Admiral Greenert on the War of 1812 | Is the Pivot an About-Face?

PROCEEDINGS

U.S. NAVAL INSTITUTE | The Independent Forum of the Sea Services

NAVAL REVIEW

On the Brink of a New Naval Age

Securing the Strait of Hormuz

Russia's Arctic Beachfront

30 Years after the Falklands War

May 2012
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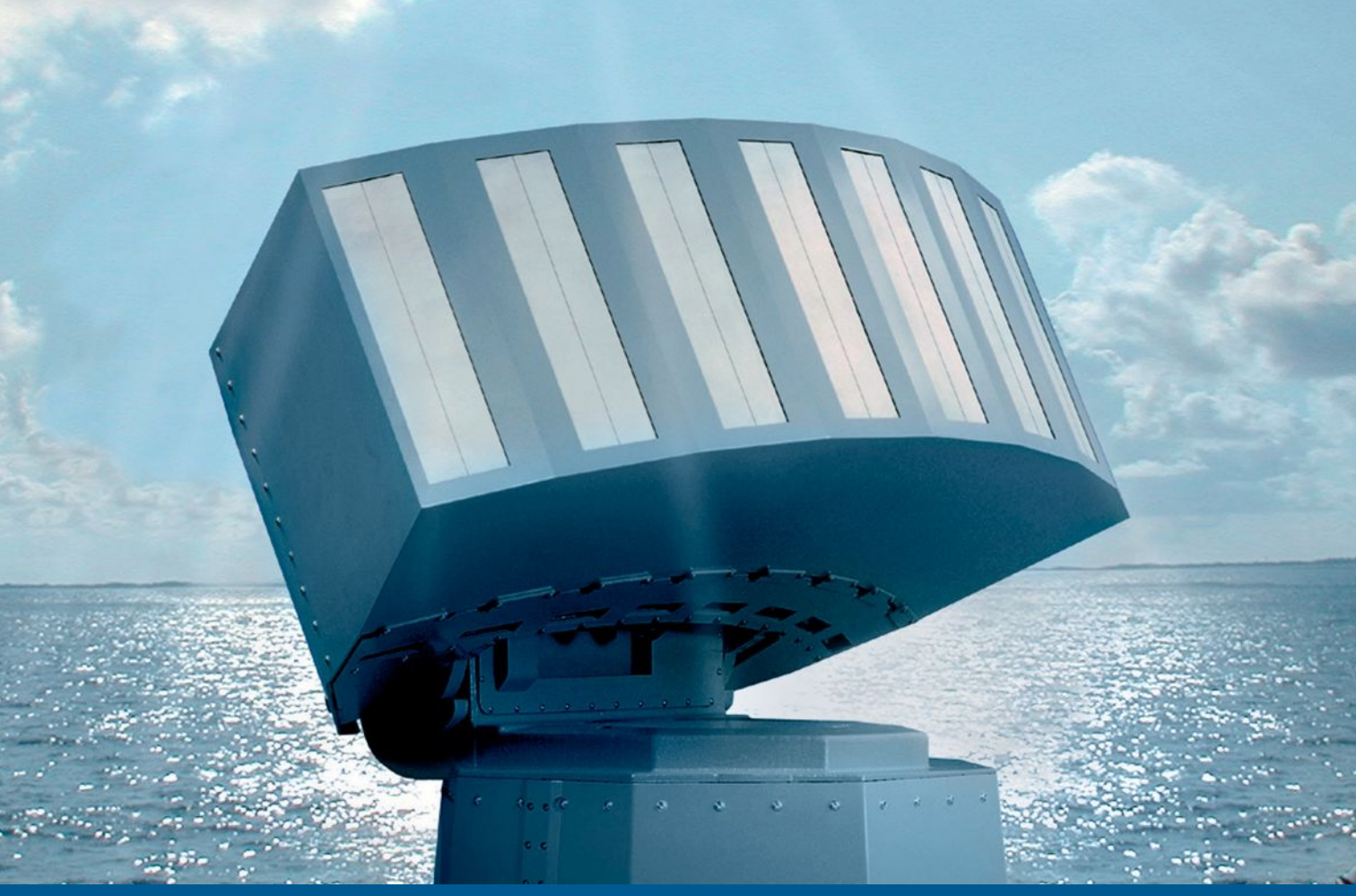

