the United States and its allies, especially Asia. The United States has to reassure its allies that it will remain present in the region as a hedge even as Chinese military capabilities improve.[105]

Some observers believe that China may want to eventually build a series of naval and other military bases in the Indian Ocean—a so-called "string of pearls"—so as to support Chinese naval operations along the sea line of communication linking China to Persian Gulf oil sources.[106] Other

[105] Christopher D. Yung et al, *China's Out of Area Naval Operations: Case Studies, Trajectories, Obstacles, and Potential Solutions*, Washington, National Defense University Press, December 2010. (Institute for National Strategic Studies, China Strategic Perspectives, No. 3.) 65 pp.

[106] One press report in 2005, for example, stated:

> China is building up military forces and setting up bases along sea lanes from the Middle East to project its power overseas and protect its oil shipments, according to a previously undisclosed internal report prepared for Defense Secretary Donald H. Rumsfeld.
>
> "China is building strategic relationships along the sea lanes from the Middle East to the South China Sea in ways that suggest defensive and offensive positioning to protect China's energy interests, but also to serve broad security objectives," said the report sponsored by the director, Net Assessment, who heads Mr. Rumsfeld's office on future-oriented strategies.
>
> The Washington Times obtained a copy of the report, titled "Energy Futures in Asia," which was produced by defense contractor Booz Allen Hamilton.
>
> The internal report stated that China is adopting a "string of pearls" strategy of bases and diplomatic ties stretching from the Middle East to southern China.

The press report stated that China is:

- operating an eavesdropping post and building a naval base at Gwadar, Pakistan, near the Persian Gulf;
- building a container port facility at Chittagong, Bangladesh, and seeking "much more extensive naval and commercial access" in Bangladesh;
- building naval bases in Burma, which is near the Strait of Malacca;
- operating electronic intelligence-gathering facilities on islands in the Bay of Bengal and near the Strait of Malacca;
- building a railway line from China through Cambodia to the sea;

(continued...)

observers argue that although China has built or is building commercial port facilities in the Indian Ocean, China to date has not established any naval bases in the Indian Ocean and instead appears to be pursuing what U.S. officials refer to as a "places not bases" strategy (meaning a collection of places for Chinese navy ships to occasionally visit for purposes of refueling and restocking supplies, but not bases).[107] In May 2011, Pakistan's foreign minister reportedly stated that China had agreed to take over operation of Pakistan's port of Gwadar from the Singaporean government firm that has been managing the port, and that Pakistan wants to have China build a naval base at Gwadar for the Pakistani navy.[108] Shortly thereafter, however, a spokeswoman for

(...continued)

- improving its ability to project air and sea power into the South China Sea from mainland China and Hainan Island;
- considering funding a $20-billion canal that would cross the Kra Isthmus of Thailand, which would allow ships to bypass the Strait of Malacca and permit China to establish port facilities there.

Bill Gertz, "China Builds Up Strategic Sea Lanes," *Washington Times*, January 18, 2005, p.1. See also Daniel J. Kostecka, "The Chinese Navy's Emerging Support Network in the Indian Ocean," *China Brief*, July 22, 1010: 3-5; Edward Cody, "China Builds A Smaller, Stronger Military," *Washington Post*, April 12, 2005, p. 1; Indrani Bagchi, "China Eyeing Base in Bay of Bengal?" *Times of India*, August 9, 2008, posted online at http://timesofindia.indiatimes.com/China_eyeing_base_in_Bay_of_Bengal/articleshow/3343799.cms; Eric Ellis, "Pearls for the Orient," *Sydney Morning Herald*, July 9, 2010.

[107] One observer, for example, states that

> Much of the discussion regarding China's maritime ambitions in the Indian Ocean has revolved around the so-called "String of Pearls" strategy that Beijing is alleged to be pursuing. As part of this strategic construct it is claimed that Beijing is building a comprehensive network of naval bases stretching from southern China to Pakistan. This theory, a creation of a 2004 U.S. Department of Defense contractor study entitled *Energy Futures in Asia*, is now accepted as fact by many in official and unofficial circles. While the study contains some useful arguments, certain elements of it have been selectively quoted as singular evidence of Beijing's strategic intent in this region. In spite of the lack of evidentiary proof supporting the assertion that China intends to turn these facilities into military bases, claims regarding future bases in these locations for the Chinese Navy continue to this day, particularly in the United States and India….
>
> Despite almost a decade of speculation there appears to be no hard evidence that suggests China plans to base warships in Bangladesh, Sri Lanka or the Maldives, or that these nations even desire a Chinese military presence. In fact, all three of these nations' proximity to India and their desires to balance their relations between India and China indicate that China will not develop military facilities in these countries. While the Chinese are heavily investing in developing infrastructure for improved access into the Indian Ocean, which in turn is helping it gain political influence in these countries, the extent to which it has improved access and infrastructure will translate into basing arrangements remains to be seen.
>
> China will no doubt continue to maintain positive relationships with Sri Lanka, Bangladesh and the Maldives, but this does not mean China will seek to establish a military presence in any of these countries or that such a presence would even be permitted as it would not only undermine their security, it would do very little to enhance China's. Recent denials of future Chinese naval bases in Bangladesh and Sri Lanka by leaders of those nations and the Maldives' reliance on India for security assistance should be taken as clear signs that such arrangements are farther from reach than some may think, and reflect the growing concerns over the intentions of these nations regarding the possibility of Chinese military bases on their soil.
>
> (Daniel J. Kostecka, "Hambantota, Chittagong, and the Maldives – Unlikely Pearls for the Chinese Navy," *China Brief*, November 19, 2010: 8-11; see also Daniel J. Kostecka, "Places and Bases: The Chinese Navy's Emerging Support Network in the Indian Ocean," *Naval War College Review*, Winter 2011: 59-78; and Daniel J. Kostecka, "The Chinese Navy's Emerging Support Network in the Indian Ocean," *China Brief*, July 22, 2010: 5.)

[108] See, for example, Jeremy Page, "Beijing Agrees To Operate A Key Port, Pakistan Says," *New York Times*, May 23, 2011: 17; Agence France-Presse, "Pakistan Asks China to Build Naval Base in Nation," *DefenseNews.com*, May 22, 2011; Farhan Bokhari and Kathrin Hille, "Pakistan Turns to China for Naval Base," *Financial Times (www.ft.com)*, (continued...)

China's foreign ministry stated that operation of the port Gwadar was neither offered by Pakistan nor accepted by China.[109]

The August 2009 ONI report contains additional discussion of operations away from home waters.[110]

April 2011 Testimony of Commander, U.S. Pacific Command

For additional remarks regarding China's military modernization effort, including its naval modernization effort, see the excerpt from the April 2011 testimony of Admiral Robert Willard, Commander, U.S. Pacific Command, presented in **Appendix B**.

Comparing U.S. and Chinese Naval Capabilities

U.S. and Chinese naval capabilities are sometimes compared by showing comparative numbers of U.S. and Chinese ships. Although numbers of ships (or aggregate fleet tonnages) can be relatively easy to compile from published reference sources, they are highly problematic as a means of assessing relative U.S. and Chinese naval capabilities, for the following reasons:

- A fleet's total number of ships (or its aggregate tonnage) is only a partial metric of its capability. In light of the many other significant contributors to naval capability,[111] navies with similar numbers of ships or similar aggregate tonnages can have significantly different capabilities, and navy-to-navy comparisons of numbers of ships or aggregate tonnages can provide a highly inaccurate sense of their relative capabilities.
- Total numbers of ships of a given type (such as submarines, destroyers, or frigates) can obscure potentially significant differences in the capabilities of those ships, both between navies and within one country's navy.[112] The potential for obscuring differences in the capabilities of ships of a given type is particularly significant in assessing relative U.S. and Chinese capabilities, in part because China's navy includes significant numbers of older, obsolescent ships. Figures on total numbers of Chinese submarines, destroyers, frigates, and coastal patrol craft lump older, obsolescent ships together with more modern and more capable

(...continued)

May 22, 2011.

[109] See, for example, Michael Wines, "Pakistan And China: Two Friends Hit A Bump," *New York Times*, May 27, 2011: 4.

[110] 2009 ONI Report, p. 40. See also Dean Chang, "The Chinese Navy's Budding Overseas Presence," Heritage Foundation Web Memo, No. 2752, January 11, 2010, 3 pp; and Wendell Minnick, "Chinese Expeditions Boost Naval Expertise," *DefenseNews.com*, January 11, 2010.

[111] These include types (as opposed to numbers or aggregate tonnage) of ships; types and numbers of aircraft; the sophistication of sensors, weapons, C4ISR systems, and networking capabilities; supporting maintenance and logistics capabilities; doctrine and tactics; the quality, education, and training of personnel; and the realism and complexity of exercises.

[112] Differences in capabilities of ships of a given type can arise from a number of other factors, including sensors, weapons, C4ISR systems, networking capabilities, stealth features, damage-control features, cruising range, maximum speed, and reliability and maintainability (which can affect the amount of time the ship is available for operation).

designs.[113] As mentioned earlier, DOD states that the percentage of modern units within China's submarine forces has increased from less than 10% in 2000 and 2004 to about 47% in 2008 and 50% in 2009, and that the percentage of modern units within China's force of surface combatants has increased from less than 10% in 2000 and 2004 to about 25% in 2008 and 2009.[114] This CRS report shows numbers of more modern and more capable submarines, destroyers, and frigates in **Table 1**, **Table 2**, and **Table 3**, respectively.

- A focus on total ship numbers reinforces the notion that increases in total numbers necessarily translate into increases in aggregate capability, and that decreases in total numbers necessarily translate into decreases in aggregate capability. For a Navy like China's, which is modernizing in some ship categories by replacing larger numbers of older, obsolescent ships with smaller numbers of more modern and more capable ships, this is not necessarily the case.[115] As shown in **Table 4**, for example, China's submarine force today has fewer boats than it did in the 1990, but has greater aggregate capability than it did in 1990, because larger numbers of older, obsolescent boats have been replaced by smaller numbers of more modern and more capable boats. A similar point might be made about China's force of missile-armed attack craft. For assessing navies like China's, it can be more useful to track the growth in numbers of more modern and more capable units. This CRS report shows numbers of more modern and more capable submarines, destroyers, and frigates in **Table 1**, **Table 2**, and **Table 3**, respectively.
- Comparisons of numbers of ships (or aggregate tonnages) do not take into account maritime-relevant military capabilities that countries might have outside their navies, such as land-based anti-ship ballistic missiles (ASBMs), land-based anti-ship cruise missiles (ASCMs), and land-based air force aircraft armed with ASCMs. This is a particularly important consideration in comparing U.S. and Chinese military capabilities for influencing events in the Western Pacific.
- The missions to be performed by one country's navy can differ greatly from the missions to be performed by another country's navy. Consequently, navies are better measured against their respective missions than against one another. Although Navy A might have less capability than Navy B, Navy A might nevertheless be better able than Navy B to perform its intended missions. This is another significant consideration in assessing U.S. and Chinese naval capabilities, because the missions of the two navies are quite different.

[113] For an article discussing this issue, see Joseph Carrigan, "Aging Tigers, Mighty Dragons: China's bifurcated Surface Fleet," *China Brief*, September 24, 2010: 2-6.

[114] *2010 DOD CMSD*, p. 45 (figure).

[115] The August 2009 ONI report states with regard to China's navy that "even if naval force sizes remain steady or even decrease, overall naval capabilities can be expected to increase as forces gain multimission capabilities." (*2009 ONI Report*, p. 46.)

Potential Oversight Issues for Congress

China as a Defense-Planning Priority

In U.S. defense planning and programming, how much emphasis should be placed on programs for countering improved Chinese military forces in coming years?

The question of how much emphasis to place in U.S. defense planning on programs for countering improved Chinese military forces is of particular importance to the U.S. Navy, because many programs associated with countering improved Chinese military forces would fall within the Navy's budget. In terms of potential impact on programs and spending, the Navy might have more at stake on this issue than the Army and Marine Corps, and perhaps at least as much, if not more, than the Air Force.

Decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military capabilities could affect the likelihood or possible outcome of a potential U.S.-Chinese military conflict in the Pacific over Taiwan or some other issue. Some observers consider such a conflict to be very unlikely, in part because of significant U.S.-Chinese economic linkages and the tremendous damage that such a conflict could cause on both sides. In the absence of such a conflict, however, the U.S.-Chinese military balance in the Pacific could nevertheless influence day-to-day choices made by other Pacific countries, including choices on whether to align their policies more closely with China or the United States. In this sense, decisions that Congress and the executive branch make regarding U.S. Navy programs for countering improved Chinese maritime military forces could influence the political evolution of the Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Pacific and elsewhere.

Summary of Arguments

Those who argue that relatively less emphasis should be placed on programs for countering improved Chinese military forces in coming years could argue one or more of the following:

- Preparing for a potential conflict over Taiwan years from now might be unnecessary, since the situation with Taiwan might well be resolved by then.
- It is highly unlikely that China and the United States will come to blows in coming years over some other issue, due to the deep economic and financial ties between China and the United States and the tremendous damage such a conflict could inflict.
- Placing a strong emphasis on programs for countering improved Chinese military forces could induce China to increase planned investments in its own naval forces, leading to an expensive U.S.-China naval arms race.
- Far from coming to blows, Chinese and U.S. naval forces in coming years can and should cooperate in areas of common interest such as humanitarian assistance and disaster response (HA/DR) operations, anti-piracy operations, and other maritime-security operations.

Those who argue that relatively more emphasis should be placed on programs for countering improved Chinese military forces in coming years could argue one or more of the following:

- Not preparing for a potential conflict over Taiwan years from now could make such a conflict more likely by emboldening China to use military force to attempt to achieve its goals regarding Taiwan. It might also embolden China to use its naval forces more aggressively in asserting its maritime territorial claims and its interpretation of international laws relating to freedom of navigation in exclusive economic zones (an interpretation at odds with the U.S. interpretation).
- China's naval modernization effort may be driven more by internal Chinese factors than by external factors such as U.S. decisions on defense spending. To the extent that China's naval modernization effort might be influenced by U.S. decisions on defense spending, a decision to not emphasize programs for countering improved Chinese military forces might encourage China to continue or even increase its naval modernization effort out of a belief that the effort is succeeding in terms of dissuading U.S. leaders from taking steps to prevent a shift in China's favor in the balance of military forces in the Western Pacific.
- Even if China and the United States never come to blows with one another, maintaining a day-to-day presence in the Pacific of U.S. naval forces capable of successfully countering Chinese naval forces will be an important U.S. tool for shaping the region—that is, for ensuring that other countries in the region do not view China as the region's emerging military leader (or the United States as a fading military power in the region), and respond by either aligning their policies more closely with China or taking steps to improve their own military capabilities that the United State might prefer they not take, such as developing nuclear weapons.
- Placing a relatively strong emphasis on programs for countering improved Chinese military forces does not preclude cooperating with China in areas such as humanitarian assistance and disaster response (HA/DR) operations, anti-piracy operations, and other maritime-security operations.

Secretary of Defense Speeches in 2011

June 4, 2011, Speech at Shangri-La Dialogue

In a June 4, 2011, speech at the Shangri-La Dialogue (a multilateral conference sponsored by the International Institute for Strategic Studies that is held at the Shangri-La Hotel in Singapore), Secretary of Defense Robert Gates stated in part:

> The opportunity to lead the United States Department of Defense for four and a half years has been an extraordinary honor, for which I thank both President Bush and President Obama. It has also given me perspective on the principal subject I want to discuss today: the enduring and consistent nature of America's commitments in Asia, even in times of transition and change….
>
> No doubt, fighting two protracted and costly wars in Iraq and Afghanistan has strained the U.S. military's ground forces, and worn out the patience and appetite of the American people for similar interventions in the future. On the domestic front, the United States is emerging

slowly from a serious recession with huge budget deficits and growing debt that is putting new scrutiny and downward pressure on the U.S. defense budget.

These are some of the stark realities we face, to be sure. But at the same time, it is important, in this place, before this audience, to recognize an equally compelling set of facts with respect to America's position in Asia. A record demonstrating that, irrespective of the tough times the U.S. faces today, or the tough budget choices we confront in the years to come, that America's interests as a Pacific nation – as a country that conducts much of its trade in the region – will endure. And the United States and Asia will only become more inextricably linked over the course of this Century. As I hope my presentation today will show, these realities, and this understanding – shared by U.S. leaders and policy makers across the political spectrum – argue strongly for sustaining our commitments to allies while maintaining a robust military engagement and deterrence posture across the Pacific Rim.

This statement is underscored by the significant growth in the breadth and intensity of U.S. engagement in Asia in recent years – even at a time of economic distress at home and two major military campaigns ongoing in Iraq and Afghanistan. Three years ago, I spoke at this gathering and touted the fact that I was on my fourth major trip to Asia-Pacific in the previous 18 months. Now, I can report that this is my fourteenth Asia trip over the last four and a half years. Next month, Secretary of State Clinton will embark on her eighth trip to Asia, and President Obama has made a major Asia trip each year he has been in office.

Indeed, one of the most striking – and surprising – changes I've observed during my travels to Asia is the widespread desire across the region for stronger military-to-military relationships with the United States – much more so than during my last time in government 20 years ago.

Our engagement in Asia has been guided by a set of enduring principles that have fostered the economic growth and stability of the region. I spoke about these principles last year, but I think it is worth reiterating our commitment to them once more today:

- Free and open commerce;
- A just international order that emphasizes rights and responsibilities of nations and fidelity to the rule of law;
- Open access by all to the global commons of sea, air, space, and now, cyberspace; and
- The principle of resolving conflict without the use of force.

The commitment and presence of the United States as a Pacific nation has been one of relatively few constants amidst the furious changes in this region over the past half-century. But as this region has changed, America has always shown the flexibility not only maintain our presence in the Asia-Pacific, but to enhance it – by updating relationships, developing new capabilities, and transforming our defense posture to meet the challenges of the day….

Although bolstering our bilateral relationships in the region has been a key priority in the Asia-Pacific area, the United States has also made a major commitment to help foster new multilateral cooperation. One of the critical challenges of the Asian security environment has long been the lack of strong mechanisms for cooperation between nations in the region. Over the past few years, I have made it a personal priority to support efforts underway to remedy this problem. This is the reason that last year the United States was the first non-ASEAN nation to accept the invitation to join the ASEAN Defense Ministers Plus forum. It was an honor to attend the inaugural meeting of the ADMM-Plus in Hanoi last October, and I am

optimistic that it will be a key body for making progress on a number of issues of shared interest – including maritime security, humanitarian assistance and disaster relief, and peacekeeping operations.

Maritime security remains an issue of particular importance for the region, with questions about territorial claims and the appropriate use of the maritime domain presenting on-going challenges to regional stability and prosperity. The U.S. position on maritime security remains clear: we have a national interest in freedom of navigation; in unimpeded economic development and commerce; and in respect for international law. We also believe that customary international law, as reflected in the UN Convention on the Law of the Sea, provides clear guidance on the appropriate use of the maritime domain, and rights of access to it. By working together in appropriate regional and multilateral fora, and adhering to principles that we believe are of benefit to all in the region, we can ensure that all share equal and open access to international waterways.

Experience consistently shows that pursuing our common interests together increases our common security. As I have stated before, providing for security and upholding the principles I mentioned earlier is not the task of any one nation alone, but the shared responsibility of all nations. This is the one reason we have placed a premium on building the partner capacity of friends in the region and enhancing the role of multilateral cooperation and organizations in Asia-Pacific security affairs.

Even so, we recognize that the American defense engagement – from our forward deployed forces to exercises with regional partners – will continue to play an indispensable role in the stability of the region. Although much of the press in both the United States and the region has been focused in recent years on our efforts to modernize our basing arrangements with traditional allies in Northeast Asia – and our commitment to those efforts is absolute – we've taken a number of steps towards establishing a defense posture across the Asia Pacific that is more geographically distributed, operationally resilient, and politically sustainable. A posture that maintains our presence in Northeast Asia while enhancing our presence in Southeast Asia and into the Indian Ocean.

For example, this past November, the U.S. and Australia established a force posture working group tasked with expanding opportunities for our two militaries to train and operate together – to include alliance arrangements that would allow for more combined defense activities and shared use of facilities.

Together, we are evaluating a range of options, including:

- Increasing our combined naval presence and capabilities to respond more readily to humanitarian disasters;

- Improving Indian Ocean facilities – a region of growing international importance; and

- Expanding training exercises for amphibious and land operations, activities that could involve other partners in the region.

In Singapore, we are strengthening our bi-lateral defense relationship within the context of the Strategic Framework Agreement and pursuing more operational engagement – most notably, by deploying U.S. Littoral Combat Ships to Singapore. We are examining other ways to increase opportunities for our two militaries to train and operate together, to include:

- Prepositioning supplies to improve disaster response;

- Improving command and control capabilities; and

- Expanding training opportunities to help prepare our forces for the challenges both militaries face operating in the Pacific.

Although we will continue to maintain and enhance our traditional presence in the Asia-Pacific region through efforts such as these, we believe that U.S. presence, and the associated impact and influences should not solely be measured in terms of conventional metrics, or "boots on the ground." In the coming years, the U.S. military is going to be increasing its port calls, naval engagements, and multilateral training efforts with multiple countries throughout the region. These types of activities not only broaden and deepen our relationships with friends and allies, they help build partner capacity to address regional challenges.

Taken together, all of these developments demonstrate the commitment of the United States to sustaining a robust military presence in Asia – one that underwrites stability by supporting and reassuring allies while deterring, and if necessary defeating, potential adversaries.

No doubt, sustaining this forward military presence and commitments is costly, and cannot be disentangled from the wider discussions of the U.S. fiscal predicament in general, and the pressures on our defense budget in particular. I know this topic is top of the mind at this conference and around the region.

As I noted at the beginning of my remarks, the U.S. faces some serious fiscal challenges at home, and the defense budget – even if not the cause of America's fiscal woes – must be at least part of the solution. Anticipating this scenario, I have spent that last two years carving out as much budget space as possible by cancelling troubled or unneeded weapons programs and culling excess overhead.

As I said at a speech last week, having removed the most troubled and questionable weapons programs from the budget, we are left with modernization efforts that our defense leaders have deemed absolutely critical to the future – relating to air superiority and mobility, long-range strike, nuclear deterrence, maritime access, space and cyber, and intelligence, surveillance and reconnaissance. Though the review is not complete, I am confident that these key remaining modernization programs – systems that are of particular importance to our military strategy in Asia – will rank at or near the top of our defense budget priorities in the future.