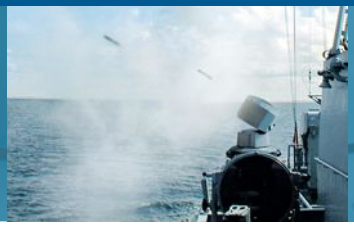

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The Independent Forum of the Sea Services May 2012 Vol. 138/5/1,311

FEATURES

SPECIAL

THIS MONTH'S COVER

On her final deployment, The USS *Enterprise* (CVN-65) transits the Atlantic Ocean on 21 March in support of maritime-security operations and theater-security cooperation efforts in the 6th Fleet area of responsibility. Our annual review covers all Sea-Service activities over the past year. U.S. NAVY (HARRY ANDREW D. GORDON)

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Up Front

In Back

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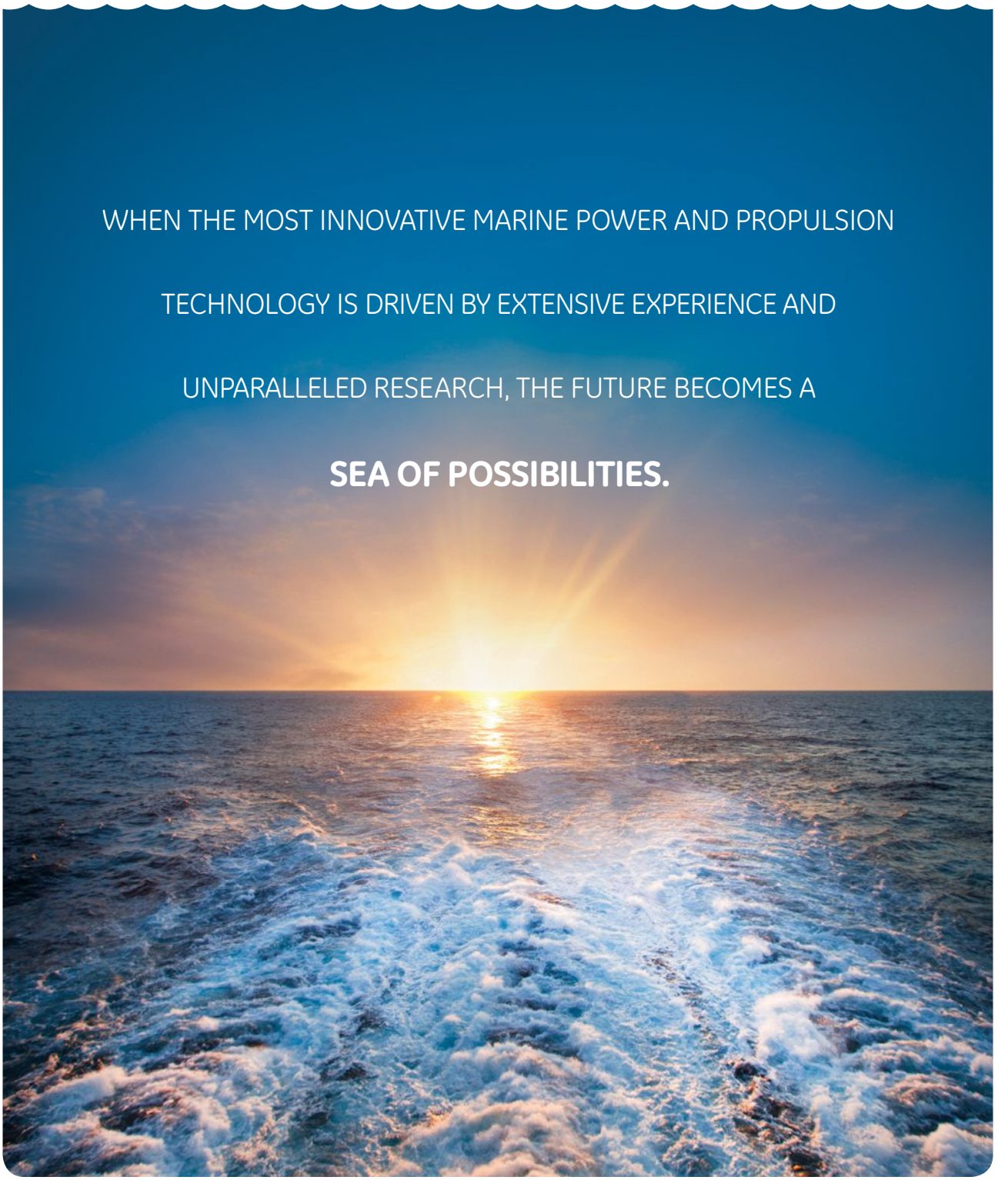