Many of those key modernization programs would address one of the principal security challenges we see growing over the horizon: The prospect that new and disruptive technologies and weapons could be employed to deny U.S. forces access to key sea routes and lines of communication.

The U.S. Navy and Air Force have been concerned about anti-access and area denial scenarios for some time. These two military services are working together to develop a new concept of operations – called "Air-Sea Battle" – to ensure that America's military will continue to be able to deploy, move, and strike over great distances in defense of our allies and vital interests.

The record of growing U.S. engagement in Asia, combined with the investments being made in capabilities most relevant to preserving the security, sovereignty, and freedom of our allies and partners in the region, show that America is, as the expression goes, putting "our money where our mouth is" with respect to this part of the world – and will continue to do so. These programs are on track to grow and evolve further into the future, even in the face of new threats abroad and fiscal challenges at home, ensuring that that we will continue to meet our

commitments as a 21st century Asia-Pacific nation – with appropriate forces, posture, and presence.[116]

March 4, 2011, Speech at Air Force Academy

In a March 4, 2011, speech at the Air Force Academy, Secretary Gates stated in part:

> Given that the military will face a broadening spectrum of conflict, and that our nation finds itself in an era of fiscal duress, the military's resources need to be invested in those capabilities that are of use across the widest possible range of scenarios. One of the ways that spectrum will broaden is with the emergence of high end, asymmetric threats. Indeed, looking at capabilities that China and others are developing – long-range precision weapons, including anti-ship cruise and ballistic missiles, quieter submarines, advanced air defense missiles – and what the Iranians and North Koreans are up to, they appear designed to neutralize the advantages the U.S. military has enjoyed since the end of the Cold War – unfettered freedom of movement and the ability to project power to any region across the globe by surging aircraft, ships, troops and supplies.
>
> The Air Force will play a lead role in maintaining U.S. military supremacy in the face of this anti-access, area-denial strategy. In fact, as you may know, the Air Force and Navy have been working together on an Air Sea battle concept that has the potential to do for America's military deterrent power at the beginning of the 21st century what Air Land Battle did near the end of the 20th. The leadership of the Air Force and the Navy, who are collaborating closely on this new doctrine, recognize the enormous potential in developing new joint war fighting capabilities – think of naval forces in airfield defense, or stealth bombers augmented by Navy submarines – and the clear benefits from this more efficient use of taxpayer dollars.
>
> These high end conflict scenarios are also driving the development of new air power capabilities. Although program cuts and cancellations tend to make the headlines, the Air Force is actually investing in significant new modernization programs. The budget the president submitted to the Congress last month included funds for a joint portfolio of long-range strike systems, including a new, optionally-manned, nuclear-capable, penetrating Air Force bomber, which remains a core element of this nation's power projection capability. The budget also funds F-22 modernization that leverages radar and electronic protection technologies from the F-35 program to ensure the F-22's continued dominance. Meanwhile, the multi-billion dollar effort to modernize the radars of the F-15s will keep this key fighter available and viable into the future. Finally, a new follow-on to the AMRAAM, the medium range air-to-air missile, will have greater range, lethality and protection against electronic jamming.
>
> A key aspect of the service's portfolio of capabilities will remain its nuclear deterrent. Thanks to the leadership of Secretary Donley and General Schwartz, the Air Force has come a long way in restoring institutional excellence to this mission, where there is no room for error. America's nuclear deterrent – including the missile and bomber legs maintained by the Air Force – will remain a critical guarantor of our security, even as the nation works toward the long term goal of a world without nuclear weapons.
>
> All told, I've described a wide range of capabilities – from low-end asymmetric to high end asymmetric and conventional – that the Air Force will need in the 21st Century. Over the last four years, I have pushed the Air Force, and indeed all of the services, to institutionalize

[116] Transcript of speech as delivered, accessed online June 7, 2011, at http://www.defense.gov/speeches/speech.aspx?speechid=1578.

capabilities needed for asymmetric threats and unconventional warfare. However, as my discussion of air supremacy today should confirm, this is not because these are the only kinds of missions I believe the military must be prepared for.

But my message to the services is being distorted by some and misunderstood by others. At the Navy League last year, I suggested that the Navy should think anew about the role of aircraft carriers and the size of amphibious modernization programs. The speech was characterized by some as my doubting the value of carriers and amphibious assault capabilities altogether. At West Point last week I questioned the wisdom of sending large land armies into major conflicts in Asia, Africa, and the Middle East, and suggested the Army should think about the number and role of its heavy armored formations for the future. That has been interpreted as my questioning the need for the Army at all, or at least one its present size, the value of heavy armor generally, and the even the wisdom of our involvement in Afghanistan. I suspect that my remarks today will be construed as an attack on bombers and tac-air.

But my actions and my budgets over the last four years belie these mistaken interpretations. You have just heard me elaborate what we are doing to modernize the tactical air and bomber fleet. For the Navy, I have approved continuing the carrier program but also more attack submarines, a new ballistic missile submarine, and more guided missile destroyers. For the Army, we will invest billions modernizing armored vehicles, tactical communications, and other ground combat systems. And the Marine Corps' existing amphibious assault capabilities will be upgraded and new systems funded for the ship-to-shore mission. During my tenure as Secretary of Defense, I have approved the largest increases in the size of the Army and Marine Corps in decades. In 2007 I stopped the drawdown in personnel for both the Air Force and Navy. And I supported and have presided over the surges in both Iraq and Afghanistan.

All that said, I have also been trying to get across to all of the military services that they will have many and varied missions in the 21st Century. As a result, they must think harder about the entire range of these missions and how to achieve the right balance of capabilities in an era of tight budgets. As I said a few moments ago, military leaders must have a comprehensive and integrated view of their service's future needs and capabilities, a view that encompasses with equal emphasis all of the services' varied missions. And service leaders must think about how to use the assets they have with the greatest possible flexibility, and how much capability they need.

This country requires all the capabilities we have in the services – yes, I mean carriers, tac-air, tanks, and amphibious assault – but the way we use them in the 21st Century will almost certainly not be the way they were used in the 20th Century. Above all, the services must not return to the last century's mindset after Iraq and Afghanistan, but prepare and plan for a very different world than we all left in 2001.

Finally, all the services also need to think aggressively about how to truly take advantage of being part of the joint force – whether for search and rescue, ISR, fire support, forced entry from the sea, long-range strike, or anything else. From the opening weeks of the Afghan campaign nearly a decade ago, to the complex operations required in both combat theaters, we have seen what is possible when America's military services are employing and integrating every tool at their disposal. As I mentioned earlier, the Air Force and the Navy are off to a promising start in trying to leverage each other's capabilities to overcome future anti-access and area-denial threats. But we must always guard against the old bureaucratic politics and parochial tendencies – especially after the Iraq and Afghanistan campaigns wind down and budgets become tight. It's easier to be joint and talk joint when there's money to go around and a war to be won. It's much harder to do when tough choices have to be made within and between the military services – between what is ideal from a particular service

> perspective, and what will get the job done taking into account broader priorities and considerations.[117]

February 25, 2011, Speech at U.S. Military Academy

In a February 25, 2011, speech at the U.S. Military Academy at West Point, NY, Secretary Gates stated in part:

> The need for heavy armor and firepower to survive, close with, and destroy the enemy will always be there, as veterans of Sadr City and Fallujah can no doubt attest. And one of the benefits of the drawdown in Iraq is the opportunity to conduct the kind of full-spectrum training – including mechanized combined arms exercises – that was neglected to meet the demands of the current wars. Looking ahead, though, in the competition for tight defense dollars within and between the services, the Army also must confront the reality that the most plausible, high-end scenarios for the U.S. military are primarily naval and air engagements – whether in Asia, the Persian Gulf, or elsewhere. The strategic rationale for swift-moving expeditionary forces, be they Army or Marines, airborne infantry or special operations, is self-evident given the likelihood of counterterrorism, rapid reaction, disaster response, or stability or security force assistance missions. But in my opinion, any future defense secretary who advises the president to again send a big American land army into Asia or into the Middle East or Africa should "have his head examined," as General MacArthur so delicately put it.[118]

Air-Sea Battle (ASB) Concept

DOD is now developing a new Air-Sea Battle (ASB) concept that is intended to increase the joint operating effectiveness U.S. naval and Air Force units, particularly in operations for countering anti-access forces. Relatively little has been reported about the details of the ASB. A February 18, 2011, press report stated:

> The commander of U.S. forces in the Pacific said Thursday [February 17] that the Pentagon is developing new battle plans for Asia that include adding Marines to better-coordinated naval and air forces in the region where China is expanding its military might….
>
> On the new AirSea Battle Concept, which the Pentagon is still crafting, Adm. Willard said: "This is a natural evolution, progression for us, as we advance our military capabilities, and I think it will only enhance the capabilities that we present to this region, the Asia Pacific, within U.S. Pacific Command."
>
> The battle concept calls for a broad range of steps to better coordinate the Air Force and the Navy in the Pacific, said defense officials close to the study. The plans include better joint communications and integrated attack and defense strategies.
>
> Officials said the plan responds to China's "anti-access" strategy of using ballistic and cruise missiles, submarines and aircraft to drive U.S. forces out of the western Pacific or limit them in aiding U.S. allies….

[117] Transcript of speech as delivered, accessed online June 7, 2011, at http://www.defense.gov/speeches/speech.aspx?speechid=1543.

[118] Transcript of speech as delivered, accessed online June 7, 2011, at http://www.defense.gov/speeches/speech.aspx?speechid=1539.

> The four-star admiral's comments were unusual because the study's details are highly classified. Defense Secretary Robert M. Gates ordered the study in 2009 amid concerns that U.S. forces, especially the Navy and the Air Force, were unable to operate closely in a wartime scenario.
>
> "We've since integrated [the] Marine Corps into the study and their capabilities, and at the end of the day, this will be an enhancement to our joint force writ large," he said after a speech to the Asia Society in Washington.
>
> One defense official said later that the Marine Corps was added to the AirSea Battle Concept amid growing assertiveness by China's military. The concept will call for potentially using Marines in sensitive scenarios, such as ejecting Chinese forces from disputed islands in the East China or South China seas.
>
> "The Japanese and South China Sea states don't have Marine Corps-type capabilities to stop a Chinese occupation of islands, a U.S. Marine Corps specialty for 80 years," the official said….
>
> The concept will give the Marines a new role in Asian Pacific strategy….
>
> One part of the battle plan calls for expanding war games in Asia against simulated Chinese forces, something the U.S. military had been limited in doing in the past. For example, the Air Force will do exercises in protecting aircraft carriers, and the Navy will work on defending air bases throughout the region.
>
> The battle-plan study also is examining a major increase in defenses on the U.S. western Pacific island of Guam that are vulnerable to long-range Chinese missile attacks. Military facilities would be hardened on Guam.[119]

A January 10, 2011, press report stated that "the AirSea Battle concept study, meant to outline the future of Navy and Air Force operations in anti-access environments, is near completion and is being briefed to Navy Secretary Ray Mabus and Air Force Secretary Michael Donley this month, according to sources familiar with the study."[120]

Proposed FY2012 Budget

Some observers believe that DOD's proposed FY2012 budget reflects a shift in spending toward a stronger emphasis on programs for countering improved Chinese military forces. A January 25, 2011, press report states:

> After years of shining a laser-like focus on winning "today's wars," [Secretary of Defense Robert] Gates shifted gears when he mapped out spending cuts and new investment priorities in the 2012 budget at a marathon news conference earlier this month.
>
> Funding for a new generation of long-range nuclear bombers, new electronic jammers and radar, and rockets to launch satellites would help the U.S. military maintain its competitive edge even as China flexes its growing military muscle, Gates told reporters during his recent trip to Asia.

[119] Bill Gertz, "Military To Bolster Its Forces In pacific," *Washington Times*, February 18, 2011: 1.

[120] Andrew Burt, "Final AirSea Study Being Briefed To Mabus And Donley This Month," *Inside the Navy*, January 10, 2011.

> Revival of those projects—which Gates largely halted in April 2009—would be good news for big U.S. defense companies like Lockheed Martin Corp, Boeing Co and Northrop Grumman Corp, which are scrambling for new work now that defense spending is beginning to taper off.
>
> For the past two years, Gates had focused—perhaps too much—on land wars while deferring investments in long-term capabilities aimed more at possible enemies like China, said Patrick Cronin at the Center for a New American Security.
>
> "You have to walk and chew gum at the same time," he said, adding, "Gates may have tilted too far, but he has indeed made some adjustments with this latest plan."
>
> U.S. defense officials say the fiscal 2012 budget plan, which was nearly a year in the making, is not a knee jerk reaction to China's military buildup, and Pentagon budgets have factored in Chinese military ambitions for many years.
>
> The new budget reflects a swing of the pendulum toward future challenges now that the U.S. military has begun pulling troops out of Iraq and has set 2014 as a date for withdrawal from Afghanistan, said the officials.[121]

2010 Quadrennial Defense Review (QDR)

China-Related Passages in 2010 QDR

DOD's report on the 2010 Quadrennial Defense Review (QDR) states:

> China's growing presence and influence in regional and global economic and security affairs is one of the most consequential aspects of the evolving strategic landscape in the Asia-Pacific region and globally. In particular, China's military has begun to develop new roles, missions, and capabilities in support of its growing regional and global interests, which could enable it to play a more substantial and constructive role in international affairs. The United States welcomes a strong, prosperous, and successful China that plays a greater global role. The United States welcomes the positive benefits that can accrue from greater cooperation. However, lack of transparency and the nature of China's military development and decision-making processes raise legitimate questions about its future conduct and intentions within Asia and beyond. Our relationship with China must therefore be multidimensional and undergirded by a process of enhancing confidence and reducing mistrust in a manner that reinforces mutual interests. The United States and China should sustain open channels of communication to discuss disagreements in order to manage and ultimately reduce the risks of conflict that are inherent in any relationship as broad and complex as that shared by these two nations.[122]

In a section entitled "Deter and Defeat Aggression in Anti-Access Environments," the 2010 QDR report states:

> U.S. forces must be able to deter, defend against, and defeat aggression by potentially hostile nation-states. This capability is fundamental to the nation's ability to protect its interests and to provide security in key regions. Anti-access strategies seek to deny outside countries the

[121] Andrea Shalal-Esa, "China Prism Focuses Pentagon Budget On New Weapons," *Reuters.com*, January 25, 2011.

[122] Department of Defense, *Quadrennial Defense Review Report*, February 2010, p. 60.

ability to project power into a region, thereby allowing aggression or other destabilizing actions to be conducted by the anti-access power. Without dominant U.S. capabilities to project power, the integrity of U.S. alliances and security partnerships could be called into question, reducing U.S. security and influence and increasing the possibility of conflict.

In the future, U.S. forces conducting power projection operations abroad will face myriad challenges. States with the means to do so are acquiring a wide range of sophisticated weapons and supporting capabilities that, in combination, can support anti-access strategies aimed at impeding the deployment of U.S. forces to the theater and blunting the operations of those forces that do deploy forward.

North Korea and Iran, as part of their defiance of international norms, are actively testing and fielding new ballistic missile systems….

As part of its long-term, comprehensive military modernization, China is developing and fielding large numbers of advanced medium-range ballistic and cruise missiles, new attack submarines equipped with advanced weapons, increasingly capable long-range air defense systems, electronic warfare and computer network attack capabilities, advanced fighter aircraft, and counter-space systems. China has shared only limited information about the pace, scope, and ultimate aims of its military modernization programs, raising a number of legitimate questions regarding its long-term intentions.

U.S. power projection forces also confront growing threats in other domains. In recent years, a number of states have acquired sophisticated anti-ship cruise missiles, quiet submarines, advanced mines, and other systems that threaten naval operations. In addition to these weapons, Iran has fielded large numbers of small, fast attack craft….

U.S. air forces in future conflicts will encounter integrated air defenses of far greater sophistication and lethality than those fielded by adversaries of the 1990s.… Several states have the capability to disrupt or destroy satellites that provide surveillance, communications, positioning, and other functions important to military operations.…

Because of their extreme lethality and long-term effects, nuclear weapons are a source of special concern, both for the United States and for its allies and partners in regions where adversary states possess or seek such weapons.…

DoD is taking steps to ensure that future U.S. forces remain capable of protecting the nation and its allies in the face of this dynamic threat environment. In addition to ongoing modernization efforts, this QDR has directed the following further enhancements to U.S. forces and capabilities:

- **Develop a joint air-sea battle concept.** The Air Force and Navy together are developing a new joint air-sea battle concept for defeating adversaries across the range of military operations, including adversaries equipped with sophisticated anti-access and area denial capabilities. The concept will address how air and naval forces will integrate capabilities across all operational domains—air, sea, land, space, and cyberspace—to counter growing challenges to U.S. freedom of action. As it matures, the concept will also help guide the development of future capabilities needed for effective power projection operations.

- **Expand future long-range strike capabilities.** Enhanced long-range strike capabilities are one means of countering growing threats to forward-deployed forces and bases and ensuring U.S. power projection capabilities. Building on insights developed during the QDR, the Secretary of Defense has ordered a follow-on study to determine what combination of joint persistent surveillance, electronic warfare, and precision-attack

capabilities, including both penetrating platforms and stand-off weapons, will best support U.S. power projection operations over the next two to three decades. Findings from that study will inform decisions that shape the FY 2012-17 defense program. A number of related efforts are underway. The Navy is investigating options for expanding the capacity of future Virginia-class attack submarines for long-range strike. It is also slated to conduct field experiments with prototype versions of a naval unmanned combat aerial system (N-UCAS). The N-UCAS offers the potential to greatly increase the range of ISR and strike operations from the Navy's carrier fleet. The Air Force is reviewing options for fielding survivable, long-range surveillance and strike aircraft as part of a comprehensive, phased plan to modernize the bomber force. The Navy and the Air Force are cooperatively assessing alternatives for a new joint cruise missile. The Department also plans to experiment with conventional prompt global strike prototypes.

- **Exploit advantages in subsurface operations.** The Navy is increasing funding for the development of an unmanned underwater vehicle that will be capable of a wide range of tasks.

- **Increase the resiliency of U.S. forward posture and base infrastructure.** In key regions, U.S. forces will need to have access to networks of bases and supporting infrastructures that are more resilient than today's in the face of attacks by a variety of means. The Department is studying options to increase the resiliency of bases in selected theaters and will consult with allies and fund these as promising initiatives are identified through analysis. Appropriate steps will vary by region but will generally involve combinations of measures, including hardening key facilities against attack, redundancy and dispersal concepts, counterintelligence, and active defenses, complemented by long-range platforms for ISR and strike operations.

- **Assure access to space and the use of space assets.** The Department, through the implementation of priorities from the Space Posture Review, will explore opportunities to leverage growing international and commercial expertise to enhance U.S. capabilities and reduce the vulnerability of space systems and their supporting ground infrastructure.... Ongoing implementation of the 2008 Space Protection Strategy will reduce vulnerabilities of space systems, and fielding capabilities for rapid augmentation and reconstitution of space capabilities will enhance the overall resiliency of space architectures.

- **Enhance the robustness of key C4ISR capabilities.** In concert with improving the survivability of space systems and infrastructure, U.S. forces will require more robust and capable airborne and surface-based systems to provide critical wartime support functions. In particular, airborne ISR assets must be made more survivable in order to support operations in heavily defended airspace. The Department is also exploring options for expanding jam-resistant satellite communications and for augmenting these links with long-endurance aerial vehicles that can serve as airborne communications relay platforms.

- **Defeat enemy sensor and engagement systems.** In order to counter the spread of advanced surveillance, air defense, and strike systems, the Department has directed increased investments in selected capabilities for electronic attack.

- **Enhance the presence and responsiveness of U.S. forces abroad.** In consultation with allies, the Department is examining options for deploying and sustaining selected forces in regions facing new challenges. For example, selectively homeporting additional naval forces forward could be a cost-effective means to strengthen deterrence and expand opportunities for maritime security cooperation with partner navies. The Department

> will conduct regional and global reviews of U.S. defense posture to identify key posture priorities that require consultation with allies and constituents.[123]

In assessing the above section from the 2010 QDR report, potential oversight questions for Congress include the following:

- Of the various initiatives discussed in the above section, how many are new initiatives?
- To what degree do the remarks in the above section amount to firm commitments to provide funding (particularly procurement funding) for the initiatives mentioned in the above section?
- What net effect will the first of the initiatives above—the development of the air-sea battle concept—have on Navy and Air Force spending on programs for countering anti-access forces? Will the air-sea battle concept provide an argument for increasing Navy and Air Force spending on programs for countering anti-access forces because development of the concept will identify gaps in Navy and Air Force capabilities for countering such forces? Will it provide an argument for not increasing (or reducing) Navy and Air Force spending on programs for countering anti-access forces because development of the concept will identify joint efficiencies between the services?[124]

Press Reports Regarding China-Related Passages in 2010 QDR

A February 7, 2010, news report stated:

> As the 2010 Quadrennial Defense Review moved from a December draft to the February final version, Pentagon officials deleted several passages and softened others about China's military buildup.
>
> Gone is one passage, present in the Dec. 3 draft, declaring that "prudence requires" the United States prepare for "disruptive competition and conflict" with China.
>
> Altered are passages about Russian arms sales to Beijing and China's 2007 destruction of a low-orbit satellite.
>
> Why the changes? One Pentagon official said department and Obama administration officials worried that harsh words might upset Chinese officials at a time when the United States and China are so economically intertwined.
>
> Beijing, for example, holds a large chunk of U.S. debt.

[123] Department of Defense, *Quadrennial Defense Review Report*, February 2010, pp. 31-34. The report on the 2010 QDR uses the terms China, Chinese, anti-access (with or without the hyphen), and area-denial (with or without the hyphen) a total of 34 times, compared to a total of 18 times in the report on the 2006 QDR, and 16 times in the report on the 2001 QDR. Subtracting out the uses of anti-access and area denial, the report on the 2001 QDR used the terms China or Chinese zero times; the report on the 2006 QDR used them 16 times; and the report on the 2010 QDR used them 11 times.

[124] For more on the air-sea battle concept, see Jan van Tol with Mark Gunzinger, Andrew Krepinevich, and Jim Thomas, *AirSea Battle[:] A Point-of-Departure Operational Concept*, Washington, Center for Strategic and Budgetary Assessments, 2010, 123 pp.; and Andrew F. Krepinevich, *Why AirSea Battle?*, Washington, Center for Strategic and Budgetary Assessments, 2010, 40 pp.

> "Don't piss off your banker," the Pentagon official said.
>
> Both versions contain this passage: "The United States welcomes a strong, prosperous, and successful China that plays a greater global role." But the draft version goes on to include the following passage, which was stripped from the final QDR: "However, that future is not fixed, and while the United States will seek to maximize positive outcomes and the common benefits that can accrue from cooperation, prudence requires that the United States balance against the possibility that cooperative approaches may fail to prevent disruptive competition and conflict." Several defense insiders said that latter portion of that section amounts to strong language.
>
> In another section, both the final and draft versions discuss Beijing's military buildup, but the draft language is more specific.
>
> "Over the past ten years, for example, China has fielded more than one thousand short- and medium-range ballistic and cruise missiles, advanced attack submarines armed with wake-homing torpedoes, increasingly lethal integrated air defense systems, extensive electronic warfare and computer network attack capabilities, and counter-space systems," the draft says.
>
> Gone from the final version are the estimates on the number of ballistic missiles in China's arsenal. Also deleted is a mention of the torpedoes' "wake-homing" capabilities. And the wording of the descriptions of Beijing's air defense and electronic warfare platforms was softened.
>
> The draft refers directly to alleged Russian surface-to-air missile system sales to China, while the final QDR refers only to "proliferation of modern surface-to-air missile systems by Russia and others." The early version mentions China's 2007 destruction of one of its satellites in orbit, but the final version says simply, "Several states have the capability to disrupt or destroy satellites that provide surveillance, communications, positioning, and other functions important to military operations." Retired Air Force Gen. Charles Wald, now with Deloitte and a former vice president of L-3 Communications, said the 2010 incarnation of the review featured an unprecedented level of involvement from other U.S. agencies.
>
> Wald, who worked on past QDRs while serving in senior Air Force and Joint Staff posts, said altering the China language "was definitely a diplomatic issue." State Department officials weighed in on the wording, he said.
>
> A DoD spokeswoman did not provide answers to questions about the changes by press time.[125]

A February 18, 2010, news report stated:

> The Pentagon's Quadrennial Defense Review (QDR) makes little overt reference to China's military buildup. Missing from the 2010 version are several concerns of the 2006 edition, such as China's cyberwarfare capabilities, nuclear arsenal, counterspace operations, and cruise and ballistic missiles.
>
> Instead, there's a stated desire for more dialogue with Beijing—and prescriptions for countering the anti-access and area-denial capabilities of unnamed countries.

[125] John T. Bennett, "China Language Softened In Final Version Of QDR," *Defense News*, February 7, 2010: 8.

> Analysts say the QDR attempts to address the threat posed by China without further enraging Beijing.
>
> "If you look at the list of 'further enhancements to U.S. forces and capabilities' described in the section 'Deter and Defeat Aggression in Anti-Access Environments,' those are primarily capabilities needed for defeating China, not Iran, North Korea or Hizbollah," said Roger Cliff, a China military specialist at Rand. "So even though not a lot of time is spent naming China ... analysis of the China threat is nonetheless driving a lot of the modernization programs described in the QDR." Among the QDR's recommendations: expand long-range strike capabilities; exploit advantages in subsurface operations; increase the resiliency of U.S. forward posture and base infrastructure; assure access to space and space assets; improve key intelligence, surveillance and reconnaissance capabilities; defeat enemy sensors and engagement systems; and increase the presence and responsiveness of U.S. forces abroad.
>
> All of these could respond to China's development of anti-ship and intercontinental ballistic missiles, ballistic missile defenses, anti-satellite weapons and submarines.
>
> The report does offer concerns about transparency: "The nature of China's military development and decision-making processes raise legitimate questions about its future conduct and intentions within Asia and beyond." It urges building a relationship with China that is "undergirded by a process of enhancing confidence and reducing mistrust in a manner that reinforces mutual interests." The new emphasis on confidence-building measures (CBMs) and military dialogue is in tune with President Obama's strategy of offering an "open hand rather than a clenched fist," said Dean Cheng, a Chinese security affairs specialist at the Heritage Foundation. "This includes, it would appear, a greater emphasis on CBMs, arms control proposals and the like toward the PRC [People's Republic of China]." Compared with the 2006 QDR, the new report makes no reference to Taiwan, but the reasons might be more pragmatic. "The issue of Taiwan has receded since 2006, as cross-Strait tensions have distinctly declined," Cheng said. "The QDR is reflecting that change." Still, Beijing reacted with unusual fury to Washington's Jan. 29 release to Taiwan of a $6.4 billion arms sale, including Black Hawk helicopters and Patriot missile defense systems.
>
> China canceled military exchanges, threatened sanctions against U.S. defense companies and publicized calls by some People's Liberation Army officers to dump U.S. Treasury bonds.
>
> China had already sold off $34.2 billion in U.S. securities in December, lowering its total holdings from $789.6 billion to $755.4 billion, but that appears unrelated to the arms sale.[126]

Another February 18, 2010, news report stated:

> The Pentagon deleted language expressing concerns about a future conflict with China and dropped references to Beijing's missiles and anti-satellite threats from its major four-year strategy review release earlier this month.
>
> Pentagon spokesman Geoff Morrell defended the softening of language that was contained in an unofficial Dec. 3 draft of the Quadrennial Defense Review, known as the QDR.
>
> Mr. Morrell said that any previous versions of the QDR were "staff-level documents" that lacked "senior leader input or approval."

[126] Wendell Minnick, "U.S. QDR Uses Veiled Language on China," *DefenseNews.com*, February 18, 2010.

The offensive language that was cut in the final QDR was pulled from the section on how and why U.S. forces will "deter and defeat aggression in anti-access environment." The reference to "anti-access" is terminology often used by the Pentagon to describe key weapons systems in China's arsenal, such as its anti-satellite weapons and the maneuvering warheads on ballistic missiles designed to kill U.S. aircraft carriers that would be called on to defend Taiwan from a mainland strike.

"Chinese military doctrine calls for pre-emptive strikes against an intervening power early in a conflict and places special emphasis on crippling the adversary's [intelligence, surveillance, reconnaissance], command and control, and information systems," the draft stated. It noted that in January 2007 China carried out a anti-satellite missile test that "demonstrated its ability to destroy satellites in low-Earth orbit."

"Accordingly, prudence demands that we anticipate that future conflicts could involve kinetic and non-kinetic (e.g. jamming, laser 'dazzling') attacks on space-based surveillance, communications, and other assets," the report said.

Those references were omitted from the final report, dated Jan. 26 and made public Feb. 1.

Another key omission from the Obama administration QDR was any reference to China being a major competitor of the United States. The 2006 report stated that China "has the greatest potential to compete militarily" with the U.S.

Both the December draft and the final version contained references to excessive Chinese secrecy about the "pace, scope, and ultimate aims of its military modernization programs."…

Mr. Morrell, the Pentagon spokesman, defended the QDR's treatment of China, noting that "the QDR provides a clear-eyed assessment of both the challenges and the opportunities that China presents for the United States and the international community in the twenty-first century."

Mr. Morrell then said, quoting President Obama, that U.S.-China relations involved both cooperation and competition. "And we are under no illusions about the potential challenges presented by China's growing military capabilities," he said. "That is precisely why the QDR identifies trends that we believe may be potentially destabilizing and why we have repeatedly pushed China for greater strategic transparency and openness." The QDR, along with the forthcoming annual report on China's military power, due out next month, "provide a fair, unbiased, and comprehensive assessment."

A defense official familiar with the QDR deliberations said the deletion was due to pressure from Obama administration officials who fear angering Beijing.

Chinese Foreign Ministry spokesman Ma Zhaoxu said in Beijing Feb. 2 that the QDR made "irresponsible" statements about China's military buildup. However, a military commentator, Li Shuisheng, from the Academy of Military Science, stated Feb. 12 that the QDR downgraded the Pentagon's view of the threat posed by China from that of a global rival to a regional problem more akin to North Korea and Iran.

John J. Tkacik, a former State Department China specialist, said the changes were probably ordered by the White House.

"By removing references to the breathtaking advances in China's weaponry and technologies, the White House is basically ordering the Pentagon not to consider them in the planning or budgeting stages," Mr. Tkacik said.

> It is a mistake, Mr. Tkacik said, to leave out references on the need for prudence in dealing with China, and instead focus on welcoming China's increasing role in world affairs.
>
> "By doing so, the White House national security staff enjoins the military from either planning for, or budgeting for, a future confrontation with China," he said.
>
> "That places foolhardy trust in China's future goodwill, especially given Beijing's cynical support of Iran, North Korea and other American adversaries, and its territorial clashes with Japan, India, Taiwan and other American friends," he said.[127]

Independent Panel Assessment of 2010 QDR

The law that requires DOD to perform Quadrennial Defense Reviews (10 U.S.C. 118) states that the results of each QDR shall be assessed by an independent panel. The report of the independent panel that assessed the 2010 QDR was released on July 29, 2010. The independent panel's report recommends a Navy of 346 ships (about 10% more than the Navy's planned 313-ship fleet), including 11 aircraft carriers (the same number as in the Navy's 313-ship plan) and 55 attack submarines (compared to 48 in the Navy's 313-ship plan).[128] The report states the following, among other things:

- "The QDR should reflect current commitments, but it must also plan effectively for potential threats that could arise over the next 20 years.… we believe the 2010 QDR did not accord sufficient priority to the need to counter anti-access challenges, strengthen homeland defense (including our defense against cyber threats), and conduct post-conflict stabilization missions." (Page 54)
- "In this remarkable period of change, global security will still depend upon an American presence capable of unimpeded access to all international areas of the Pacific region. In an environment of 'anti-access strategies,' and assertions to create unique 'economic and security zones of influence,' America's rightful and historic presence will be critical. To preserve our interests, the United States will need to retain the ability to transit freely the areas of the Western Pacific for security and economic reasons. Our allies also depend on us to be fully present in the Asia-Pacific as a promoter of stability and to ensure the free flow of commerce. A robust U.S. force structure, largely rooted in maritime strategy but including other necessary capabilities, will be essential." (Page 51)
- "The United States will need agile forces capable of operating against the full range of potential contingencies. However, the need to deal with irregular and hybrid threats will tend to drive the size and shape of ground forces for years to come, whereas the need to continue to be fully present in Asia and the Pacific and other areas of interest will do the same for naval and air forces." (Page 55)
- "The force structure in the Asia-Pacific needs to be increased. In order to preserve U.S. interests, the United States will need to retain the ability to transit freely the areas of the Western Pacific for security and economic reasons. The

[127] Item entitled "QDR soft on China, in Bill Gertz, "Inside the Ring," *Washington Times*, February 18, 2010: 8.

[128] Stephen J. Hadley and William J. Perry, co-chairmen, et al., *The QDR in Perspective: Meeting America's National Security Needs In the 21st Century, The Final Report of the Quadrennial Defense Review Independent Panel*, Washington, 2010, Figure 3-2 on page 58.

> United States must be fully present in the Asia-Pacific region to protect American lives and territory, ensure the free flow of commerce, maintain stability, and defend our allies in the region. A robust U.S. force structure, one that is largely rooted in maritime strategy and includes other necessary capabilities, will be essential." (Page 66)

- "Force structure must be strengthened in a number of areas to address the need to counter anti-access challenges, strengthen homeland defense (including defense against cyber threats), and conduct post-conflict stabilization missions: First, as a Pacific power, the U.S. presence in Asia has underwritten the regional stability that has enabled India and China to emerge as rising economic powers. The United States should plan on continuing that role for the indefinite future. The Panel remains concerned that the QDR force structure may not be sufficient to assure others that the United States can meet its treaty commitments in the face of China's increased military capabilities. Therefore, we recommend an increased priority on defeating anti-access and area-denial threats. This will involve acquiring new capabilities, and, as Secretary Gates has urged, developing innovative concepts for their use. Specifically, we believe the United States must fully fund the modernization of its surface fleet. We also believe the United States must be able to deny an adversary sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike. That is why the Panel supports an increase in investment in long-range strike systems and their associated sensors. In addition, U.S. forces must develop and demonstrate the ability to operate in an information-denied environment." (Pages 59-60)
- "To compete effectively, the U.S. military must continue to develop new conceptual approaches to dealing with operational challenges, like the Capstone Concept for Joint Operations (CCJO). The Navy and Air Force's effort to develop an Air-Sea Battle concept is one example of an approach to deal with the growing anti-access challenge. It will be necessary to invest in modernized capabilities to make this happen. The Chief of Naval Operations and Chief of Staff of the Air Force deserve support in this effort, and the Panel recommends the other military services be brought into the concept when appropriate." (Page 51; a similar passage appears on page 67)

In a letter dated August 11, 2010, Secretary of Defense Robert Gates provided his comments on the independent panel's report. The letter stated in part:

> I completely agree with the Panel that a strong navy is essential; however, I disagree with the Panel's recommendation that DoD should establish the 1993 Bottom Up Review's (BUR's) fleet of 346 ships as the objective target. That number was a simple projection of the then-planned size of [the] Navy in FY 1999, not a reflection of 21st century, steady-state requirements. The fleet described in the 2010 QDR report, with its overall target of 313 to 323 ships, has roughly the same number of aircraft carriers, nuclear-powered attack submarines, surface combatants, mine warfare vessels, and amphibious ships as the larger BUR fleet. The main difference between the two fleets is in the numbers of combat logistics, mobile logistics, and support ships. Although it is true that the 2010 fleet includes fewer of these ships, they are all now more efficiently manned and operated by the Military Sealift Command and meet all of DoD's requirements….
>
> I agree with the Panel's general conclusion that DoD ought to enhance its overall posture and capabilities in the Asia-Pacific region. As I outlined in my speech at the Naval War College

> in April 2009, "to carry out the missions we may face in the future … we will need numbers, speed, and the ability to operate in shallow waters." So as the Air-Sea battle concept development reaches maturation, and as DoD's review of global defense posture continues, I will be looking for ways to meet plausible security threats while emphasizing sustained forward presence—particularly in the Pacific.[129]

Additional Perspectives in 2010

One observer states:

> While Washington's Asian allies look to it for leadership, the Obama administration has (like its predecessor) taken China's professed good intentions at face value. Things have gotten so bad that in the Pentagon some now refer to China as "Voldemort," the evil wizard from the Harry Potter series who is often referred to as "he who must not be named."
>
> The "Voldemort Effect" is seen in the Defense Department's recently published Quadrennial Defense Review, which cites the growing threat posed by anti-access and area-denial capabilities. But while Iran, North Korea and even Hezbollah are mentioned as developing these capabilities, China—the country with the most formidable and threatening forces, by far—is not mentioned at all.[130]

Another observer states:

> Until now, most U.S. policymakers and analysts have ignored China's emerging missile capability, reflecting a general sense that the threat of growing Chinese military power is too remote to take seriously at present—a sense born from the United States' focus on fighting land wars at the expense of preserving the maritime power on which U.S. grand strategy has historically rested. But China's policy beyond its borders has recently become more assertive—a fact not unrelated to its new military and naval capabilities….
>
> For the immediate future, the administration is right to shore up U.S. alliances in the Western Pacific and continue to pursue a region-wide agreement on how to resolve territorial disputes in the South China Sea. It should also increase the level of naval exercises with allies in the region and proceed as scheduled with joint naval exercises planned with Japan in December on or around the Ryukyu Islands, which form the eastern perimeter of the East China Sea.
>
> The Obama administration should also lift its seeming gag order on the U.S. Navy's ability to speak candidly about the dangers posed by China's naval enlargement. Allowing the Navy to publicly discuss China's naval buildup as strategic justification for a larger naval force and presence could be useful: it might help build congressional support for reversing the U.S. Navy's virtual self-disarmament.[131]

Another observer states:

> The greatest geopolitical development that has occurred largely beneath the radar of our Middle East-focused media over the past decade has been the rise of Chinese sea power….

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[129] Letter dated August 11, 2010, from Secretary of Defense Robert Gates to the chairmen of the House and Senate Armed Services and Appropriations Committees, pp. 3 and 4. The ellipsis in the second paragraph appears in the letter.

[130] Andrew F. Krepinevich, "China's 'Finlandization' Strategy in the Pacific," *Wall Street Journal*, September 11, 2010.

[131] Seth Cropsey, "Keeping the Pacific Pacific," *ForeignAffairs.com*, September 27, 2010.

> The geographical heart of America's hard-power competition with China will be the South China Sea, through which passes a third of all commercial maritime traffic worldwide and half of the hydrocarbons destined for Japan, the Korean Peninsula and northeastern China. That sea grants Beijing access to the Indian Ocean via the Strait of Malacca, and thus to the entire arc of Islam, from East Africa to Southeast Asia. The United States and others consider the South China Sea an international waterway; China considers it a "core interest." Much like when the Panama Canal was being dug, and the United States sought domination of the Caribbean to be the preeminent power in the Western Hemisphere, China seeks domination of the South China Sea to be the dominant power in much of the Eastern Hemisphere….
>
> America's preoccupation with the Middle East suits China perfectly. We are paying in blood and treasure to stabilize Afghanistan while China is building transport and pipeline networks throughout Central Asia that will ultimately reach Kabul and the trillion dollars' worth of minerals lying underground. Whereas Americans ask how can we escape Afghanistan, the Chinese, who are already prospecting for copper there, ask: How can we stay? Our military mission in Afghanistan diverts us from properly reacting to the Chinese naval challenge in East Asia.
>
> The United States should not consider China an enemy. But neither is it in our interest to be distracted while a Chinese economic empire takes shape across Eurasia. This budding empire is being built on our backs: the protection of the sea lines of communication by the U.S. Navy and the pacification of Afghanistan by U.S. ground troops. It is through such asymmetry—we pay far more to maintain what we have than it costs the Chinese to replace us—that great powers rise and fall. That is why the degree to which the United States can shift its focus from the Middle East to East Asia will say much about our future prospects as a great power.[132]

Another observer states:

> America's secretary of defense has two main jobs. As a senior official in the chain of command, the defense secretary supports military commanders in executing the missions of the nation. Equally important, he must plan and shape the force of the future. And since it takes a long time to develop and deploy new equipment, the Pentagon's planning horizon is 20 years down the road.
>
> [Secretary of Defense Robert] Gates conflates the two responsibilities, to the detriment in particular of our naval and air services. He often refers to the need to "rebalance the force" to better fight the wars of today. If he means only that the services should use current assets to win the wars in Afghanistan and Iraq, then the statement is unremarkable.
>
> But that isn't all that Gates means. He uses the current counterinsurgency missions as an excuse for not sustaining programs that are necessary to ensure the United States will be able to contain Russia, Iran, and especially the growing power of China.
>
> One example is Gates's treatment of the Navy. Its size cut in half since the Reagan years, the Navy at 288 ships is smaller today than at any time since 1916. And it is still shrinking:…
>
> In a speech before the Navy League earlier this year, however, Gates dismissed the idea that the Navy is too weak….

[132] Robert D. Kaplan, "While U.S. Is Distracted, China Develops Sea Power," *Washington Post*, September 26, 2010: A25.

> In his speech, Gates dismissed concerns by noting that the world's other navies, taken as a whole, have shrunk even more. But that is true largely because America's major European allies have reduced their naval capabilities since the end of the Cold War.
>
> The Chinese, however, aren't shrinking their navy. Within about five years, their fleet of modern submarines will nearly equal ours. China also is building its first aircraft carrier and has announced plans to build a new class of destroyers. These are two clear signals China seeks the ability not only to hold the U.S. Navy at bay in the Western Pacific, but to project power around the world.[133]

Potential Implications for U.S. Navy Programs

What are the potential Navy-related program implications of placing a relatively strong emphasis on countering improved Chinese military forces in coming years?

Actions Already Taken

The U.S. Navy and (for sea-based ballistic missile defense programs) the Missile Defense Agency (MDA) have taken a number of steps in recent years that appear intended, at least in part, at improving the U.S. Navy's ability to counter Chinese maritime anti-access capabilities, including but not limited to the following:

- increasing antisubmarine warfare (ASW) training for Pacific Fleet forces;
- shifting three Pacific Fleet Los Angeles (SSN-688) class SSNs to Guam;
- basing all three Seawolf (SSN-21) class submarines—the Navy's largest and most heavily armed SSNs—in the Pacific Fleet (at Kitsap-Bremerton, WA);
- basing two of the Navy's four converted Trident cruise missile/special operations forces submarines (SSGNs) in the Pacific (at Bangor, WA);[134]
- assigning most of the Navy's ballistic missile defense (BMD)-capable Aegis cruisers and destroyers to the Pacific—and homeporting some of those ships at Yokosuka, Japan, and Pearl Harbor, HI;
- expanding the planned number of BMD-capable ships from three Aegis cruisers and 15 Aegis destroyers to at least 10 Aegis cruisers and *all* Aegis destroyers;[135] and
- increasing planned procurement quantities of SM-3 BMD interceptor missiles.

In addition, the Navy's July 2008 proposal to stop procurement of Zumwalt (DDG-1000) class destroyers and resume procurement of Arleigh Burke (DDG-51) class Aegis destroyers can be

[133] Jim Talent, "The Gates Legacy," *Weekly Standard*, December 13, 2010: 27.

[134] For more on the SSGNs, see CRS Report RS21007, *Navy Trident Submarine Conversion (SSGN) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[135] For further discussion, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke

viewed as having been prompted in large part by Navy concerns over its ability to counter China's maritime anti-access capabilities.[136]

Potential Further Actions

As mentioned earlier (see "Limitations and Weaknesses" in "Background"), China's navy exhibits limitations or weaknesses in several areas, including C4ISR systems, anti-air warfare (AAW), antisubmarine warfare (ASW), and mine countermeasures (MCM). Countering China's naval modernization might thus involve, among other things, actions to exploit these limitations and weaknesses, such as developing and procuring electronic warfare systems, antiship cruise missiles, Virginia (SSN-774) class attack submarines, torpedoes, unmanned underwater vehicles (UUVs), and mines.

It might also involve stating publicly (while withholding classified details) the U.S. Navy's ability to counter improved Chinese maritime forces. Such public statements could help prevent Chinese overconfidence that might lead to incidents, while also reassuring regional allies, partners, and neutrals. Conversely, some observers might argue, having an ability to counter Chinese maritime military forces but not stating it publicly could invite Chinese overconfidence and thereby be destabilizing.