imagination at work

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Each May our Naval Review gives readers the opportunity to reflect on the accomplishments of the Sea Services during the past calendar year while also attempting to look ahead to the big issues that may be awaiting the Navy, Marine Corps, and Coast Guard in the near future. As anyone following the news on a daily basis knows, there is no shortage of challenges facing our nation. Whether it's the ongoing drama of budget discussions here at home or looking abroad to the rise of China, tensions with Iran, and North Korean missile launches (or at least attempts), there's much to give planners and policy-makers many a sleepless night. But as our authors point out this month, valuable lessons learned from the past can be a guide for us as we navigate an uncertain present, and all do a superb job of applying the lessons of history to address current threats.

U.S. NAVY (JAMES R. EVANS)

Just as it has been in the past, sea power will continue to be the cornerstone of our nation's economic and military stength. Here various models of F/A-18 Hornets and Super Hornets fly over the USS *Carl Vinson* (CVN-70) in the Persian Gulf.

Under Secretary of the Navy Robert Work leads off with an in-depth discussion of what he calls "the coming naval century." He explains that in addition to knowing where you are at any historical moment, it is just as important to know "how you got there." Expanding on Samuel Huntington's May 1954 *Proceedings* article "National Policy and the Transoceanic Navy," Mr. Work places the Navy's central role in the nation's new strategic guidance in the context of past and present national-security eras. He reminds us that when President Dwight D. Eisenhower came into office and began to craft his Fiscal Year 1954 budget proposal, he faced security challenges at least as grave as today's. Yet the President moved to cut defense spending, while making clear strategic choices and prioritizing his military ways and means, ultimately balancing the budget and putting the country on track to win the Cold War. Similarly, Mr. Work says, in *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, President Barack Obama and Secretary of Defense Leon Panetta move the country onto a more sustainable and forward-looking national-security pathway. Under Secretary Work is confident that after the coming drawdown is complete, the United States will still have "the best and most capable military in the world," and maritime power will play a key role.

In this bicentennial year of the War of 1812, Chief of Naval Operations Admiral Jonathan Greenert looks back to that conflict for lessons that can be applied today. Although the young U.S. Navy distinguished itself in individual engagements, demonstrating traits that endure today, the CNO points out that the lack of a large fleet ultimately hurt the United States during the war as the British blockade severely pinched the country's economy. It became clear that a strong Navy was essential to America's security and prosperity.

We mark another historic event this month: It's been three decades since Great Britain and Argentina clashed in the Falklands War. Navy Commander Jim Griffin believes there's no better way to mark the 30th anniversary than to note the prescient lessons that emerged from that seminal anti-access/area-denial war—a war that may have more to tell today's navalists than other, more recent conflicts.

Meanwhile, as unrest in the Middle East and North Africa continues to simmer, the new U.S. military strategy is to "pivot," concentrating the focus on the Pacific Ocean. But retired Navy Captain Gerry Roncolato, former chair of the Naval Institute Editorial Board, warns that turning our backs on the sites of the Arab Spring might not be a good idea. Regardless, the Navy will be in the middle of it all, tasked with making the shift while still possibly being engaged in the Persian Gulf.

What form could such engagement take? Sanctions against Iran's nuclear aspirations are inciting that country to make noise about closing one of the busiest conduits of seaborne commerce in the region, the Strait of Hormuz. Armed with lessons learned from Operation Praying Mantis in 1988 and Israel's fight against Hezbollah in 2006, Navy Commander Daniel Dolan takes a look at Iran's anti-access/area-denial capabilities and advances a strategy to deal militarily with such a closure. While not advocating preemption, Commander Dolan does urge the United States and the Navy to at least have a plan.