A December 2010 press report stated:

> The man who would face the Chinese in battle, Adm. Patrick Walsh, the current commander of the U.S. Navy's Pacific Fleet, sees preparation as a way to avoid a future fight. "When we look at these sorts of [Chinese military] developments, such as the ASBM, they are technological developments that we respect, but do not necessarily fear," Walsh says. "The key element in any sort of deterrent strategy is to make it clear to those who would use a given piece of technology that we have the means to counter it, and to maintain a technological edge."[137]

A February 1, 2011, press report stated:

> U.S. military commanders are expressing confidence that they can hold their own in the face of faster-than-expected advances by China's military, but looming cost cuts are adding to doubts about the future of American power in the Pacific….
>
> In an interview from an office at the Washington Navy Yard, a military base in the nation's capital, the top Navy commander said the military had plans in place to cope with advances in China, and elsewhere. "We're not flat footed" in the response to China, Admiral Gary Roughead told Reuters.

[136] The Navy stated that this proposal was driven by a change over the last two years in the Navy's assessment of threats that U.S. Navy forces will face in coming years from ASCMs, ballistic missiles, and submarines operating in blue waters. Although the Navy in making this proposal did not highlight China by name, the Navy's references to ballistic missiles and to submarines operating in blue waters can be viewed, at least in part, as a reference to Chinese ballistic missiles (including ASBMs) and Chinese submarines. (In discussing ASCMs, the Navy cited a general proliferation of ASCMs to various actors, including the Hezbollah organization.) For further discussion, see CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[137] Erik Sofge, "China's Deadliest Game," *Popular Mechanics*, December 2010: 83.

> "I would say that we are responding, or advancing, our capabilities in such a way that we're pacing the global developments that are taking place," he said.
>
> "That includes Chinese advances, it includes developments that are taking place in other parts of the world as well."[138]

One observer stated in 2009 that

> It is time for the national security community to get a grip on itself. The AA/AD [anti-access/area-denial] threat is neither new nor all that daunting. The U.S. military has already faced down the mother of all AA/AD threats. It was the Soviet military. The Red Army was postured for the ultimate AA/AD operation, including a massive air and missile assault—employing chemical weapons—on all our forward bases and using hundreds of submarines and aircraft to sweep the seas of our ships. The AA/AD Cassandras are hyping today's threat. Equally bad, they are forgetting recent history.
>
> The U.S. military will employ a full sweep of technologies, tactics and techniques to counter the AA/AD threat. As my colleague Loren Thompson pointed out… a few weeks ago the U.S. Navy has ways of addressing the anti-shipping ballistic missile threat. Advanced organic mine warfare capabilities are being developed to counter sea mines. The Air Force will employ a combination of airfield defenses, electronic warfare, SEAD [suppression of enemy air defenses], unmanned systems, long-range precision weapons and most important, stealthy aircraft to defeat the AA/AD threat. There is an AA/AD threat, but it is not an apocalyptic danger.[139]

A decision to place a relatively strong defense-planning emphasis on countering improved Chinese military forces in coming years could lead to one or more of the following:

- developing and procuring highly capable ships, aircraft, weapons, and supporting C4ISR systems for defeating Chinese anti-access systems;
- assigning a larger percentage of the Navy to the Pacific Fleet (and, as a result, a smaller percentage to the Atlantic Fleet);
- homeporting more of the Pacific Fleet's ships at forward locations such as Hawaii, Guam, and Japan;
- increasing training and exercises in operations relating to countering Chinese maritime anti-access forces, such as antisubmarine warfare (ASW) operations; and
- increasing activities for monitoring and understanding developments in China's navy, as well as activities for measuring and better understanding operating conditions in the Western Pacific.

[138] Phil Stewart, "U.S. Military Says Keeps Up With China; Is It Enough?" *Reuters.com*, February 1, 2011.

[139] Daniel Goure, "The Overblown Anti-Access, Area Denial Threat," Lexington Institute Early Warning Blog, October 23, 2009, accessed at http://www.lexingtoninstitute.org/the-overblown-anti-access-area-denial-threat?a=1&c=1171.

Acquiring Highly Capable Ships

Placing a strong emphasis on countering Chinese maritime anti-access capabilities could involve maintaining or increasing funding for procurement of Ford (CVN-78) class aircraft carriers,[140] Virginia (SSN-774) class attack submarines,[141] and Arleigh Burke (DDG-51) class Aegis destroyers, including the new Flight III version of the DDG-51, which is to be equipped with a new radar for improved air and missile defense operations. The Navy wants to start procuring the Flight III version in FY2016.[142] An emphasis on acquiring highly capable ships could also involve maintaining or increasing funding for adding a BMD capability to existing Aegis cruisers and destroyers,[143] increasing funding for procurement of SM-3 BMD interceptors, modifying the Flight III DDG-51 design to include a larger number of missile-launch tubes,[144] procuring an adjunct radar ship, perhaps similar to the Cobra Judy Replacement ship, to assist Aegis ships in conducting BMD operations,[145] and procuring future Virginia-class attack submarines with an enhanced strike capability.[146] It could also mean fully funding programs for maintaining, upgrading, and extending the service lives of ships currently in service. Potential candidates for service life extension programs include the Navy's 22 Ticonderoga (CG-47) class Aegis cruisers, the Navy's first 28 DDG-51 class destroyers (known as the Flight I/II DDG-51s), the final 23 Los Angeles (SSN-688) class attack submarines (known as the Improved 688s), and the Navy's three Seawolf (SSN-21) class submarines.

Some observers, viewing the anti-access aspects of China's naval modernization effort, including ASBMs, ASCMs, and other anti-ship weapons, have raised the question of whether the U.S. Navy should respond by shifting over time to a more highly distributed fleet architecture featuring a reduced reliance on carriers and other large ships and an increased reliance on smaller ships. Supporters of this option argue that such an architecture could generate comparable aggregate fleet capability at lower cost and be more effective at confounding Chinese maritime anti-access capabilities. Skeptics, including supporters of the currently planned fleet architecture, question both of these arguments.[147]

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[140] For more on the CVN-78 program, see CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke.

[141] For more on the Virginia-class program, see CRS Report RL32418, *Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke.

[142] For more on the DDG-51 program, including the planned Flight III version, see CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[143] For more on the program to add a BMD capability to existing Aegis cruisers and destroyers, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[144] This option is discussed in CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[145] This option is discussed in CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.

[146] This option is discussed in CRS Report RL32418, *Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke.

[147] The question of whether the U.S. Navy concentrates too much of its combat capability in a relatively small number of high-value units, and whether it should shift over time to a more highly distributed fleet architecture, has been debated at various times over the years, in various contexts. Much of the discussion concerns whether the Navy should start procuring smaller aircraft carriers as complements or replacements for its current large aircraft carriers.

Supporters of shifting to a more highly distributed fleet architecture argue that that the Navy's current architecture, including its force of 11 large aircraft carriers, in effect puts too many of the Navy's combat-capability eggs into a relatively small number of baskets on which an adversary can concentrate its surveillance and targeting systems and its (continued...)

Acquiring Highly Capable Aircraft

Placing a strong emphasis on countering Chinese maritime anti-access capabilities could also involve maintaining or increasing funding for a variety of naval aviation acquisition programs, including F-35C carrier-based Joint Strike Fighters (JSFs),[148] F/A-18E/F Super Hornet strike fighters and EA-18G Growler electronic attack aircraft,[149] E-2D Hawkeye early warning and command and control aircraft, the P-8A Multi-mission Maritime Aircraft (MMA), the Navy carrier-based Unmanned Combat Air System (N-UCAS program) demonstrator program, and the follow-on Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) system.[150]

(...continued)

anti-ship weapons. They argue that although a large Navy aircraft carrier can absorb hits from multiple conventional weapons without sinking, a smaller number of enemy weapons might cause damage sufficient to stop the carrier's aviation operations, thus eliminating the ship's primary combat capability and providing the attacker with what is known as a "mission kill." A more highly distributed fleet architecture, they argue, would make it more difficult for China to target the Navy and reduce the possibility of the Navy experiencing a significant reduction in combat capability due to the loss in battle of a relatively small number of high-value units.

Opponents of shifting to a more highly distributed fleet architecture argue that large carriers and other large ships are not only more capable, but proportionately more capable, than smaller ships, that larger ships are capable of fielding highly capable systems for defending themselves, and that they are much better able than smaller ships to withstand the effects of enemy weapons, due to their larger size, extensive armoring and interior compartmentalization, and extensive damage-control systems. A more highly distributed fleet architecture, they argue, would be less capable or more expensive than today's fleet architecture. Opponents of shifting to a more highly distributed fleet architecture argue could also argue that the Navy has already taken an important (but not excessive) step toward fielding a more distributed fleet architecture through its plan to acquire 55 Littoral Combat Ships (LCSs), which are small, fast surface combatants with modular, "plug-and-flight" mission payloads. (For more on the LCS program, see CRS Report RL33741, *Navy Littoral Combat Ship (LCS) Program: Background, Issues, and Options for Congress*, by Ronald O'Rourke.)

The issue of Navy fleet architecture, including the question of whether the Navy should shift over time to a more highly distributed fleet architecture, was examined in a report by DOD's Office of Force Transformation (OFT) that was submitted to Congress in 2005. OFT's report, along with two other reports on Navy fleet architecture that were submitted to Congress in 2005, are discussed at length in CRS Report RL33955, *Navy Force Structure: Alternative Force Structure Studies of 2005—Background for Congress*, by Ronald O'Rourke. The functions carried out by OFT have since been redistributed to other DOD offices. See also Wayne P. Hughes, Jr., *The New Navy Fighting Machine: A Study of the Connections Between Contemporary Policy, Strategy, Sea Power, Naval Operations, and the Composition of the United States Fleet*, Monterey (CA), Naval Postgraduate School, August 2009, 68 pp.

[148] For more on the F-35 program, see CRS Report RL30563, *F-35 Joint Strike Fighter (JSF) Program: Background and Issues for Congress*, by Jeremiah Gertler.

[149] For more on the F/A-18E/F and EA-18G programs, see CRS Report RL30624, *Navy F/A-18E/F and EA-18G Aircraft Procurement and Strike Fighter Shortfall: Background and Issues for Congress*, by Jeremiah Gertler.

[150] The Navy is currently developing a stealthy, long-range, unmanned combat air system (UCAS) for use in the Navy's carrier air wings. The demonstration program for the system is called UCAS-D. The subsequent production version of the aircraft is called N-UCAS, with the N standing for Navy. Some observers, including analysts at the Center for Strategic and Budgetary Assessments (CSBA), believe that N-UCAS would be highly useful, if not critical, for countering improved Chinese maritime military forces. N-UCASs, they argue, could be launched from a carrier shortly after the ship leaves port in Hawaii, be refueled in flight, and arrive in the Taiwan Strait area in a matter of hours, permitting the carrier air wing to contribute to U.S. operations there days before the carrier itself would arrive. They also argue that N-UCASs would permit Navy carriers to operate effectively while remaining outside the reach of China's anti-access weapons, including ASBMs. (Thomas P. Ehrhard and Robert O. Work, *The Unmanned Combat Air System Carrier Demonstration Program: A New Dawn For Naval Aviation?*, Center for Strategic and Budgetary Assessments, Washington, 2007. 39 pp. [CSBA Backgrounder, May 10, 2007]. The authors briefed key points from this document on July 11, 2007, in room S-211 of the Capitol.) Another observer states that China's deployment of ASBM's and supporting surveillance and targeting systems "argues for a stealth long-range attack aircraft as part of the [carrier] airwing to provide more flexibility on how we employ our carriers." (James Lyons, "China's One World?" *Washington Times*, August 24, 2008: B1).

Acquiring Weapons and Systems for Countering ASBMs

Although China's projected ASBM, as a new type of weapon, might be considered a "game changer," that does not mean it cannot be countered. There are several potential approaches for countering the weapon that can be imagined, and these approaches could be used in combination. The Navy in the past has developed counters for new types of weapons, such as ASCMs, and is likely exploring various approaches for countering ASBMs.

Countering China's projected ASBMs could involve employing a combination of active (i.e., "hard-kill") measures, such as shooting down ASBMs with interceptor missiles, and passive (i.e., "soft-kill") measures, such as those for masking the exact location of Navy ships or confusing ASBM reentry vehicles. Employing a combination of active and passive measures would attack various points in the ASBM "kill chain"—the sequence of events (including detection, identification, and localization of the target ship, transmission of that data to the ASBM launcher, firing the ASBM, and having the ASBM reentry vehicle find the target ship) that needs to be completed to carry out a successful ASBM attack.[151]

Navy surface ships, for example, could operate in ways (such as controlling electromagnetic emissions or using deception emitters) that make it more difficult for China to detect, identify, and track those ships.[152] The Navy could acquire weapons and systems for disabling or jamming China's long-range maritime surveillance and targeting systems, for attacking ASBM launchers, for destroying ASBMs in various stages of flight, and for decoying and confusing ASBMs as they approach their intended targets. Options for destroying ASBMs in flight include developing and procuring improved versions of the SM-3 BMD interceptor missile (including the planned Block IIA version of the SM-3), accelerating the acquisition of the Sea-Based Terminal (SBT) interceptor (the planned successor to the SM-2 Block IV terminal-phase BMD interceptor),[153] accelerating development and deployment of the electromagnetic rail gun (EMRG), and accelerating the development and deployment of shipboard high-power free electron lasers (FELs) and solid state lasers (SSLs).[154] Options for decoying and confusing ASBMs as they approach their intended targets include equipping ships with systems, such as electronic warfare systems or systems for generating radar-opaque smoke clouds, that could confuse an ASBM's terminal-guidance radar.[155]

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[151] One observer argues that active defenses alone are unlikely to succeed, and that the U.S. Navy should place stronger emphasis on passive defenses; see Marshall Hoyler, "China's 'Antiaccess' Ballistic Missiles and U.S. Active Defense," *Naval War College Review*, Autumn 2010: 84-105.

For additional discussions of options for countering ASBMs, see Sam J. Tangredi, "No Game Changer for China," *U.S. Naval Institute Proceedings*, February 2010: 24-29; and Loren B. Thompson, "China's New "Carrier-Killing" Missile Is Overrated," Lexington Institute (Early Warning Blog), August 9, 2010 (available online at http://www.lexingtoninstitute.org/chinas-new-carrier-killing-missile-is-overrated?a=1&c=1171). See also Craig Hooper and Christopher Albon, "Get Off the Fainting Couch," *U.S. Naval Institute Proceedings*, April 2010: 42- 47.

[152] For a journal article discussing actions by the Navy during the period 1956-1972 to conceal the exact locations of Navy ships, see Robert G. Angevine, "Hiding in Plain Sight, The U.S. Navy and Dispersed Operations Under EMCON, 1956-1972," *Naval War College Review*, Spring 2011: 79-95.

[153] For more on the SM-3, including the Block IIA version, and the SBT, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[154] For more on SSLs and FELs, see CRS Report R41526, *Navy Shipboard Lasers for Surface, Air, and Missile Defense: Background and Issues for Congress*, by Ronald O'Rourke.

[155] Regarding the option of systems for generating radar-opaque smoke clouds, Thomas J. Culora, "The Strategic Implications of Obscurants," *Naval War College Review*, Summer 2010: 73-84.

The Chief of Naval Operations, Admiral Gary Roughead, stated the following in an interview published on April 4, 2011:

> **Question:** China reportedly has deployed a so-called aircraft carrier killer. Does such a weapon upset the balance of power insofar as the Navy is concerned?
>
> **Roughead:** No. You have to look at the total employment of the weapon. You have to look at the nature of being able to first locate, then target, and then engage a moving sea-borne target at range. I'm always struck at how captivated people have gotten about the carrier killer. Nobody's talking about the precision with which every fixed airfield in the region could be targeted. I really do think that it is not the game-changer people have played it up to be.[156]

A March 16, 2011, press report states:

> "There has been a lot of discussion about the Dong Feng 21 missile," [Admiral Gary] Roughead acknowledged. "But the DF 21 is no more an anti-access weapon than a submarine is. I would argue that you can put a ship out of action faster by putting a hole in the bottom [with a torpedo] than by putting a hole in the top [with a weapon like the DF-21]."
>
> Noting the superiority of the Navy's Virginia-class attack submarines over the several types China is building, Roughead declared that "even though the DF 21 has become a newsworthy weapon, the fact is our aircraft carriers can maneuver, and we have systems that can counter weapons like that."
>
> "My objective," in regards to the Chinese, Roughead said, "is to not be denied ocean areas were can operate, or not be restricted in our ability to operate."[157]

A February 15, 2011, press report states:

> A new "carrier killer" missile that has become a symbol of China's rising military might will not force the U.S. Navy to change the way it operates in the Pacific, a senior Navy commander told The Associated Press.
>
> Defense analysts say the Dong Feng 21D missile could upend the balance of power in Asia, where U.S. aircraft carrier battle groups have ruled the waves since the end of World War II.
>
> However, Vice Adm. Scott van Buskirk, commander of the U.S. 7th Fleet, told the AP in an interview that the Navy does not see the much-feared weapon as creating any insurmountable vulnerability for the U.S. carriers - the Navy's crown jewels.
>
> "It's not the Achilles heel of our aircraft carriers or our Navy - it is one weapons system, one technology that is out there," Van Buskirk said in an interview this week on the bridge of the USS George Washington, the only carrier that is home-based in the western Pacific….
>
> Van Buskirk, whose fleet is responsible for most of the Pacific and Indian oceans, with 60-70 ships and 40,000 sailors and Marines under its command, said the capabilities of the Chinese missile are as yet unproven. But he acknowledged it does raise special concerns.

[156] "'We're Not Gambling,'" *Aviation Week & Space Technology*, April 4, 2011: 66.

[157] Christopher P. Cavas, "Roughead Says Russian, Chinese Navies Growing," NavyTimes.com, March 16, 2011.

> "Any new capability is something that we try to monitor," he said.
>
> "If there wasn't this to point to as a game changer, there would be something else," he said. "That term has been bandied about for many things. I think it really depends in how you define the game, whether it really changes it or not. It's a very specific scenario for a very specific capability - some things can be very impactful."…
>
> Still, van Buskirk said the Navy has no intention of altering its mission because of the new threat and will continue to operate in the seas around Japan, Korea, the Philippines and anywhere else it deems necessary.
>
> "We won't change these operations because of this specific technology that might be out there," he told The AP while the USS George Washington was in its home port just south of Tokyo for repairs last week. "But we will carefully monitor and adapt to it."[158]

Admiral Roughead stated the following in a January 14, 2011, interview:

> **Question:** As you say, you don't jump with the revelation of another capability, particularly as you might have known it was coming. But excitable headline writers like to talk about the ASBM as a game-changer. Is that accurate?
>
> **Roughead:** I think it is a bit of an overstatement. I find it very interesting when you talk about the ballistic missile capability and the fixation on the ASBM, the fact of the matter is that with regard to the other military capabilities that are land-based, you could have the co-ordinates of every 20 feet of airstrip preprogrammed and you know it is not going to move. I would submit the beauty of naval forces is their flexibility, and the challenges of finding, targeting and then hitting them. It is a new capability and a new application of a ballistic missile, but at the same time, I look at it and say let's move forward with this.
>
> **Question:** Do you have any idea about timetables for deployment? Admiral Willard has talked about this.
>
> **Roughead:** He talked about the initial operational capability, which is a term we use. It would not surprise me that in the next couple of years that that capability will be in play.
>
> **Question:** But have you been preparing for some time your own structure to incorporate that?
>
> **Roughead:** I think across the board I am always looking at developments and at how do we keep our options open relative to those developments. For me personally, the PLAN has been an area of interest since I was first exposed to it in a very personal way starting in 1994. Through a series of assignments I have been able to watch it. I have had a focused professional interest in it. So I watch and do the things that I have to do to make sure that my navy is ready.[159]

Vice Admiral David J. Dorsett, the Deputy Chief of Naval Operations for Information Dominance, stated the following at a January 5, 2011, meeting with defense reporters:

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[158] Eric Talmadge, "3-Star: Anti-Carrier Missile Won't Stop Navy," *NavyTimes.com*, February 15, 2011.

[159] Source: Transcript of interview, as appended to Richard McGregor, "US Fleet Chief Voices Doubts On Chinese Navy," *Financial Times*, January 18, 2011.

> **Question:** What are the resourcing requirements implications of the Chinese missile given you said it's got capability [inaudible]? Are there major improvements in the Aegis air defense system that you're recommending or [inaudible] the edges? What are the defensive implications for the Navy and resources in the next four or five years?
>
> **Dorsett:** First of all, Tony, going into any level of detail would be a classified answer, and I'll tell you, like any advanced technology that's developed for military use around the globe, the U.S. Navy needs to develop counters. We need to be innovative in that approach. I think that's one of the things that with creation of information dominance, we've been able to look at a variety of kinetic and non-kinetic solution sets to counter advancing capabilities. And relative to advanced missile systems, we're doing that as well. It's a vague answer for you, but it's the best I can do.
>
> **Question:** Can you give a sense of whether the Aegis system is roughly capable of handling this threat?
>
> **Dorsett:** Because of the – I'd prefer not to answer the question.[160]

A December 17, 2010, press report quotes Rear Admiral Terry Kraft, the head of Carrier Strike Group 12, as stating:

> "What I will say about that is, before you can target a ship you've got to find the ship…. There are a lot of tactics that you could look at and that you could use to try to make yourself harder to find. And if you could break that chain at the part where they can't locate you, you make it much harder for potential adversaries."[161]

Acquiring Weapons and Systems for Countering Submarines

Countering China's attack submarines more effectively could involve procuring platforms (i.e., ships and aircraft) with ASW capabilities, and/or developing technologies for achieving a distributed, sensor-intensive (as opposed to platform-intensive) approach to ASW. Navy officials in 2004-2005 spoke of their plans for achieving such an architecture.[162] Such an approach might involve the use of networked sensor fields, unmanned vehicles, and standoff weapons. Implementing such an approach to ASW reportedly would require overcoming some technical challenges, particularly for linking together large numbers of distributed sensors, some of which might be sonobuoys as small as soda cans.[163] Countering wake-homing torpedoes more

[160] Source: Transcript of Defense Writers Group roundtable with Vice Admiral David J. Dorsett, Deputy CNO for Information Warfare. Material in brackets as in the transcript.

[161] Andrew Burt, "Carriers Could Use Evasive Tactics Against Anti-Ship Ballistic Missiles," *Inside the Navy*, December 20, 2010.