In addition to noting our featured authors, I want to take this opportunity to thank all those who contribute the material to our annual review sections. It's a lot of work, but they come through every year to bring our readers a vivid snapshot of the Sea Services. We couldn't do it without them.

Paul Merzlak, Editor-in-Chief

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The enthusiastic reaction to the Naval Institute's Strategic Plan initiatives and the number of energized members present at the Annual Meeting on

11 April were unmistakable signs that the Institute is moving ahead with a bold new agenda.

The Annual Meeting was a very positive step forward, providing an important opportunity to meet and share views as we revitalize the Institute in the months and years to come. Original *Good Morning America* host David Hartman's conversation with Vice Admiral Bob Harward riveted the lunch audience. Admiral Harward provided a thoughtful insider's perspective on complex issues from Afghanistan to Iran, and from Syria to Pakistan, during this period of historic change.

In accordance with the Institute's Constitution and By-Laws, we announced the election results. The following members were elected to the Naval Institute Board of Directors:

RADM Dan Bowler, USN (Ret.)
VADM Nancy Brown, USN (Ret.)
VADM Herb Browne, USN (Ret.)
CAPT Karl Hasslinger, USN (Ret.)
Dr. Jack London, CAPT, USN (Ret.)
CAPT Dave McFarland, USN
Mr. Ed Miller
VADM Norm Ray, USN (Ret.)
CAPT Gordan Van Hook, USN (Ret.)

The Institute owes its deep thanks to Mr. Stephen Waters, Mr. Al Cady, and Mr. Donald Brennan, whose terms on the Board have ended. Steve served for seven years in addition to four years serving the Foundation. In his last two years, he provided important leadership as our Chairman of the Board. Al Cady served seven years on the Board, Donald Brennan three. As uncompensated volunteers, they devoted countless hours, freely shared their substantial experience, and contributed their personal resources on behalf of our Naval Institute. We are immensely grateful for their dedicated service at a critical time for USNI.

The following members were elected to the Naval Institute Editorial Board:

CDR Steve Barnett, USN
FLTCM Scott Benning, USN
LCDR Claude Berube, USNR
LCDR Tom D'Arcy, USCG
LtCol Doug Douds, USMC
LCDR Rachael Gosnell, USN
Maj Marcus Mainz, USMC
LT Robert McFall, USN
LT John Walsh, USN

Special thanks are due to CAPT Doug Fears, USCG; Col John Abbatiello, USAF; SgtMaj Dave Devaney, USMC; Col Robert Lanham, USMC; BMCM Kevin Leask, USCG; CAPT Dave McFarland, USN; LTC John Mowchan, USA; CDR Jeff Novak, USCG; CDR John Patch, USN (Ret.); and, CMDCM Jacqueline DiRosa, USN (Ret.) whose terms on the Editorial Board are at an end. Each year, the Editorial Board reviews 80 to 100 submissions and engages in lively discussions with our staff and editors to make *Proceedings* the best product we can deliver. We especially thank Captain Fears for his two-year stint as Chairman of the Editorial Board and service on the Board of Directors.

One of the highlights of the Annual Meeting was the introduction of one of USNI's most powerful new initiatives aimed at increasing the Institute's relevance for young Navy, Marine Corps, and Coast Guard professionals. A series of open discussions with a cross-section of junior officers and enlisted personnel told us a self-evolving Naval Wiki resonates strongly with them. The Naval Wiki, now a reality, will drastically improve access to the critical information junior naval professionals need to keep up with the increasing demands of their jobs in environments far from traditional support and mentors. Naval Wiki is intended to provide a "go-to" source *for* naval professionals with content shaped *by* naval professionals.

We delivered on another "promise made" prior to the Annual Meeting: the launch of a completely redesigned Institute website that captures member feedback. The new design features cleaner navigation, improved transaction functionality, and powerful new search capabilities.