[162] See, for example, Otto Kreisher, "As Underwater Threat Re-Emerges, Navy Renews Emphasis On ASW," *Seapower*, October 2004, p. 15, and Jason Ma, "ASW Concept Of Operations Sees 'Sensor-Rich' Way Of Fighting Subs," *Inside the Navy*, February 7, 2005.

[163] Jason Ma, "Autonomous ASW Sensor Field Seen As High-Risk Technical Hurdle," *Inside the Navy*, June 6, 2005. See also Jason Ma, "Navy's Surface Warfare Chief Cites Progress In ASW Development," *Inside the Navy*, January 17, 2005. More recent press reports discuss research on ASW concepts involving bottom-based sensors, sensor networks, and unmanned vehicles; see Richard Scott, "GLINT In the Eye: NURC Explores Novel Autonomous Concepts For Future ASW," *Jane's International Defence Review*, January 2010: 34-35; Richard Scott, "DARPA Goes Deep With ASW Sensor Network," *Jane's International Defence Review*, March 2010: 13; Richard Scott, "Ghost In The Machine: DARPA Sets Course Towards Future Unmanned ASW Trail Ship," *Jane's Navy International*, April 2010: 10-11; Norman Friedman, "The Robots Arrive," *Naval Forces*, No. IV, 2010: 40-42, 44, 46; Bill Sweetman, "Darpa Funds Unmanned Boat For Submarine Stalking," *Aerospace Daily & Defense Report*, January 6, 2011: 5.

effectively could require completing development work on the Navy's new anti-torpedo torpedo (ATT) and putting the weapon into procurement.[164]

Increasing the Pacific Fleet's Share of the Navy

The final report on the 2005 Quadrennial Defense Review (QDR) directed the Navy "to adjust its force posture and basing to provide at least six operationally available and sustainable carriers and 60% of its submarines in the Pacific to support engagement, presence and deterrence."[165] The Navy has met the 2005 QDR directive of having six CVNs in the Pacific. As of September 30, 2010, 58% of the Navy's SSNs and SSGNs were homeported in the Pacific. The Navy can increase that figure to 60% by assigning newly commissioned Virginia-class SSNs to the Pacific, by moving SSNs or SSGNs from the Atlantic to the Pacific, by decommissioning Atlantic Fleet SSNs, or through some combination of these actions.

As part of a "strategic laydown analysis" that the Navy performed in support of its January 2009 proposal to transfer a nuclear-powered aircraft carrier (CVN) to Mayport, FL,[166] the Navy projected that of its planned 313-ship fleet, 181 ships, or 58%, would be assigned to the Pacific Fleet.[167]

Placing a strong emphasis on countering Chinese maritime anti-access capabilities could involve assigning a greater percentage of the Navy to the Pacific Fleet than the percentages reflected in the previous two paragraphs. Doing this would likely reduce the number of ships assigned to the Atlantic Fleet, which would reduce the Navy's ability to maintain forward deployments in, and surge ships quickly to, the Mediterranean Sea and possibly also the Persian Gulf/Northern Arabian Sea area.[168]

An October 15, 2010, press report stated that "The Obama administration is considering increasing the size of the U.S. military presence in Asia, according to sources familiar with an ongoing global force posture review as well as early discussions with countries such as Australia, Singapore and Vietnam." The article stated that China's increased assertiveness had caused other countries in the region to ask the United States for additional actions to reinforce its commitment

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[164] For an article discussing torpedo defense systems, including ATTs, see Richard Scott, "Ships Shore Up," *Jane's Defence Weekly*, September 1, 2010: 22-23, 25, 27.

[165] U.S. Department of Defense, *Quadrennial Defense Review Report*. Washington, 2006. (February 6, 2006) p. 47.

[166] For more on this proposal, see CRS Report R40248, *Navy Nuclear Aircraft Carrier (CVN) Homeporting at Mayport: Background and Issues for Congress*, by Ronald O'Rourke.

[167] Source: Slide entitled "Strategic Laydown Summary," in Navy briefing entitled "Final Environmental Impact Statement (FEIS) for the Proposed Homeporting of Additional Surface Ships at Naval Station Mayport, FL, dated November 18, 2008, and presented to CRS on December 5, 2008. For more on the Navy's proposed 313-ship fleet, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[168] Shifting additional ships from the Atlantic Fleet to the Pacific Fleet might reduce the Navy's ability to maintain forward deployments in, and surge ships quickly to, the Persian Gulf/Northern Arabian Sea area because the transit distance from the U.S. Atlantic Coast to the Persian Gulf/Northern Arabian Sea area using the Suez canal is less than the transit distance from the U.S. Pacific Coast to the Persian Gulf/Northern Arabian Sea area. If, however, the ships shifted from the Atlantic Fleet to the Pacific Fleet were homeported at Hawaii, Guam, or Japan rather than on the U.S. Pacific Coast, there might be no reduction in the Navy's ability to maintain forward deployments in, and surge ships quickly to, the Persian Gulf/Northern Arabian Sea area.

to the region. The article stated that although the posture review was global, it includes a particular focus on the Pacific and the role of the Navy.[169]

A November 7, 2010, press report stated:

> The United States plans to expand its military presence in Australia as the two nations maneuver to rein in an increasingly assertive China.
>
> U.S. and Australia are considering a joint or shared base arrangement in which U.S. troops and assets such as planes or ships would piggyback on existing Australian military facilities, a senior U.S. defense official said Saturday.
>
> U.S. Defense Secretary Robert Gates said wider military cooperation between the U.S. and longtime ally Australia is on the table as defense and foreign ministers from both countries hold annual talks Monday [November 8].
>
> He and Australian Foreign Minister Kevin Rudd hinted at the outline of the shared-base idea but gave no details.
>
> Rudd said Australia would "welcome the United States making greater use of our ports and our training facilities, our test-firing ranges. That has been the case in decades past and will be the case for decades in the future."
>
> The shared-base idea is part of U.S. efforts to diversify its Asian military stance, which has long been focused on northern Asia. Australian bases would place U.S. forces or assets such as ships and planes much closer to potential natural disasters or conflicts in the Southern Hemisphere.
>
> The arrangement, somewhat controversial in Australia, would probably mean more U.S. service members on Australian soil.
>
> In a television interview, Prime Minister Julia Gillard said closer military cooperation serves Australian interests.
>
> "It does give the possibility, of course, for further joint exercises, further collaboration," Gillard told Nine Network television today. Gillard said that among the topics for discussion at Monday's defense and foreign-affairs talks would be the war in Afghanistan and the rise of China as a global power.
>
> Gates denied that closer U.S. cooperation with Australian and Southeast Asian nations is a challenge to China, which claims dominion over vast areas of the Pacific that the U.S. considers international waters. China has also alarmed smaller Asian neighbors by reigniting old territorial disputes.
>
> "It's more about our relationships with the rest of Asia than it is about China," Gates told reporters traveling with him.
>
> Gates said the United States is not contemplating building any new military bases in Asia. The U.S. maintains large, permanent bases in Japan and South Korea and has military facilities elsewhere in the Asia-Pacific.

[169] Andrew Burt, "U.S. Considering Increasing Military Presence in Pacific Region," *Inside the Navy*, October 18, 2010.

> The ministers will launch a study group on the shared-base idea during Monday's meeting, the senior U.S. official said. The official spoke on condition of anonymity because the two nations' defense and foreign ministers have not yet addressed the issue.
>
> Ahead of that meeting, U.S. Secretary of State Hillary Clinton and Rudd agreed to cooperate in trying to push China to take a more positive approach in its backyard.[170]

Another November 7, 2010, press report stated:

> On his way to Australia for annual security talks, Mr Gates said closer ties with Australia would help the US expand its role in South East Asia.
>
> The US would focus on fighting piracy, improving counter-terrorism, disaster aid and cyber-security, he said.
>
> He said the US move was not to contain China, which is engaged in various territorial disputes in the region.
>
> Mr Gates said Washington had no plans for more bases in the region.
>
> But he expressed hopes for increased co-operation on issues such as missile defence and "space surveillance".
>
> "We're looking at a number of different options," he said.
>
> Concerns have intensified around the region since China published maps earlier this year claiming the entire South China Sea as part of its territory.
>
> But Mr Gates said: "This isn't about China at all."
>
> "It is more about our relationships with the rest of Asia than it is about China," he told reporters travelling with him.
>
> A senior US defence official told reporters that the Pentagon is "looking at how we can make sure our forces are not just oriented in north-east Asia, but are looking down to south-east Asia and then into the Indian Ocean as this part of the security environment becomes more important."...
>
> Australian Foreign Minister Kevin Rudd said Australia would "welcome the United States making greater use of our ports and our training facilities, our test-firing ranges. That has been the case in decades past and will be the case for decades in the future".
>
> There is controversy in Australia on the idea of sharing bases, which could mean more US soldiers present in the country.[171]

A November 8, 2010, press report stated that "Secretary of State Hillary Clinton said the United States has increased [its] naval presence in Singapore in an Oct. 28 speech, citing the move as just

[170] Anne Gearan and Matthew Lee, "U.S., Australia Expand Ties To Keep An Eye On China," Arizona *Republic (Phoenix)*, November 7, 2010. See also Brendan Nicholson, "US Forces Get Nod Share Our Bases," *The Weekend Australian*, November 6, 2010: 1; and Hamish McDonald, "US Sets Eyes On Southern Defence Outposts," *Sydney Morning Herald*, November 6, 2010: 6.

[171] "US Seeks To Expand Military Presence in Asia," *BBC News (www.bbc.co.uk)*, November 7, 2010.

one example of a larger shift in military presence throughout Asia. The Obama administration is considering increasing the military presence in the Asia-Pacific region and is conducting preliminary discussions with countries through the region on the subject."[172]

A February 24, 2011, press report stated:

> The head of the U.S. 7th Fleet revealed plans this week for an increased naval presence in the Asia-Pacific region, divulging details about the deployment of Ohio-class guided missile submarines, the doubling of the Navy's mine countermeasures ships in the area and added submarine maintenance facilities in Guam and Diego Garcia, as well as the use of civilian shipyards in Vietnam for maintenance on Navy ships….
>
> "It is often asserted—quite falsely—that U.S. presence in this region is shrinking," [Vice Admiral Scott Van Buskirk] said. "On the contrary, our growth in capabilities and maritime partnerships reflects a clear focus." The U.S. Navy, he added, "is here to stay."[173]

Homeporting Additional Pacific Fleet Ships in Forward Locations

Navy ships homeported in Japan include an aircraft carrier strike group consisting of a CVN and 11 cruisers, destroyers, and frigates; an amphibious ready group consisting of three amphibious ships; and additional mine countermeasures ships. Navy ships homeported at Guam include three Los Angeles (SSN-688) class attack submarines and a submarine tender. Navy ships homeported in Hawaii include 15 Virginia (SSN-774) and Los Angles class SSNs, and 11 cruisers, destroyers, and frigates.

Placing a strong emphasis on countering Chinese maritime anti-access capabilities could involve homeporting more of the Pacific Fleet's ships at forward locations such as Hawaii, Guam, and Japan. A 2002 Congressional Budget Office (CBO) report discussed the option of homeporting a total of as many as 11 SSNs at Guam.[174] Additional cruisers and destroyers could be homeported in Hawaii, Guam, or Japan. Another option, at least in theory, would be to establish additional home ports for Navy ships in South Korea, Singapore or Australia.

Submission to Congress of 2011 Edition of DOD Report on China Military and Security Developments

Section 1202 of the FY2000 defense authorization act (S. 1059/P.L. 106-65 of October 5, 1999), as amended by Section 1246 of the FY2010 defense authorization act (H.R. 2647/P.L. 111-84 of October 28, 2009), requires DOD to submit an annual report to Congress on military and security developments involving China. (The report was previously known as the report on Chinese military power.) DOD is required to submit the report not later than March 1 each year. As of early June 2011, the 2011 edition of the report had not been submitted. Potential oversight questions for Congress include the following:

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[172] Andrew Burt, "Clinton: Increased U.S. Naval Presence In Singapore Part of Larger Shift," *Inside the Navy*, November 8, 2010.

[173] Andrew Burt, "Fleet Commander Outlines Navy's Increasing Presence In Asia," *Inside the Pentagon*, February 24, 2011.

[174] U.S. Congressional Budget Office, *Increasing the Mission Capability of the Attack Submarine Force*, Washington, CBO, 2002. (A CBO Study, March 2002), 41 pp.

- Why has DOD not yet (as of early June 2011) submitted the 2011 edition of the report?
- When does DOD anticipate submitting the 2011 edition of the report?
- How might DOD's delay in submitting the 2011 edition of the report affect Congress's ability to take military and security developments involving China into account in evaluating and marking up the Navy's proposed FY2012 budget (as well as other parts of DOD's proposed FY2012 budget)?[175]

[175] The 2010 edition of the report was released by DOD on August 16, 2010, about five and one-half months after the required March 1 submission date. On July 23, 2010, Senators John Cornyn, John McCain, James Risch, Pat Roberts, and James Inhofe sent a letter to Secretary of Defense Robert Gates concerning the submission to Congress of the 2010 edition of the report. The letter stated in part:

> With the [2010 edition of the] Chinese military power report now almost five months overdue, we ask that you submit it to Congress immediately and provide an explanation as to the significant delay. It is our understanding that a draft of the report was completed within the DoD several months ago. If true, the lengthy delay is puzzling. Since the responsibility for this report lies with the DoD alone, we ask for your assurance that White House political appointees at the National Security Council of other agencies have not been allowed to alter the substance of the report in an effort to avoid the prospect of angering China. The annual report is designed to provide Congress with a candid, objective assessment of the facts. Anything less would risk undermining its very credibility….
>
> With these concerns in mind, we request that you submit the 2010 Report on the Military Power of the People's Republic of China to Congress as quickly as possible. Continued delay would further hinder Congress's ability to fully understand the potential threat that China's rapidly expanding military poses to U.S. national security.
>
> (Letter dated July 23, 2010, from Senators John Cornyn, John McCain, James Risch, Pat Roberts, and James Inhofe, to Secretary of Defense Robert Gates, available online at http://www.foreignpolicy.com/files/fp_uploaded_documents/100723_SJC%20letter%20to%20SECDEF%20re%20%20late%20Chinese%20military%20power%20report%20%28JULY%202010%29%20-%20signed%20scanned.pdf. See also Bill Gertz, "Senators Rap Pentagon's Delay On China Report, *Washington Times*, July 26, 2010: 8; Wendell Minnick, "U.S. Senators Demand DoD Release China Report," *DefenseNews.com*, July 24, 2010; Josh Rogin, "Where Is The Pentagon Report On The Chinese Military?" *The Cable (thecable.foreignpolicy.com)*, July 23, 1020.)

Potential oversight questions for Congress included the following:

- Why did DOD release the 2010 edition of the report about five and one-half months after the March 1 due date?
- Did DOD release the 2010 edition of the report in mid-August in part because many members of Congress are not in Washington during the August state/district work period?
- How, if at all, did the delayed release of the 2010 edition of the report affect Congress's ability to take military and security developments involving China into account in evaluating and marking up the Navy's proposed FY2011 budget (as well as other parts of DOD's proposed FY2011 budget)?

Legislative Activity for FY2012

FY2012 Defense Authorization Bill (H.R. 1540)

House

Section 1221 of H.R. 1540 as reported by the House Armed Services Committee (H.Rept. 112-78 of May 17, 2011) states:

> SEC. 1221. REVIEW AND REPORT ON IRAN'S AND CHINA'S CONVENTIONAL AND ANTI-ACCESS CAPABILITIES.
>
> (a) Review- The Secretary of Defense shall direct an appropriate entity outside the Department of Defense to conduct an independent review of the following:
>
> (1) The gaps between Iran's conventional and anti-access capabilities and United States' capabilities to overcome them.
>
> (2) The gaps between China's anti-access capabilities and United States' capabilities to overcome them.
>
> (b) Report-
>
> (1) IN GENERAL- Not later than 270 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the appropriate congressional committees a report that contains the review conducted under subsection (a).
>
> (2) APPROPRIATE CONGRESSIONAL COMMITTEES DEFINED- In this subsection, the term `appropriate congressional committees' means—
>
> (A) the congressional defense committees; and
>
> (B) the Committee on Foreign Relations of the Senate and the Committee on Foreign Affairs of the House of Representatives.
>
> (c) Additional to Other Reports, etc- The review conducted under subsection (a) and the report required under subsection (b) are in addition to the report required under section 1238 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (P.L. 111-383; 124 Stat. 4402) and the strategy and briefings required under section 1243 of such Act (P.L. 111-383; 124 Stat. 4405).
>
> (d) Definition- In this section, the term `anti-access' has the meaning given the term in section 1238(f) of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (P.L. 111-383; 124 Stat. 4403).

Regarding Section 1221, the committee's report states:

> This section would require the Secretary of Defense not later than 270 days after the date of enactment of this Act to submit to the congressional defense committees a classified study undertaken by an independent entity outside the Department of Defense assessing the gaps between the conventional and anti-access capabilities of the Islamic Republic of Iran and the

People's Republic of China and the U.S. forces' ability to overcome such capabilities. The committee notes that sections 1238 and 1243 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Public Law 111–383) required a report and a briefing from the Department of Defense on these subjects. However, given the potentially grave threats posed by these capabilities to U.S. national security and stability in the western Pacific and Middle East, the committee believes an additional, independent assessment is warranted to further inform the Department's planning and the committee's oversight of these issues. The committee encourages the Secretary to select an entity with the necessary security clearances and expertise to review the intelligence assessments upon which the Department's findings were based pursuant to the report and briefing required by sections 1238 and 1243. (Page 243)

Section 1227 of H.R. 1540 states:

SEC. 1227. ANNUAL REPORT ON MILITARY POWER OF THE PEOPLE'S REPUBLIC OF CHINA.

(a) Matters to Be Included- Subsection (b) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 781; 10 U.S.C. 113 note), as most recently amended by section 1246(b) of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84; 123 Stat. 2544), is further amended—

(1) in paragraph (7)—

(A) by adding at the end before the period the following: `or otherwise undermine the Department of Defense's capability to conduct information assurance'; and

(B) by adding at the end the following: `Such analyses shall include an assessment of the damage inflicted on the Department of Defense by reason thereof.'; and

(2) in paragraph (9), by adding at the end the following: `Such analyses shall include an assessment of the nature of China's cyber activities directed against the Department of Defense and an assessment of the damage inflicted on the Department of Defense by reason thereof. Such cyber activities shall include activities originating or suspected of originating from China and shall include government and non-government activities believed to be sanctioned or supported by the Government of China.'.

(b) Conforming Amendment- Such section is further amended in the heading by striking `military and security developments involving' and inserting `military power of'.

(c) Effective Date- The amendments made by this section shall take effect on the date of the enactment of this Act, and shall apply with respect to reports required to be submitted under subsection (a) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000, as so amended, on or after that date.

Regarding Section 1227, the committee's report states:

This section would amend section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106–65), as most recently amended by section 1246(b) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84), by changing the name of the annual report required by such section from "Annual Report on Military and Security Developments Involving the People's Republic of China" to "Annual Report on Military Power of the People's Republic of China". This section would also clarify the reporting requirements relating to China's cyber and espionage activities. (page 245)

The committee's report also states:

> Military and Security Developments Involving the People's Republic of China
>
> The committee commends the Secretary of Defense for delivering a comprehensive report on the "Military and Security Developments Involving the People's Republic of China," in accordance with section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106–65), including a discussion of the extent to which China's ballistic and cruise missiles increase its ability to control access to the western Pacific.[176] The committee does not believe, however, that the report sufficiently addressed China's domestic production capabilities or proliferation of these technologies.
>
> The committee directs the Secretary of Defense to include greater detail on the ballistic and cruise missile activities of the People's Republic of China, in subsequent submission of report required by section 1202, including China's domestic development and production of these capabilities, and any Chinese proliferation activities of technologies related to cruise missiles, ballistic missiles, unmanned aerial vehicles, and weapons of mass destruction to other countries. This detail should include, but should not be limited to, the proliferation of missile technologies and components at or near the threshold prohibited by the Missile Technology Control Regime and other multinational export control regimes, in as much unclassified detail as possible.
>
> Finally, the committee encourages the Secretary to submit the next report by March 1, 2012, as required by section 1202. (page 234)

[176] This may be a reference to the release in August 2010 of the 2010 edition of the report. As of the date of the committee's report (May 17, 2011), the 2011 edition of the report was not known to have been released.

Appendix A. China's Maritime Territorial Claims and Position Regarding Operations in EEZ

This appendix provides additional discussion of China's maritime territorial claims and China's position regarding foreign military operations in China's Exclusive Economic Zone (EEZ).[177]

China's Territorial Claims in the South China Sea

China's territorial claims in the South China Sea are somewhat ambiguous but potentially expansive enough to go well beyond what would normally be supported by international legal norms relating to territorial waters. The ambiguity over China's territorial claims in the South China Sea relates in part to the so-called map with nine dashed lines—a Chinese map that predates the founding of the People's Republic of China and which includes nine dashed lines that, if connected, would circumscribe an area encompassing most of the South China Sea. DOD has published a map of China's disputed territories that connects the nine dashed lines.[178] China has maintained ambiguity over the meaning of this map. One observer states:

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[177] For further information on this issue, see CRS Report RL31183, *China's Maritime Territorial Claims: Implications for U.S. Interests*, by Kerry Dumbaugh et al. This archived report is dated November 12, 2001.

[178] See *2010 DOD CMSD*, p. 16. DOD states that

> The South China Sea plays an important role in Northeast Asia and Southeast Asia security considerations. Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel island groups—claims disputed in whole or part by Brunei, the Philippines, Malaysia, Indonesia, and Vietnam. Taiwan, which occupies Itu Aba in the Spratly Islands, also claims all four island groups in the South China Sea. In 2009, China protested claims made by Malaysia and Vietnam and reiterated it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof."
>
> (*2010 DOD CMSD*, p. 17.)

DOD also states that

> Tensions over disputed claims in the South China Sea resurfaced in 2007 following almost five years of relative stability in the region. Competition for resources, including oil and gas reserves, and fishing resources most likely fueled the rising tension, although other factors, such as nationalism, also contributed. China's primary interests in the South China Sea are related to securing its extensive sovereignty claims in the region and exercising its rights as they relate to exploiting regional natural resources. Additionally, a stronger regional military presence would position China for force projection, blockade, and surveillance operations to influence the critical sea lanes in the region—through which some 50 percent of global merchant traffic passes. The combination of these interests likely contributes to China's sensitivity over the presence of foreign military assets conducting routine military operations in waters beyond China's territorial limits.
>
> In response to the 2004 articulation of the PLA's "New Historic Missions," China's senior military leaders began developing concepts for an expanded regional maritime strategy and presence. For example, in 2006, PLA Navy Commander Wu Shengli called for a "powerful navy to protect fishing, resource development and strategic passageways for energy." Many of these ideas echo the debates in the late 1980s and early 1990s over building PLA naval capabilities. However, the rise of Taiwan contingency planning as the dominant driver of PLA force modernization in the mid-1990s, and especially after 2001, largely sidelined these discussions. China's probable plans to base the Type 094 SSBN (JIN-class) at Hainan Island raises the potential that the PLA Navy would consider conducting strategic patrols in the waters of the South China Sea requiring Beijing to provide for a more robust conventional military presence to ensure the protection of its sea-based

(continued...)

> The Chinese government repeated this cartographic feature after the Communist party came to power on the mainland in 1949, and today it remains depicted on every map published in China and Taiwan. But the nature of China's claim over the expanse of water and the numerous islands, shoals, rocks, and islets contained within the nine dashes of the U-shaped line has never been specified. Among Chinese scholars and officials there appear to be four dominant schools of thought as to the line's meaning. The Chinese government, however, continues to avoid publicly taking an official position, perhaps because it benefits from continued ambiguity and the negotiating latitude that it affords.
>
> Sovereign Waters
>
> Some Chinese policy analysts continue to assert that the waters within the U-shaped line should be considered sovereign Chinese waters, subject to the government's full jurisdiction, presumably either as internal waters or territorial seas….
>
> Historic Waters
>
> Perhaps because it is one of the least well-defined aspects of international law, some Chinese have suggested that the concept of "historic waters" may enable the government to legitimately claim broad control over the South China Sea….
>
> Island Claims
>
> Some Chinese view the U-shaped line as simply asserting a claim to all the islands, rocks, sand bars, coral heads, and other land features that pierce the waters of the South China Sea, and to whatever jurisdiction international law of the sea allows coastal states to claim based on sovereignty over these small bits of land….
>
> Security Interests
>
> China's assertiveness about its claims in the waters of its near sea has grown in tandem with the size of its navy and maritime services, and from these forces has emerged a fourth perspective, namely that the U-shaped line reflects security interests in the South China Sea, and that they should have legal protection.[179]

According to some press reports, Chinese officials in early 2010 began describing their territorial claims in the South China Sea a "core national interest"—a phrase that was interpreted as meaning that, for the Chinese, the issue is comparable in importance to China's interest in Taiwan and Tibet. China's reported assertion about its claims in the South China Sea being a core national interest prompted concern and among observers. A July 3, 2010, press report, for example, stated:

> American and European experts who assembled here [in Stockholm] in early June [2010] for the semi-annual Stockholm China Forum were a bit taken aback when their Chinese colleagues defined the South China Sea as a "core national interest" of the People's Republic

(...continued)

> deterrent. Such an increased PLA presence including surface, sub-surface, and airborne platforms, and possibly one or more of China's future aircraft carriers, would provide the PLA with an enhanced extended range power projection capability and could alter regional balances, disrupting the delicate status quo established by the 2002 Declaration on the Conduct of the Parties in the South China Sea.
>
> (*2010 DOD CMSD* p. 39)

[179] Peter A. Dutton, "Through A Chinese Lens," *U.S. Naval Institute Proceedings*, April 2010: 26-27.

> [of China]. The Chinese have long used this diplomatic term in discussing Tibet and Taiwan to signify issues that go to the heart of its national sovereignty.
>
> The academics were not speaking out of turn. According to *The New York Times*, Chinese leaders told visiting Obama administration officials earlier this spring that Beijing would not tolerate interference in the South China Sea, a vast expanse that is a major maritime transit area, because the entire region was a "core interest" of their nation.
>
> Since then, "the Chinese are using this term more often and more expansively," said Aaron Friedberg, a China expert at Princeton University. "And they are defining it as a red line, as a nerve you can't touch."
>
> Beijing's decision to test its neighbors and the United States now in this manner has scholars puzzled. "You would think," one American analyst living in Beijing observed, that "they would have an interest in finessing this issue for the time being" given its sensitivity to other nations bordering the sea, and other, more pressing issues on the international agenda. The fact that Chinese officials are not masking their ambitions may actually be more important than Beijing's specific objectives.
>
> The South China Sea is not just any body of water. At least a third of global maritime commerce and more than half of Northeast Asia's imported energy supplies pass through its 1.2 million square miles. U.S. forces traverse the sea between the Pacific and Indian oceans, including the naval forces that support the war in Afghanistan.
>
> The sea is bounded by Brunei, China, Malaysia, the Philippines, Taiwan, and Vietnam. All have overlapping claims in the region. Beijing has asserted that 80 percent of the area is China's "historic waters." Friedberg said that recent Chinese assertions are "a very significant extension of claims they have made in the past."[180]

In an apparent response to China's reported statements that its claim to the South China Sea is a core national interest, Secretary of State Hillary Clinton stated at a meeting in Hanoi on July 23, 2010, that

> The United States, like every nation, has a national interest in freedom of navigation, open access to Asia's maritime commons, and respect for international law in the South China Sea. We share these interests not only with ASEAN [Association of Southeast Asian Nations] members or ASEAN Regional Forum participants, but with other maritime nations and the broader international community.
>
> The United States supports a collaborative diplomatic process by all claimants for resolving the various territorial disputes without coercion. We oppose the use or threat of force by any claimant. While the United States does not take sides on the competing territorial disputes over land features in the South China Sea, we believe claimants should pursue their territorial claims and accompanying rights to maritime space in accordance with the UN convention on the law of the sea. Consistent with customary international law, legitimate claims to maritime space in the South China Sea should be derived solely from legitimate claims to land features.
>
> The U.S. supports the 2002 ASEAN-China declaration on the conduct of parties in the South China Sea. We encourage the parties to reach agreement on a full code of conduct. The U.S. is prepared to facilitate initiatives and confidence building measures consistent with the

[180] Bruce Stokes, "China's New Red Line At Sea," *National Journal*, July 3, 2010.

> declaration. Because it is in the interest of all claimants and the broader international community for unimpeded commerce to proceed under lawful conditions. Respect for the interests of the international community and responsible efforts to address these unresolved claims and help create the conditions for resolution of the disputes and a lowering of regional tensions.[181]

On October 12, 2010, at a meeting of defense ministers from countries belonging to the Association of Southeast Asian Nations (ASEAN) and additional countries, Secretary of Defense Robert Gates stated that

> a topic of particular importance for all nations here today is maritime security. Disagreements over territorial claims and the appropriate use of the maritime domain appear to be a growing challenge to regional stability and prosperity.
>
> The United States does not take sides on competing territorial claims, such as those in the South China Sea. Competing claims should be settled peacefully, without force or coercion, through collaborative diplomatic processes, and in keeping with customary international law.
>
> On that note, we are encouraged to see claimant nations in the South China Sea making initial steps to discuss the development of a full code of conduct, in line with the 2002 ASEAN Declaration on the Conduct of Parties. We applaud this multilateral approach and we stand ready to help facilitate such initiatives.
>
> The U.S. position on maritime security remains clear: we have a national interest in freedom of navigation; in unimpeded economic development and commerce; and in respect for international law. We also believe that customary international law, as reflected in the UN Convention on the Law of the Sea, provides clear guidance on the appropriate use of the maritime domain, and rights of access to it. By adhering to this guidance, we can ensure that all share equal and open access to international waterways.
>
> The United States has always exercised our rights and supported the rights of others to transit through, and operate in, international waters. This will not change, nor will our commitment to engage in exercises and activities together with our allies and partners.
>
> These activities are a routine and critical component of demonstrating our commitment to the region, maintaining peace and stability, and promoting freedom of navigation. They are also essential to building habits of strong security cooperation, which is necessary as we move forward to address common security challenges together.[182]

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[181] Remarks by Hillary Rodham Clinton, Secretary of State, National Convention Center, Hanoi, Vietnam, July 23, 2010, available online at http://www.state.gov/secretary/rm/2010/07/145095.htm. See also Michael Wines, "Behind Gusts Of A Military Chill: A More Forceful China," New York Times, June 9, 2010; Mark Landler, "Offering to Aid Talks, U.S. Challenges China on Disputed Islands," *New York Times*, July 23, 2010; Daniel Ten Kate and Nicole Gaouette, "U.S. Says Settling South China Sea Disputes 'Leading Diplomatic Priority," *Bloomberg.com*, July 23, 2010; Andrew Jacobs, "China Warns U.S. To Stay Out Of Islands Dispute," New York Times, July 27, 2010; ; John Pomfret, "U.S. Takes Tougher Stance With China," *Washington Post*, July 30, 2010: 1; John Pomfret, "China Renews Claim To South China Sea, Vows Freedom Of Passage," *Washington Post*, July 31, 2010: 7.

[182] Remarks by Secretary Gates at SEAN Defense Ministers Meeting Plus, accessed online at http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4700. The previous day, Secretary Gates, in response to a question at a press conference, stated that

> as we have made clear in the past, the U.S. has a longstanding national interest in freedom of navigation and open access to Asia's maritime commons. We believe that—we don't take sides in this. We don't have any territorial claims of our own, but we believe that these issues are best resolved through negotiation and collaboration and within a framework of customary international

(continued...)

An October 13, 2010, press report states:

> A senior U.S. defense official said the Chinese, at least in some recent meetings, appeared to have "backed away" from characterizing the South China Sea as a "core" interest and may be seeking to find "other ways to articulate their approach" to the disputed waters. The official said it is "probably fair to conclude that there is some internal debate in Beijing about exactly how they approach this set of issues."…
>
> Earlier this year, Beijing had characterized the South China Sea as one of its "core national interest"—on a par with Tibet and Taiwan—meaning it saw no room for compromise, though some officials have questioned whether that was a formal position….
>
> The U.S. officials provided few details about how they reached their conclusion that the Chinese leadership may be rethinking how to address South China Sea disputes.[183]

An October 23, 2010, press report states:

> The Chinese government has effectively backed away from a new state policy which it had conveyed to the United States and considers the South China Sea as part of its "core interests" that concern China's sovereignty and territorial integrity, sources close to the matter said Friday [October 22].
>
> Beijing informed Washington in March that it sees the South China Sea as a core interest, along with Taiwan and Tibet. But in recent meetings, Chinese officials have been refuting such claims, the sources said.
>
> The apparent change in China's policy comes in the wake of growing wariness among Southeast Asian nations, as well as other players such as the United States, about China's arrogance amid its increasing military presence in the South China Sea.
>
> China's "core interest" policy has drawn protests from the United States and member nations of the Association of Southeast Asian Nations, some that have territorial disputes with Beijing in the South China Sea.
>
> The sources said, though, that China may no longer use the term "core interest," but it remains unclear if China will ease its hard-line stance on protecting its maritime interests, which also includes the East China Sea….
>
> According to the sources, China first informed the United States about this policy when U.S. Deputy Secretary of State Jim Steinberg and his delegation visited China in March.
>
> In May, Chinese State Councilor Dai Bingguo officially conveyed China's stance to U.S. Secretary of State Hillary Clinton during the countries' strategic and economic dialogue in Beijing, the sources said.

(...continued)

> law, above all the United Nations Law of the Sea.
>
> (Transcript of Joint Press Conference with Secretary Gates and Gen. Thanh from Hanoi, Vietnam, accessed online at http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4699.)

[183] Adam Entous, "In Asia, Tone Lightens On Sea Disputes," *Wall Street Journal*, October 13, 2010: 15. See also Thom Shanker, "U.S. And China Soften Tone Over Disputed Seas," *New York Times*, October 13, 2010; Paul Richter, "China Seeks To Ease Tensions," *Los Angeles Times*, October 13, 2010: 4.

> But the Chinese officials have told U.S. officials lately that they did not say the South China Sea was a "core interest," the sources said. During their Oct. 11 meeting in Hanoi, Chinese Defense Minister Liang Guanglie did not even mention the matter to U.S. Defense Secretary Robert Gates.
>
> A senior Pentagon official said China's move to back down from its earlier strategy on the South China Sea was likely influenced by discussions within China.
>
> Beijing's shift in its policy is believed to be out of consideration to the United States, with some Chinese officials arguing that a continued hard-line stance on China's part will limit the flexibility of the emerging economy's diplomatic strategies.[184]

China's Opposition to U.S. Exercises in Yellow Sea

China in July 2010 also began expressing its opposition to the United States conducting military exercises in the Yellow Sea, which is a body of water between China and the Korean Peninsula.[185] China's announcement that it opposed such operations followed the announcement by the United States and South Korea of plans for conducting joint U.S.-South Korean antisubmarine warfare exercises in the Yellow Sea. The plans for conducting the exercises were announced following the sinking of a South Korean warship in the Yellow Sea—a sinking that South Korea, the United States, and other observers (but not North Korea or China) attributed to a torpedo fired by a North Korean mini-submarine.

In response to China's expression of opposition to the United States conducting military exercises in the Yellow Sea, U.S. officials have stated that U.S. Navy ships have a right to exercise in international waters in the Yellow Sea, that they have done so in the past,[186] and that future exercises will be held there. They have also noted that a U.S. Navy aircraft carrier operated there as recently as October 2009 without prompting criticism from China.[187]

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[184] "China Retracts Policy on S. China Sea, Tells U.S.," *The Mainichi Daily News*, October 23, 2010. See also Edward Wong, "China Hedges Over Whether South China Sea Is a 'Core Interest' Worth War," *New York Times*, March 30, 2011.

[185] "China Opposes Foreign Warships, Planes Entering Yellow Sea and Adjacent Waters," *Xinhua*, July 8, 2010.

[186] The Navy states that in the last five years, individual Navy ships have operated in the Yellow Sea for a total of several hundred ship days, that individual Navy ships have made five port calls at the South Korean port of Inchon, on the Yellow Sea, and that a total of more than a dozen Navy ships have participated in multiple-ship operations and exercises in the Yellow Sea for a total of more than 100 ship days, including two instances (the most recent being in October 2009) involving an aircraft carrier. (Source: U.S. Navy information paper dated July 26, 2010, on U.S. Navy operations in the Yellow Sea during the past five years, provided to CRS on August 6, 2010, by Navy Office of Legislative Affairs.)

[187] See, for example, John Pomfret, "U.S., South Korea Set To Announce Military Exercises," *Washington Post*, July 15, 2010: 15; Brian Spegele , "U.S., China Avoid Tiff Over Plans For Naval Exercises Off Korean Coast," *Wall Street Journal*, July 16, 2010: 12; Elisabeth Bumiller, "Major Ship In U.S. Fleet Will Visit South Korea," *New York Times*, July 20, 2010; Elisabeth Bumiller and Edward Wong, "China Warily Eyes U.S.-Korea Drills," *New York Times*, July 21, 2010; Sig Christenson, "Gates Orders Naval Maneuvers As 'Clear Message' To N. Korea," *San Antonio Express-News*, July 21, 2010; Bill Gertz, "Inside the Ring," *Washington Times*, July 22, 2010: 7; Jon Rabiroff, "Mullen Moves From 'Curious' To 'Concerned' Over China's Military," *Stripes.com*, July 21, 2010; Evan Ramstad, "U.S., South Korea Navies Drill," *Wall Street Journal*, July 27, 2010: 27; John Pomfret, "U.S. Takes Tougher Stance With China," *Washington Post*, July 30, 2010: 1; William Cole, "Sub Training Ends RIMPAC," *Honolulu Star-Advertiser*, July 31, 2010.

China's View Regarding Foreign Military Operations in China's EEZ

China's view that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zone (EEZ) appears to be at the crux of multiple incidents in international waters and airspace in the South China Sea and East China Sea, including incidents in March 2001, March 2009, and May 2009 in which Chinese ships and aircraft confronted and harassed the U.S. naval ships *Bowditch* (TAGS-62), *Impeccable* (TAGOS-23), and *Victorious* (TAGOS-19), as they were conducting survey and ocean surveillance operations in China's EEZ, and an incident on April 1, 2001, in which a U.S. Navy EP-3 electronic surveillance aircraft flying in international airspace about 65 miles southeast of China's Hainan Island in the South China Sea was intercepted by Chinese fighters. One of the fighters accidentally collided with and damaged the EP-3, which then made an emergency landing on Hainan Island.[188]

A November 26, 2010, press report states:

> China opposes any military acts in its exclusive economic zone without permission, the Chinese Foreign Ministry said on Friday [November 26], days before a joint military exercise between United States and Republic of Korea (ROK) on the Yellow Sea.
>
> "We hold a consistent and clear-cut stance on the issue. We oppose any party to take any military acts in our exclusive economic zone without permission," Foreign Ministry spokesman Hong Lei said in a statement Friday.[189]

A November 22, 2010, press report states that at an October meeting in Hawaii between U.S. and Chinese officials held under the 1988 Military Maritime Consultative Agreement (MMCA) between the two countries, "The Chinese delegation, led by Rear Adm. Liao Shining, one of the Chinese navy's deputy chiefs of staff, took a hardline stance against U.S. naval activities in China's 200-nautical-mile exclusive economic zone, which Washington deems to be international waters."[190]

China's view that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zones (EEZ) is an interpretation of international laws relating to EEZs that is at odds with the interpretation held by the United States and most other countries, which holds that that, in general, a country can regulate foreign economic activities but not foreign military activities in its EEZ. One observer states that

> the state practice of the overwhelming majority of nations during the past three decades reflects that coastal states lack the authority to restrict foreign military activities within their respective EEZs. In fact, of the 192 member-states of the United Nations, only approximately fifteen nations purport to regulate or prohibit foreign military activities in an EEZ. Those countries are: Bangladesh, Brazil, Burma, Cape Verde, China, India, Kenya,

[188] For more on this incident, see CRS Report RL30946, *China-U.S. Aircraft Collision Incident of April 2001: Assessments and Policy Implications*, coordinated by Shirley A. Kan. This report, dated October 10, 2001, is out of print and available directly from Ronald O'Rourke or Shirley A. Kan.

[189] "China Opposes Any Military Acts in Exclusive Economic Zone Without Permission," *Xinhua*, November 26, 2010, accessed online on December 1, 2010 at http://news.xinhuanet.com/english2010/china/2010-11/26/c_13624036.htm.

[190] Christopher J. Castelli, "U.S., Chinese Views Clash In Sino-U.S. Maritime Safety Talks," *Inside the Navy*, November 22, 2010.

> Malaysia, Maldives, Mauritius, North Korea, Pakistan, Philippines, Portugal, and Uruguay. Of course, it should be pointed out that the United States has protested and/or conducted operational challenges against all of those claims. In addition, two other states (Peru and Ecuador) unlawfully claim a 200 nautical mile territorial sea, in which they purport to regulate and restrict foreign military activities. Few of these nations other than the PRC have operationally interfered with U.S. military activities within the EEZ or claimed 200 nautical mile territorial seas. In short, the PRC's legal position about the Impeccable's operations in its EEZ is an extreme minority view among the community of nations….
>
> the nations of the world should be concerned that the PRC's [i.e., China's] actions in the March 8th [2009] incident reflect an effort by the PRC government to unilaterally renegotiate a widely-accepted body of international law. This is a concern for all nations, and not merely the United States or the PRC's neighbors in the South China Sea and East China Sea.[191]

Another observer states that

> The creation of the exclusive economic zone in 1982 by UNCLOS [the United Nations Convention on the Law of the Sea] as a region extending beyond the territorial sea to a maximum of 200 nautical miles from a coastal state's shores was a carefully balanced compromise between the interests of coastal states in managing and protecting ocean resources and or maritime user states in ensuring high-seas freedoms of navigation and overflight, including for military purposes. This, while in the exclusive economic zone the coastal state was granted sovereign rights to the resources and jurisdiction to make law related to those resources, to ensure the participation of maritime powers high-seas freedoms of navigation were specifically preserved for all states. Nonetheless, China has persistently attempted to shift this carefully balanced compromise by making more expansive claims of legal protection for its security interests, especially in the South China Sea….
>
> In combination, China's claims are tantamount to a claim of full sovereignty over the South China Sea. Were these [claims] to become accepted, they would impede legitimate American naval operations in support of regional friends and allies, deterrence of regional conflict, and maintenance of freedom of navigation in the South China Sea's critical sea lines of communication….
>
> Fortunately, China's perspectives on its legal authorities in the South China Sea do not reflect the current state of international law. Nor do the Chinese perspectives reflect the proper understanding of the balance of rights, interests, and freedoms expressed in the provisions of UNCLOS related to the exclusive economic zone. The Chinese nonetheless appear to be advocating revisionist legal interpretations to apply operational pressure on U.S. naval activities in the South China Sea and perhaps to create sufficient friction to cause American national security decision-makers to reduce the level of naval operations there. [192]

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[191] Jonathan G. Odom, "The True 'Lies' of the Impeccable Incident: What Really Happened, Who Disregarded International law, and Why Every Nation (Outside of China) Should Be Concerned," *Michigan State Journal of International Law*, Vol. 18, No. 3 (May 2010), 42 pp. (The quoted passages appear on pages 30 and 39.) See also Peter A. Dutton, "Through A Chinese Lens," *U.S. Naval Institute Proceedings*, April 2010: 24-29; James Manicom, "China's Claims to an Extended Continental Shelf in the East China Sea: Meaning and Implications," *China Brief*, July 9, 2009: 9-11; Peter Dutton and John Garofano, "China Undermines Maritime Laws," *Far Eastern Economic Review* (online), April 3, 2009 (available online at http://www.feer.com/essays/2009/april/china-undermines-maritime-laws); and Raul Pedrozo, "Close Encounters At Sea, The USNS Impeccable Incident," *Naval War College Review*, Summer 2009: 101-111. For additional discussion, see CRS Report RL31183, *China's Maritime Territorial Claims: Implications for U.S. Interests*, by Kerry Dumbaugh et al.

[192] Peter A. Dutton, "Through A Chinese Lens," *U.S. Naval Institute Proceedings*, April 2010: 28-29.