USNI has one of the largest, most complex websites of any comparable nonprofit organization because of the variety of business we conduct online. Consider the issues of *Proceedings*, *Naval History*, and their back issues; the ability to buy traditional print books, eBooks, photos, and insignia products; the need to promote and register for USNI events such as conferences and the Annual Meeting; and, importantly, the need to register new members and renew existing ones. Add in daily online updates on top stories, the USNI Blog, the micro-sites that house special content, and plans to do even more, and you can begin to appreciate the complexities. It all has to work flawlessly and intuitively. Among the powerful new functions is the ability for members to manage and update or correct all of their information. This alone will have an enormous impact in helping us serve members more effectively and efficiently. We have also just established a new LinkedIn Group for the U.S. Naval Institute, and we encourage you to join!

I look forward to seeing many of you at our Joint Warfighting Conference (JWC), sponsored with our partner AFCEA, in Virginia Beach 15-17 May. We have a terrific program that includes Chairman of the Joint Chiefs of Staff General Martin Dempsey and former Vice Chairman General James Cartwright. View the program and register at http://www.usni.org/events.

We are excited to host a second Member Event in Virginia Beach in an effort to continue to connect with our members on a national level. USNI will host an evening reception on Tuesday, 15 May at the Virginia Aquarium. You can register and find directions and general information at www.usni.org/memberevent.

Peter H. Daly VADM, USN (Ret.)
Life Member and member since 1978

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U.S. Naval Institute Strategic Plan Summary 2012

Where We're Headed

The work of the U.S. Naval Institute has never been more important. This plan combines the strength of our independent forum with a new vision that realizes the vast potential of the Naval Institute and propels it into the future.

Mission

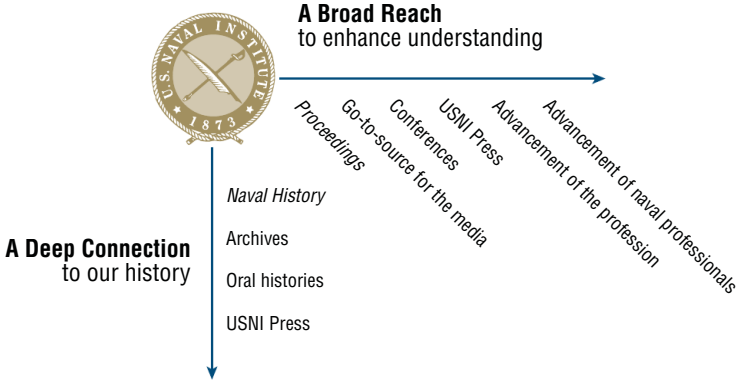
To provide an independent forum for those who dare to read, think, speak, and write in order to advance the professional, literary, and scientific understanding of sea power and other issues critical to national defense.

Vision

We are the preeminent thought leader serving all Navy, Marine Corps, and Coast Guard personnel by advancing the naval profession and preserving our naval history. USNI enhances the understanding of the vital contribution of American sea power to the defense and economic well-being of our nation.

USNI Has A Broad Reach and Deep Connection

That's another way of saying: we raise the game for America's sea services and for America. Currently, we . . .



- Reach broadly to provide an honest, independent forum that supports debate, develops ideas, and increases the Sea Services' professionalism, while developing its professionals.
- Connect deeply to history, so that Americans better understand naval and maritime history and traditions.

These are serious responsibilities. And both of them have a 138-year history of shaping thought and policy.

But there is a chance to make an even bigger difference.

The time is now.

What is USNI's immediate opportunity?

The importance of sea power is on the rise as America's global focus shifts away from two very long and primarily land-centric conflicts. Yet, constrained national resources are already reducing our military options. Additional reductions loom. Clear thinking—inside and outside the Sea Services—is needed more than ever. Pivotal decisions are being made, and they must be informed decisions.

USNI is one of the most trusted sources for information on these matters. As we aggressively embrace difficult debate, we are easily the best independent, broad-minded forum for the vetting and exposure of new ideas.

But we can do even better, and for our nation's sake, we must.