DOD states that

> China has incorporated the concept of Legal Warfare into its attempts to shape international opinion and interpretation of international law. An overwhelming majority of nations throughout the world, including the United States, believe that customary international law, as reflected in the UN Convention on the Law of the Sea (UNCLOS), effectively balances the resource-related sovereign rights of littoral states in their EEZ with the freedoms of navigation and overflight and other internationally lawful uses of the sea of other nations. This majority view is based upon a sound reading of the negotiating history of UNCLOS, the actual text of UNCLOS itself, and decades of state practice. The PRC, however, appears to be making concerted efforts, through enacting domestic legislation inconsistent with international law, misreading the negotiations and text of UNCLOS, and overlooking decades of state practice in attempts to justify a minority interpretation providing greater authority by littoral states over activities within the EEZ.[193]

DOD also states that

> the United States and China continue to have differences over the rights of coastal states in their exclusive economic zones, and the appropriate response to such differences. The Department of Defense has not observed a resurgence of the sort of harassment by PRC fishing vessels of U.S. naval auxiliary ships conducting routine and lawful military operations beyond the PRC's territorial seas that occurred in spring 2009, but it could become an issue again.[194]

Additional Perspectives

At an April 12, 2011, hearing before the Senate Armed Services Committee, the following exchanged occurred:

> SENATOR WEBB: … Admiral, you have mentioned many times about your concern with respect to increased Chinese naval activity in this part of the world. And I know after my visit last February, there was an increase in the operational tempo in the region – the Cheonan incident in Korea, the – the incident in the Senkaku Islands off of Okinawa.
>
> I would like to get your – just your views on the dynamic behind this increase in activity and also it's pretty apparent that the Japanese have begun to adjust the positioning of their military, at least made – made some initial decisions in that area. Could you fill us in on that?
>
> ADMIRAL ROBERT WILLARD, COMMANDER, U.S. PACIFIC COMMAND: Yes, Senator, I will. To answer the last question first, the Japanese have determined that over the next several years, they will re-bias their ground forces from what is currently a focus in northern Japan, the Hokkaido area and northern Honshu, to be more balanced, I think. And we'll see their ground forces be laid down further south over time.
>
> Their [i.e., Japan's] naval forces continue to advance, and they are I think in all respects becoming more influential throughout the region and with many of the allies and partners that the United States enjoys. So Japan is – is advancing and adjusting.

[193] *2010 DOD CMSD*, p. 26.

[194] *2010 DOD CMSD*, p. 55.

> With regard to the Chinese and the challenge that we especially witnessed last year, the assertiveness that was demonstrated in the South China Sea and, as you mentioned, in the Senkaku Islands near Japan. We believe the motive behind that was – was a declaration by the Chinese regarding both their sovereign claims over the contested areas within the South China Sea region and over the Senkakus, as well as a declaration regarding Chinese security and what they termed the "near seas" and an assertion that military activity, foreign military activity within those nears seas should only come with their permission and – and generally a design to influence foreign militaries and particularly the U.S. military from the region.
>
> I would offer that – that, since the discussions that occurred in the ASEAN forums and very strong statements by Secretaries Clinton and Gates over the course of their participation in ASEAN, ASEAN regional forum, ASEAN defense ministers' meeting, plus the East Asia Summit and the Shangri-La Dialogue.
>
> There has been a retrenchment, a bit, by – by the Chinese navy, such that, while we continue to experience their shadowing of some of our ships and so forth that are operating in these waters, we have not seen the same level of assertiveness in 2011 that we witnessed in 2010, which I take as a positive, particularly given the fact that we have mil-to-mil relations that have recommenced to a modest extent, and perhaps we can make an advancement in that regard.
>
> But I think there's no question regarding their – you know, their aims [sic: aim is] to have a great influence over that maritime space and especially over the contested areas that they've laid claim to in both the South China Sea and East China Sea.[195]

A November 9, 2010, press report stated:

> A series of recent aggressive actions by China were designed to test other nations, US Secretary of State Hillary Clinton has declared….
>
> In an exclusive interview with The Australian yesterday, Mrs Clinton said the US was determined, along with other nations, to ensure that China abided by international law. She also reaffirmed the US commitment to remain militarily paramount in the Asia-Pacific….
>
> Mrs Clinton was asked yesterday about China's blanket claim to sovereignty over the South China Sea, its furious reaction to Japan arresting a Chinese fishing captain who rammed a Japanese naval vessel, its demand that the US not send an aircraft carrier to exercise in the Yellow Sea near South Korea and a series of other aggressive actions from Beijing.
>
> "We think it is part of the testing process that countries go through," the Secretary of State said….
>
> "When the Chinese first told us at a meeting (in China) of the Strategic and Economic Dialogue that they view the South China Sea as a core interest, I immediately responded and said, 'We don't agree with that'."…
>
> "So they (the Chinese) were on notice that if they were in the process of extending their efforts to claim and control to the detriment of international law, freedom of navigation, maritime security, and the claims of their neighbours, that was a concerning matter," Mrs Clinton said.

[195] Source: Transcript of hearing.

> "So we worked with a lot of the ASEAN countries who are directly impacted and 12 of us raised it at the ASEAN regional forum in July to make it clear that issues like that have to be resolved in accordance with the rule of law."[196]

Two observers of Asian and Pacific security issues state that

> as China has become more influential, it has also become uncharacteristically assertive in the diplomatic arena. This assertiveness is nowhere more evident than with its naval power, and is prompting many to ask if it is now verging on the reckless, particularly over the South China Sea….
>
> It's increasingly clear that Beijing may have misinterpreted a relatively passive but definitely welcoming set of international reactions to China's rise. And the combination of China's aggressive naval actions and maritime territorial claims suggests an alarming indicator: Chinese assertiveness over its region is growing as fast as China's wealth and perceived power trajectory. Beijing's unwelcome intent appears to give notice that China is opting out of the Global Commons, and that the Western Pacific is not to be accessible to all, but instead increasingly part of China's exclusive sphere of influence.
>
> Nowhere is this more apparent than in China's attitude over the South China Sea, which recently has been defined as a 'core interest'—the same phrase Chinese use to refer to Tibet, Taiwan and Xinjiang. In the process, China is in effect dismissing the international concept of the Global Commons, which refers to the maritime, air, space and cyberspace domains that comprise the circulatory system of our globalized world. Because the Global Commons hold together the international world order based on near-uncontested access, the rule of law and freedom of manoeuvre, China's challenging of these principles puts it at direct odds with the United States.
>
> Indeed, China seems to regard the maritime global commons in a proprietary fashion. For a given area, the Chinese wish either to dominate it or for others to stay away; in effect, in the Chinese view, there's no 'commons.' China calling the South China Sea a 'core concern' is an attempt to place clear, Chinese-declared limits on the ability of the international community to assert its rights under international law.
>
> China has two types of arbitrary claims: an assertion that China's territorial seas extend into much of the South China Sea and the more recent claim that they have the right to control navigation and research activities, not just fishing and seabed resources, within their Exclusive Economic Zones. If not challenged, China's assertive incrementalism has international legal risks, since international law is built on norms.
>
> In contrast, long-standing US diplomatic and military doctrine has been explicit that navies—including China's—have every right to operate on the high seas, even including in the territorial waters of other states. In support of this doctrine, Washington has attempted to establish a strong and open dialogue with the Chinese military. China, on the other hand, sees US operations inside the first island chain as impinging on its sovereignty, just as it has a very expansive interpretation of the United Nations Convention on the Law of the Sea as to its authority within its own (and contested) Exclusive Economic Zones. China's combination of its international legal strategies with naval force is telling: unlike the other claimants to the South China Sea, China backs up its words with military force.

[196] Greg Sheridan, "China Actions Meant As Test, Hillary Clinton Says," *TheAustralian.com.au*, November 9, 2010.

> The US Navy remains the strongest and only true blue-water naval force in the world and is the enabler and enforcer of much of the Global Commons, a system of free trade and unfettered economic and political access. As such, it appears to be the object of a different Chinese worldview, one of limited access for others and exclusive access for China. Meanwhile, the result of China's asymmetric anti-access and area-denial strategy is a growing Navy-killing array of ever more capable anti-ship missiles and other weapons. Beijing is trying to establish the precedent for limited access on its own terms and diminished freedom of navigation.[197]

Another observer states:

> Throughout the Cold War, the United States sought to maintain a military advantage over the Soviet Union. One reason was that if the military balance shifted in Moscow's favor, America's European allies might conclude that Moscow could not be resisted and would fall under Soviet sway. All of Europe would then share the fate of Finland, which had remained nominally independent after World War II but abided by foreign-policy rules set by the Soviets.
>
> The Soviet Union never successfully "Finlandized" Europe. But the threat has returned—from China, which is now trying to do the same in the Western Pacific.
>
> A country's military strategy offers a window into its intentions, and China is clearly seeking to effect a gradual but decisive shift in the Chinese-U.S. military balance. China's goal is to stop the U.S. from protecting its longstanding interests in the region—and to draw Washington's democratic allies and partners (such as Japan, South Korea and Taiwan) into its orbit….
>
> The PLA's area-denial capabilities focus on restricting the U.S. Navy's freedom of action out to the "second island chain," a line that extends from China's coast as far east as Guam.…
>
> East Asian waters are gradually becoming a "no-man's land" for American warships and forward-based aircraft, while U.S. satellites are becoming sitting ducks and the Pentagon's digital backbone is increasingly endangered.
>
> China's "Assassin's Mace" approach cannot be justified as a counter to any U.S. military buildup. American forces in the Western Pacific are significantly smaller than they were at the end of the Cold War. Moreover, over the past two decades the U.S. has not used its military forces either to attack China or coerce it. Rather, it has underwritten a stable regional military balance that has enabled a period of unprecedented peace and prosperity—of which China has been the principal beneficiary.
>
> China's buildup, then—its "peaceful rise," as Beijing calls it—is best explained as a strategy of Finlandization. Such a strategy fits China's outlook, which is epitomized in Sun Tzu's famous observation that "To subdue the enemy without fighting is the acme of skill."[198]

Another observer states:

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[197] Patrick Cronin and Paul Giarra, "China's Dangerous Arrogance," *The Diplomat*, July 23, 2010 (available online at http://the-diplomat.com/2010/07/23/china%e2%80%99s-dangerous-arrogance/).

[198] Andrew F. Krepinevich, "China's 'Finlandization' Strategy in the Pacific," *Wall Street Journal*, September 11, 2010.

It is abundantly clear that China claims, and will continue to assert, sovereignty over all islands in the SCS within their claimed "nine dash line." It is also clear from their actions and words, that they will continue to assert a form of security jurisdiction in the EEZ which is incompatible with international law and exceeds the sovereign rights that they have in the EEZ – although China has stated that vessels enjoy freedom of navigation in the EEZ, China claims that they have the right to prohibit certain military activities in their EEZ – a position which they seek to enforce as part of their active defense and area denial strategy….

An integral part of China's active defense and area denial strategy is its use of legal warfare doctrine. In the 1999 text entitled "Unrestricted Warfare," Qiao Liangand Wang Xiangsui introduced the concept of "international law warfare" as an example of "means and methods used to fight a non-military war." In an article published in May 2006, Renmin Haijun provides additional insight into Chinese execution of the concept of legal warfare – stating that military warfare under modern high technology conditions is a political and legal battle of safeguarding national sovereignty and territorial integrity against enemy countries' military interference." It advocates the "use of law as a weapon" and calls for a strategy which is "far-sighted and strong." The Chinese are actually quite persistent at attempting to explain or endorse their actions through a tortured and misplaced interpretation of customary international law and the provisions of UNCLOS. Ultimately, their attempts to justify their objections to military activities in the EEZ will fail as they do not accurately represent state practice or the language and negotiating history of UNCLOS. In fact, the opposite is true – the negotiating history of UNCLOS makes it abundantly clear that attempts to restrict military activities in the EEZ were debated and rejected during the negotiations.[199]

[199] Prepared statement by Stacy A. Pedrozo, Capt, JAGC, USN, U.S. Navy Military Fellow, Council on Foreign Relations, Before the U.S.-China Economic & Security Review Commission, January 27, 2011, pp. 5-6.

Appendix B. Excerpt from April 2011 Testimony of Commander, U.S. Pacific Command

On April 6, 2011, Admiral Robert Willard, the Commander of U.S. Pacific Command, testified that

> China's rise will largely define the Asia-Pacific environment in the 21st century. As noted in the 2010 National Security Strategy, "We welcome a China that takes on a responsible leadership role in working with the United States and the international community to advance priorities like economic recovery, confronting climate change, and nonproliferation. We will monitor China's military modernization program and prepare accordingly to ensure that U.S. interests and allies, regionally and globally, are not negatively affected. More broadly, we will encourage China to make choices that contribute to peace, security, and prosperity as its influence rises."
>
> In support of this broader national strategy toward China, forward-postured USPACOM forces are focused on deterrence and reassurance missions as they apply to China and U.S. allies and security partners in the region. In addition, USPACOM's interactions with China assist the Administration's broader goals by contributing to an overall military-to-military relationship that is healthy, stable, reliable and continuous. Such a relationship is important to avoid misperception, miscommunication, and miscalculation while it expands opportunities for cooperation where our security interests overlap. However, our military relationship with China continues to suffer from an on-again/off-again cycle of interactions which limits its ability to accomplish the above tasks. China suspended bilateral military relations following our arms sales to Taiwan in January 2010 and restarted them in fall 2010. We look forward to continuing the progress made in recent months which includes Secretary Gates' successful visit in January of this year.
>
> China's Military Modernization Program. Beginning in the mid-1990s, China's peacetime military modernization program has progressed at a rapid rate. While force modernization is understandable in light of China's growing regional and global roles and accompanying requirements, the scope and pace of its modernization without clarity on China's ultimate goals remains troubling. For example, China continues to accelerate its offensive air and missile developments without corresponding public clarification about how these forces will be utilized. Of particular concern is the expanding inventory of ballistic and cruise missiles (which include anti-ship capability) and the development of modern, fourth- and fifth-generation stealthy combat aircraft. In conjunction, China is pursuing counter-space and -cyber capabilities that can be used to not only disrupt U.S. military operations, but also to threaten the space- and cyber-based information infrastructure that enables international communications and commerce.
>
> Absent clarification from China, its military modernization efforts hold significant implications for regional stability. The region is developing its own conclusions about why the People's Liberation Army (PLA) continues to expand its ability to project power outside China's borders, and to range both U.S. forces and U.S. Allies and partners in the region with new anti-access and area-denial weaponry. Of growing concern is China's maritime behavior. China's recent official statements and actions in what Beijing calls its "near seas" represent a direct challenge to accepted interpretations of international law and established international norms. While China does not make legal claims to this entire body of water, it does seek to restrict or exclude foreign, in particular, U.S., military maritime and air activities in the "near seas" - an area that roughly corresponds to the maritime area from the Chinese mainland out to the "first island chain" (described, generally, as a line through

Japan, Taiwan, Philippines, and Indonesia) and including the Bohai Gulf, Yellow Sea, East China Sea, and South China Sea. Chinese naval and maritime law enforcement vessels have been assertive in recent years in trying to advance China's territorial claims in the South China and East China Seas which has resulted U.S. partners and allies in East Asia seeking additional support and reassurance to balance and curb the Chinese behavior. Many of China's maritime policy statements and claims stand in contrast to the United Nations Convention on the Law of the Sea (UNCLOS). The U.S. has consistently sought the appropriate balance between the interests of countries in controlling activities off their coasts with the interests of all countries in protecting freedom of navigation. China has questioned whether a non-party may assert such rights under UNCLOS, a baseless argument but one that would be removed if the U.S. was a party to UNCLOS.

The current situation in the Taiwan Strait remains stable as tensions have declined in recent years; however, the Taiwan issue remains a challenge to long-term regional stability. China refuses to renounce the use of force to resolve the Taiwan question. As China's military modernization proceeds, the cross-Strait military balance continues to shift in the mainland's favor. U.S. policy in support of a peaceful resolution remains consistent and clear. We are committed to our one-China policy, based on the three U.S.-China communiqués and the Taiwan Relations Act. We do not support Taiwan independence, and would oppose unilateral changes, by either side, to the status quo….

Prospects for continued development, increased security, and regional integration [in Southeast Asia] are promising, but the sub-region presents significant security challenges. China's increasing engagement in this sub-region—which, in many cases, is aimed at supplanting U.S. influence—as well as its expansive claims to, and growing assertiveness in, the South China Sea are two notable challenges….

China's rapid military expansion coupled with its unclear intent poses a concern to the U.S. and many regional nations; however, opportunities for collaboration between the U.S. and China are also apparent.[200]

[200] Statement of Admiral Robert F. Willard, U.S. Navy, Commander, U.S. Pacific Command, Before the House Armed Services Committee on U.S. Pacific Command Posture, April 6, 2011, pp. 9-11, 12, and 29.

Appendix C. Prior-Year Legislative Activity

FY2011

FY2011 Ike Skelton Defense Authorization Act (H.R. 6523/P.L. 111-383)

House (H.R. 5136)

Section 1060 of the FY2011 defense authorization bill (H.R. 5136) as reported by the House Armed Services Committee (H.Rept. 111-491 of May 21, 2010) states that:

> The Secretary of Defense shall, in consultation with the Joint Chiefs of Staff and the commanders of the regional combatant commands, submit to the congressional defense committees, not later than March 15, 2011, a comprehensive strategic assessment of the current and future strategic challenges posed to the United States by potential competitors out through 2021, with particular attention paid to those challenges posed by the military modernization of the People's Republic of China, Iran, North Korea, and Russia.

In discussing Section 1060, the committee's report states:

> The committee notes that it received testimony from the Quadrennial Defense Review (QDR) Independent Panel that, although useful, the QDR needs to be a long-term, twenty year study that addresses the issues that are of concern to Congress. The committee also received testimony that the 2010 QDR was a budget constrained exercise, which was fiscally responsible but may have limited more ambitious questioning of assumptions and creative thinking because basic budget and end-strength assumptions were not challenged. (page 372)

Section 1234 of H.R. 5136 as reported by the committee would require a report on U.S. efforts to defend against any threats posed by the advanced anti-access capabilities of potentially hostile foreign countries, and amend the law that requires DOD to submit an annual report on military and security developments involving China to include a section on China's anti-access and area denial capabilities. The text of Section 1234 is as follows:

> SEC. 1234. REPORT ON UNITED STATES EFFORTS TO DEFEND AGAINST THREATS POSED BY THE ADVANCED ANTI-ACCESS CAPABILITIES OF POTENTIALLY HOSTILE FOREIGN COUNTRIES.
>
> (a) Congressional Finding- Congress finds that the report of the 2010 Department of Defense Quadrennial Defense Review finds that `Anti-access strategies seek to deny outside countries the ability to project power into a region, thereby allowing aggression or other destabilizing actions to be conducted by the anti-access power. Without dominant capabilities to project power, the integrity of U.S. alliances and security partnerships could be called into question, reducing U.S. security and influence and increasing the possibility of conflict.'.
>
> (b) Sense of Congress- It is the sense of Congress that, in light of the finding in subsection (a), the Secretary of Defense should ensure that the United States has the appropriate authorities, capabilities, and force structure to defend against any threats posed by the advanced anti-access capabilities of potentially hostile foreign countries.

(c) Report- Not later than April 1, 2011, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on United States efforts to defend against any threats posed by the advanced anti-access capabilities of potentially hostile foreign countries.

(d) Matters to Be Included- The report required under subsection (c) shall include the following:

(1) An assessment of any threats posed by the advanced anti-access capabilities of potentially hostile foreign countries, including an identification of the foreign countries with such capabilities, the nature of such capabilities, and the possible advances in such capabilities over the next 10 years.

(2) A description of any efforts by the Department of Defense since the release of the 2010 Quadrennial Defense Review to address the finding in subsection (a).

(3) A description of the authorities, capabilities, and force structure that the United States may require over the next 10 years to address the finding in subsection (a).

(e) Form- The report required under subsection (c) shall be submitted in unclassified form, but may contain a classified annex if necessary.

(f) Modification of Other Reports-

(1) CONCERNING THE PEOPLE'S REPUBLIC OF CHINA- Section 1202(b) of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 781; 10 U.S.C. 113 note), as most recently amended by section 1246 of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84; 123 Stat. 2544), is further amended—

(A) by redesignating paragraphs (10) through (12) as paragraphs (11) through (13), respectively; and

(B) by inserting after paragraph (9) the following:

`(10) Developments in China's anti-access and area denial capabilities.'.

(2) CONCERNING IRAN- Section 1245(b) of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84; 123 Stat. 2542) is amended by adding at the end the following:

`(5) A description and assessment of Iran's anti-access and area denial strategy and capabilities.'.

In discussing Section 1234, the committee's report states:

For the purposes of this section, to the extent possible, the committee encourages the Department to utilize information provided to Congress in the Annual Report on Military and Security Developments Involving the People's Republic of China, required by section 1201 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65), as most recently amended by section 1246 of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84;) and the Annual Report on the Military Power of Iran as required by Section 1245 of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84). (Page 395)

The committee's report also states:

> Annual Report on Security Developments Involving the People's Republic of China
>
> Section 1246 of the National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84) expanded the scope of the Annual Department of Defense Report on the Military Power of the People's Republic of China to include information on developments regarding U.S. engagement and cooperation with China on security matters, including through military-to-military contacts, and the U.S. strategy for such engagement and cooperation in the future. The report was due on March 1, 2010. The committee is disappointed that the report has not been delivered, as the information provided by the Administration in this report will inform the committee's assessments on a range of critical matters involving China. The committee requests that the Department of Defense submit the report to the committee at the earliest possible date, and in the interim, provide the committee with complete and timely information on all significant security developments involving China. (Page 382)

Senate (S. 3454)

Section 1064 of the FY2011 defense authorization bill (S. 3454) as reported by the Senate Armed Services Committee (S.Rept. 111-201 of June 4, 2010) would require a report on U.S. efforts to defend against any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile nation-states. The text of Section 1064 is as follows:

> SEC. 1064. REPORT ON UNITED STATES EFFORTS TO DEFEND AGAINST THREATS POSED BY THE ANTI-ACCESS AND AREA-DENIAL CAPABILITIES OF CERTAIN NATION-STATES.
>
> (a) Finding- Congress finds that the 2010 report on the Department of Defense Quadrennial Defense Review concludes that `[a]nti-access strategies seek to deny outside countries the ability to project power into a region, thereby allowing aggression or other destabilizing actions to be conducted by the anti-access power. Without dominant capabilities to project power, the integrity of United States alliances and security partnerships could be called into question, reducing United States security and influence and increasing the possibility of conflict'.
>
> (b) Sense of Congress- It is the sense of Congress that, in light of the finding in subsection (a), the Secretary of Defense should ensure that the United States has the appropriate authorities, capabilities, and force structure to defend against any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.
>
> (c) Report- Not later than February 1, 2011, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on United States efforts to defend against any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile nation-states.
>
> (d) Elements- The report required under subsection (c) shall include the following:
>
> (1) An assessment of any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries, including an identification of the foreign countries with such capabilities, the nature of such capabilities, and the possible advances in such capabilities over the next 10 years.

(2) A description of any efforts by the Department of Defense to address the potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.

(3) A description of the authorities, capabilities, and force structure that the United States may require over the next 10 years to address the threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.

(e) Form- The report required under subsection (c) shall be submitted in unclassified form, but may contain a classified annex if necessary.

(f) Definitions- In this section:

(1) The term `anti-access', with respect to capabilities, means any action that has the effect of slowing the deployment of friendly forces into a theater, preventing such forces from operating from certain locations within that theater, or causing such forces to operate from distances farther from the locus of conflict than such forces would normally prefer.

(2) The term `area-denial', with respect to capabilities, means operations aimed to prevent freedom of action of friendly forces in the more narrow confines of the area under a potentially hostile nation-state's direct control, including actions by an adversary in the air, on land, and on and under the sea to contest and prevent joint operations within a defended battlespace.

Regarding Section 1064, the committee's report states:

Report on United States efforts to defend against threats posed by the anti-access and area-denial capabilities of certain nation-states (sec. 1064)

The committee recommends a provision that would require the Secretary of Defense, not later than February 1, 2011, to submit to the Committee on Armed Services of the Senate and the House of Representatives a report on the Department's efforts to defend against threats posed by the anti-access and area-denial capabilities of potentially hostile nation states. The report should include a description of any efforts by the Department to address findings in the 2010 Quadrennial Defense Review Report regarding advanced anti-access capabilities of foreign countries. The report should also include a discussion of current and future U.S. long-range strike capabilities in the context of countering anti-access and area-denial strategies.

The committee is concerned by the emergence of what the 2010 Quadrennial Defense Review Report described as "anti-access strategies [that] seek to deny outside countries the ability to project power into a region, thereby allowing aggression or other destabilizing actions to be conducted by the anti-access power." The committee believes it is essential that the U.S. Armed Forces maintain the capability to project power globally in light of growing anti-access challenges. The global presence and reach of U.S. forces protects U.S. interests, provides stability and reassures our many allies and security partners. The committee expects that as anti-access threats emerge, the United States will develop the necessary capabilities and security partnerships, to meet those threats.

In this regard, the committee notes that the U.S. Navy and U.S. Air Force have initiated a dialogue addressing means by which our air and naval forces may more effectively work together in the face of anti-access challenges. The committee encourages the Chief of Naval Operations and Air Force Chief of Staff to work together with the purpose of overcoming emergent anti-access challenges.

> Additionally, the committee notes its displeasure that the Department of Defense has failed to submit the Annual Report on the Military and Security Developments involving the People's Republic of China, as required by Section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65) by the statutory deadline of March 1. The timely submission of this report is required by law, and the committee expects it to be presented to Congress as required. (Pages 194-195)

Final Version (H.R. 6523/P.L. 111-383)

Section 1238 of the FY2011 defense authorization act (H.R. 6523/P.L. 111-383 of January 7, 2011) states:

> SEC. 1238. REPORT ON UNITED STATES EFFORTS TO DEFEND AGAINST THREATS POSED BY THE ANTI-ACCESS AND AREA-DENIAL CAPABILITIES OF CERTAIN NATION-STATES.
>
> (a) Finding- Congress finds that the 2010 report on the Department of Defense Quadrennial Defense Review concludes that `[a]nti-access strategies seek to deny outside countries the ability to project power into a region, thereby allowing aggression or other destabilizing actions to be conducted by the anti-access power. Without dominant capabilities to project power, the integrity of United States alliances and security partnerships could be called into question, reducing United States security and influence and increasing the possibility of conflict'.
>
> (b) Sense of Congress- It is the sense of Congress that, in light of the finding in subsection (a), the Secretary of Defense should ensure that the United States has the appropriate authorities, capabilities, and force structure to defend against any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.
>
> (c) Report- Not later than April 1, 2011, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on United States efforts to defend against any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile nation-states.
>
> (d) Elements- The report required under subsection (c) shall include the following:
>
> (1) An assessment of any potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries, including an identification of the foreign countries with such capabilities, the nature of such capabilities, and the possible advances in such capabilities over the next 10 years.
>
> (2) A description of any efforts by the Department of Defense to address the potential future threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.
>
> (3) A description of the authorities, capabilities, and force structure that the United States may require over the next 10 years to address the threats posed by the anti-access and area-denial capabilities of potentially hostile foreign countries.
>
> (e) Form- The report required under subsection (c) shall be submitted in unclassified form, but may contain a classified annex if necessary.
>
> (f) Definitions- In this section—

(1) the term `anti-access', with respect to capabilities, means any action that has the effect of slowing the deployment of friendly forces into a theater, preventing such forces from operating from certain locations within that theater, or causing such forces to operate from distances farther from the locus of conflict than such forces would normally prefer; and

(2) the term `area-denial', with respect to capabilities, means operations aimed to prevent freedom of action of friendly forces in the more narrow confines of the area under a potentially hostile nation-state's direct control, including actions by an adversary in the air, on land, and on and under the sea to contest and prevent joint operations within a defended battlespace.

FY2010

FY2010 Defense Authorization Act (H.R. 2647/P.L. 111-84)

House

The House Armed Services Committee, in its report (H.Rept. 111-166 of June 18, 2009) on H.R. 2647, states:

> The committee welcomes recent positive exchanges between the navies of the U.S. and the People's Republic of China. Such exchanges are particularly important given the harassment of an unarmed U.S. ship, the U.S.N.S. Impeccable, by Chinese ships in international waters on March 8, 2009. This incident violated China's requirement under international law to operate with due regard for the rights and safety of other lawful users of the sea.
>
> The committee urges more U.S.-China engagement and cooperation on maritime issues of mutual concern. The committee also supports the Administration's call for Chinese ships to act responsibly and refrain from provocative activities that could lead to miscalculation or a collision at sea, endangering vessels and the lives of U.S. and Chinese mariners. (Pages 412-413)

Section 1233 of H.R. 2647 would amend the current statute requiring DOD to submit an annual report to Congress on China's military power. The text of Section 1233 is as follows:

> SEC. 1233. ANNUAL REPORT ON MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA.
>
> (a) Annual Report- Subsection (a) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 781; 10 U.S.C. 113 note) is amended—
>
> (1) in the first sentence, by striking `on the current and future military strategy of the People's Republic of China' and inserting `on military and security developments involving the People's Republic of China';
>
> (2) in the second sentence—
>
> (A) by striking `on the People's Liberation Army' and inserting `of the People's Liberation Army'; and
>
> (B) by striking `Chinese grand strategy, security strategy,' and inserting `Chinese security strategy'; and

(3) by adding at the end the following new sentence: `The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future.'.

(b) Matters to Be Included- Subsection (b) of such section, as amended by section 1263 of the National Defense Authorization Act for Fiscal Year 2008 (P.L. 110-181; 122 Stat. 407), is further amended—

(1) in paragraph (1)—

(A) by striking `goals of' inserting `goals and factors shaping'; and

(B) by striking `Chinese grand strategy, security strategy,' and inserting `Chinese security strategy';

(2) by amending paragraph (2) to read as follows:

`(2) Trends in Chinese security and military behavior that would be designed to achieve, or that are inconsistent with, the goals described in paragraph (1).';

(3) in paragraph (6)—

(A) by inserting `and training' after `military doctrine'; and

(B) by striking `, focusing on (but not limited to) efforts to exploit a transformation in military affairs or to conduct preemptive strikes'; and

(4) by adding at the end the following new paragraphs:

`(10) In consultation with the Secretary of Energy and the Secretary of State, developments regarding United States-China engagement and cooperation on security matters.

`(11) The current state of United States military-to-military contacts with the People's Liberation Army, which shall include the following:

`(A) A comprehensive and coordinated strategy for such military-to-military contacts and updates to the strategy.

`(B) A summary of all such military-to-military contacts during the period covered by the report, including a summary of topics discussed and questions asked by the Chinese participants in those contacts.

`(C) A description of such military-to-military contacts scheduled for the 12-month period following the period covered by the report and the plan for future contacts.

`(D) The Secretary's assessment of the benefits the Chinese expect to gain from such military-to-military contacts.

`(E) The Secretary's assessment of the benefits the Department of Defense expects to gain from such military-to-military contacts, and any concerns regarding such contacts.

`(F) The Secretary's assessment of how such military-to-military contacts fit into the larger security relationship between the United States and the People's Republic of China.

> `(12) Other military and security developments involving the People's Republic of China that the Secretary of Defense considers relevant to United States national security.'.
>
> (c) Conforming Amendment- Such section is further amended in the heading by striking `military power of' and inserting `military and security developments involving'.
>
> (d) Repeals- Section 1201 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 779; 10 U.S.C. 168 note) is amended by striking subsections (e) and (f).
>
> (e) Effective Date-
>
> (1) IN GENERAL- The amendments made by this section shall take effect on the date of the enactment of this Act, and shall apply with respect to reports required to be submitted under subsection (a) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000, as so amended, on or after that date.
>
> (2) STRATEGY AND UPDATES FOR MILITARY-TO-MILITARY CONTACTS WITH PEOPLE'S LIBERATION ARMY- The requirement to include the strategy described in paragraph (11)(A) of section 1202(b) of the National Defense Authorization Act for Fiscal Year 2000, as so amended, in the report required to be submitted under section 1202(a) of such Act, as so amended, shall apply with respect to the first report required to be submitted under section 1202(a) of such Act on or after the date of the enactment of this Act. The requirement to include updates to such strategy shall apply with respect to each subsequent report required to be submitted under section 1202(a) of such Act on or after the date of the enactment of this Act.

Regarding Section 1233, the committee's report stated:

> This section would amend section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65) by changing the title of the report to ''Annual Report on Military and Security Developments Involving the People's Republic of China,'' and by making certain clarifying and technical changes.
>
> This section would also expand the scope of the report. It would require the Secretary of Defense, in consultation with the Secretary of State and Secretary of Energy, to provide analyses and forecasts of developments regarding U.S. engagement and cooperation with the People's Republic of China on security matters, such engagement and cooperation through military-to-military contacts, and the U.S. strategy for such engagement and cooperation in the future. Specifically, the committee requests the Secretary to provide information regarding U.S.-China engagement and cooperation in the areas of: counter-terrorism; counter-piracy; maritime safety; strategic capabilities, including space, nuclear and cyber warfare capabilities; nuclear policy and strategy; nonproliferation, including export controls, border security, and illicit arms transfers and interdictions; energy and environmental security; peacekeeping; humanitarian assistance and disaster relief, including in the area of military medicine; crisis management, including use of the ''defense hotline''; regional security issues, including in the Taiwan Strait and South and East China Seas and on the Korean peninsula; and regional security organizations and other mechanisms.
>
> In addition, this section would incorporate the reporting requirement under section 1201 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65) on U.S.-China military-to-military contacts into the reporting requirement under section 1202 of that Act. It would also include a new requirement for a comprehensive and coordinated strategy for U.S.-China military-to-military contacts.

> This section would further require the Secretary of Defense to provide additional information regarding military and security developments involving China that the Secretary considers relevant to U.S. national security. (Page 423)

Senate

The Senate Armed Services Committee, in its report (S.Rept. 111-35 of July 2, 2009) on the FY2010 defense authorization bill (S. 1390), states:

> The Department of Defense's Annual Report to Congress on the Military Power of the People's Republic of China (PRC) has included a brief description of the PRC concept of the ''three warfares'', generally identified as psychological warfare, media warfare, and legal warfare. These concepts, also referred to as ''nonmilitary warfare concepts'', have also been the subject of hearings before the United States-China Economic and Security Review Commission and were discussed in some detail in the Commission's 2008 report to Congress. The March 2009 harassment of the USNS Impeccable by Chinese ships in the South China Sea stands as a recent example of how the PRC may be using the concept of ''legal warfare'', for instance, to influence regional events. The committee urges the Secretary of Defense to examine the implications of the ''three warfares'' on United States military affairs in the region and requests the Secretary to provide additional detail on each of them, including examples and trends, in the 2010 report to Congress. (Page 195)

Conference

Section 1246 of the conference report (H.Rept. 111-288 of October 7, 2009) on H.R. 2647/P.L. 111-84 of October 28, 2009, amends the current statute requiring DOD to submit an annual report to Congress on China's military power. The text of Section 1246 is as follows:

> SEC. 1246. ANNUAL REPORT ON MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA.
>
> (a) ANNUAL REPORT.—Subsection (a) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 781; 10 U.S.C. 113 note) is amended—
>
> (1) in the first sentence, by striking ''on the current and future military strategy of the People's Republic of China'' and inserting ''on military and security developments involving the People's Republic of China'';
>
> (2) in the second sentence—
>
> (A) by striking ''on the People's Liberation Army'' and inserting ''of the People's Liberation Army''; and
>
> (B) by striking ''Chinese grand strategy, security strategy,'' and inserting ''Chinese security strategy''; and
>
> (3) by adding at the end the following new sentence: ''The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future.''.

(b) MATTERS TO BE INCLUDED.—Subsection (b) of such section, as amended by section 1263 of the National Defense Authorization Act for Fiscal Year 2008 (P.L. 110-181; 122 Stat. 407), is further amended—

(1) in paragraph (1)—

(A) by striking ''goals of'' inserting ''goals and factors shaping''; and

(B) by striking ''Chinese grand strategy, security strategy,'' and inserting ''Chinese security strategy'';

(2) by amending paragraph (2) to read as follows:

''(2) Trends in Chinese security and military behavior that would be designed to achieve, or that are inconsistent with, the goals described in paragraph (1).'';

(3) in paragraph (6)—

(A) by inserting ''and training'' after ''military doctrine''; and

(B) by striking '', focusing on (but not limited to) efforts to exploit a transformation in military affairs or to conduct preemptive strikes''; and

(4) by adding at the end the following new paragraphs:

''(10) In consultation with the Secretary of Energy and the Secretary of State, developments regarding United States-China engagement and cooperation on security matters.

''(11) The current state of United States military-to-military contacts with the People's Liberation Army, which shall include the following:

''(A) A comprehensive and coordinated strategy for such military-to-military contacts and updates to the strategy.

''(B) A summary of all such military-to-military contacts during the period covered by the report, including a summary of topics discussed and questions asked by the Chinese participants in those contacts.

''(C) A description of such military-to-military contacts scheduled for the 12-month period following the period covered by the report and the plan for future contacts.

''(D) The Secretary's assessment of the benefits the Chinese expect to gain from such military-to-military contacts.

''(E) The Secretary's assessment of the benefits the Department of Defense expects to gain from such military-to-military contacts, and any concerns regarding such contacts.

''(F) The Secretary's assessment of how such military-to-military contacts fit into the larger security relationship between the United States and the People's Republic of China.

''(12) Other military and security developments involving the People's Republic of China that the Secretary of Defense considers relevant to United States national security.''.

(c) CONFORMING AMENDMENT.—Such section is further amended in the heading by striking ''MILITARY POWER OF'' and inserting ''MILITARY AND SECURITY DEVELOPMENTS INVOLVING''.

(d) REPEALS.—Section 1201 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65; 113 Stat. 779; 10 U.S.C. 168 note) is amended by striking subsections (e) and (f).

(e) EFFECTIVE DATE.—

(1) IN GENERAL.—The amendments made by this section shall take effect on the date of the enactment of this Act, and shall apply with respect to reports required to be submitted under subsection (a) of section 1202 of the National Defense Authorization Act for Fiscal Year 2000, as so amended, on or after that date.

(2) STRATEGY AND UPDATES FOR MILITARY-TO-MILITARY CONTACTS WITH PEOPLE'S LIBERATION ARMY.—The requirement to include the strategy described in paragraph (11)(A) of section 1202(b) of the National Defense Authorization Act for Fiscal Year 2000, as so amended, in the report required to be submitted under section 1202(a) of such Act, as so amended, shall apply with respect to the first report required to be submitted under section 1202(a) of such Act on or after the date of the enactment of this Act. The requirement to include updates to such strategy shall apply with respect to each subsequent report required to be submitted under section 1202(a) of such Act on or after the date of the enactment of this Act.

Regarding Section 1246, the conference report states:

Annual report on military and security developments involving the People's Republic of China (sec. 1246)

The House bill contained a provision (sec. 1233) that would amend section 1202 of the National Defense Authorization Act for Fiscal Year 2000 (P.L. 106-65) by changing the title of the report to ''Annual Report on Military and Security Developments Involving the People's Republic of China'' and by making certain clarifying and technical changes. The provision would also expand the scope of the report to include information regarding U.S. engagement and cooperation with China on security matters, and information on additional developments involving China that the Secretary of Defense considers relevant to national security. In addition, the provision would repeal the reporting requirements on military-to-military contacts under sections 1201(e) and (f) of the National Defense Authorization Act for Fiscal Year 2000 and add these requirements to the reporting requirements under section 1202 of that Act. Details of the provision's reporting requirements are set forth in the report accompanying the House bill (H.Rept. 111-166).

The Senate amendment contained no similar provision.

The Senate recedes.

The conferees encourage the Secretary to further examine the implications of China's concepts of psychological warfare, media warfare, and legal warfare on U.S. military affairs in the region and include additional detail on each of these concepts, including examples and trends, in the fiscal year 2010 report to Congress required under this section. (Page 842)

FY2009

FY2009 Defense Authorization Bill (H.R. 5658)

House

The House Armed Services Committee, in its report (H.Rept. 110-652 of May 16, 2008) on H.R. 5658, stated the following regarding the development of an anti-air warfare target for simulating Threat D, which some press reports suggest might be a term that refers to an ASCM with a flight profile similar that of the SS-N-27 Sizzler:[201]

> The committee is pleased to note the anticipated source selection for the development of a Threat D missile target development program in the summer of 2008. The committee remains concerned that the estimated initial operating capability of such a target in 2014 creates substantial risk during the interim period. The committee encourages the Secretary to accelerate the target development program to the maximum extent practicable. In addition, the committee directs the Secretary of the Navy to notify the congressional defense committees in writing if the estimated initial operating capability of the Threat D target is delayed more than 90 days or if the costs associated with such program exceeds 10 percent of programmed funding. The committee further directs the Secretary to provide such notification within 30 days, along with the reasons for such delay or cost overrun and a mitigation plan consisting of actions that could restore the program to its original timeline. (Page 204)

FY2008

FY2008 Defense Authorization Act (H.R. 4986/P.L. 110-181)

House

Section 1244 of the House-reported version of the FY2008 defense authorization bill (H.R. 1585) stated:

> SEC. 1244. SENSE OF CONGRESS CONCERNING THE STRATEGIC MILITARY CAPABILITIES AND INTENTIONS OF THE PEOPLE'S REPUBLIC OF CHINA.
>
> It is the sense of Congress that—
>
> (1) United States military war-fighting capabilities are potentially threatened by the strategic military capabilities and intentions of the People's Republic of China, as demonstrated by—

[201] See "United States: The Supersonic Anti-Ship Missile Threat," *Stratfor.com*, April 18, available online at http://www.stratfor.com/analysis/united_states_supersonic_anti_ship_missile_threat?ip_auth_redirect=1; Tony Capaccio, "Navy Can't Test Defense Against China's Sizzler," Until 2014," *Bloomberg.com*, April 3, 2008; Chris Johnson, "Navy Issues Draft Request For Threat-D Target Development," *Inside the Navy*, July 30, 2007; Chris Johnson, "Industry Day Planned To Develop Threat-D Target For Ship Tests," *Inside the Navy*, July 9, 2007; and Chris Johnson, "Pentagon: Lack Of Threat-D Target Hinders Testing For New Vessels," *Inside the Navy*, January 22, 2007. See also the transcript of the March 12, 2008, hearing before the House Armed Services Committee on the posture of the Pacific Command.

> (A) the October 2006 undetected broach of a Chinese SONG-class diesel-electric submarine in close proximity of the USS Kitty Hawk in international waters; and
>
> (B) the January 2007 test of a direct ascent anti-satellite (ASAT) weapon, posing a potential threat to United States military assets in space;
>
> (2) it is in the national security interests of the United States to make every effort to understand China's strategic military capabilities and intentions; and
>
> (3) as part of such an effort, the Secretary of Defense should expand efforts to develop an accurate assessment of China's strategic military modernization, particularly with regard to its sea- and space-based strategic capabilities.

Senate

The Senate-passed version of the FY2008 defense authorization bill (S. 1547; S.Rept. 110-77 of June 5, 2007) did not contain a provision analogous to Section 1244 of the House-passed version of H.R. 1585 (see above).

Conference

The conference report (H.Rept. 110-477 of December 6, 2007) on H.R. 1585 did not contain a provision analogous to the Sec. 1244 of the House-passed version of H.R. 1585. The conference report stated:

> The conferees note China's continued investment in strategic military capabilities that could be used to support power projection and access denial operations beyond the Asia Pacific region, and the lack of transparency surrounding the strategic military capabilities and intentions relating to China's military modernization. The Pentagon's 2006 Quadrennial Defense Review Report (QDR) found that China is at a strategic crossroads and that, "of the major and emerging powers, China has the greatest potential to compete militarily with the United States." The conferees note that during the last year, China demonstrated such potential, including the October 2006 broach of a Chinese SONG-class diesel-electric submarine in close proximity to the USS Kitty Hawk aircraft carrier in international waters and the January 2007 test of a direct ascent anti-satellite missile against a Chinese weather satellite in low-earth orbit.
>
> The conferees encourage the Secretary of Defense to expand efforts to develop an accurate assessment and understanding of China's strategic military modernization and strategic intentions, particularly with regard to its sea- and space-based strategic capabilities. (Page 1031)

H.R. 1585 was vetoed by the President on December 28, 2008. A new bill, H.R. 4986, was passed with changes that took into account the President's objection to certain parts of H.R. 1585. The President's objection to certain parts of H.R. 1585 did not relate to the passage quoted above. H.R. 4986 was signed into law as P.L. 110-181 of January 28, 2008. Except for the changes made by Congress to take into account the President's objection to certain parts of H.R. 1585, H.Rept. 110-477 in effect serves as the conference report for H.R. 4986.

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