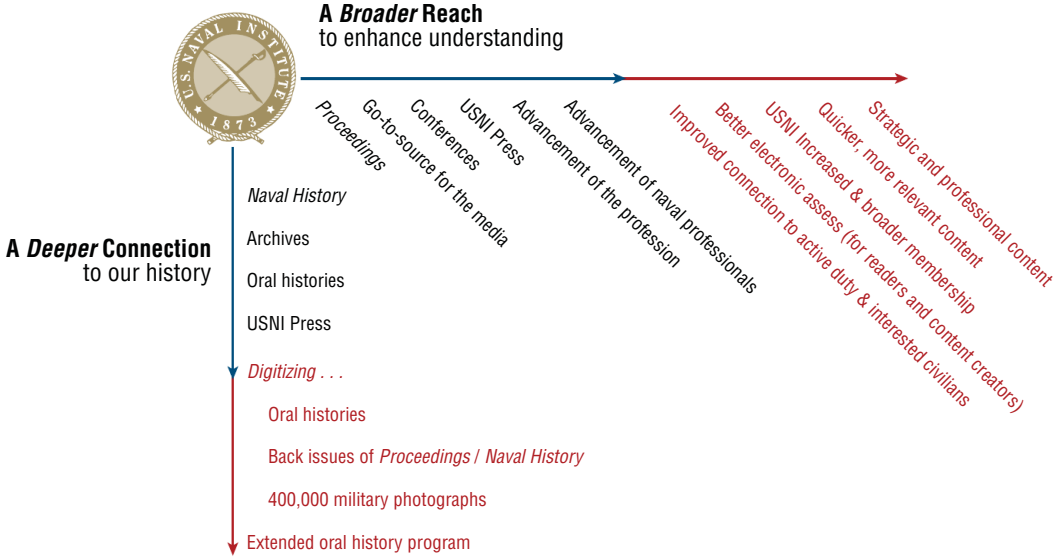
The need for USNI is great, and so are our opportunities. Professionals of the Navy, Marine Corps, and Coast Guard have become voracious consumers and producers of information—IF they have the right information conduits.

The traditional vehicles—books, magazines and conferences—are being revolutionized with incredible new ways both to consume and to produce information. The rules have changed and keep changing; we must keep up.

Technology has now given us ways to link even more effectively to our rich history—while at the same time allowing us to link to each other and each new generation.

These are exciting times with vast potential. We now have huge opportunities to broaden our reach, deepen our connection to history, and bring it alive for current and future generations.

And that's exactly where we're headed.



How did we chart our course?

This plan results from the contributions of many. To guide our course, we surveyed our membership and spoke one-on-one and in groups with many members and other key stakeholders. And, we received thoughtful and careful direction from our Board. With all of this vital input, the USNI leadership team crafted the plan. It is intended as a living document, informed by experience, continued engagement, and emerging opportunities.

What's the way ahead?

To set our direction, we have identified four principal objectives, each one consistent with our vision and our mission. We describe the "what," "why," and "how" of each objective in the following narrative.

Objective #1

Enhance national understanding of the vital contribution of American sea power.

Why?

Especially now, America's Sea Services need an open forum for honest debate, informed discussion, and professional development– a forum with no ax to grind, no issue to avoid, and one where lieutenants and service chiefs each get a turn.

In that way, we help America and we help the Navy, Marine Corps, and Coast Guard.

How? Key Strategies and Initiatives

1. Improve timeliness and relevance of *Proceedings*' content, emphasizing prime strategic topics in addition to professional topics.

2. Rebuild connections to the active-duty community at all levels, including engagement with the Sea Service leaders on a regular basis

3. Drive conference content to advance the mission and vision of the Institute.

4. Build new connections on the national front to increase understanding of the Sea Services' vital contributions. Especially include:

    a. Private sector leaders and other citizens who explicitly share an interest in our nation's security and economic concerns, and

    b. Relationships to inform policy makers and law makers

5. Increase our go-to status as the media's authoritative source for experts on naval matters through author and member constituents

6. Leverage the skills and talents of members

    a. Via new media (establish an on-line editor position and a contributors program)

    b. Via advisory groups (for USN, USMC, and USCG)

Objective #2

Preserve and make available naval history.

Why?

For those of us who are serving or have served in the Navy, Marine Corps, and Coast Guard, to understand our history is largely to understand ourselves. This history is where we are rooted.

For us and for the larger community, to understand history is to profit from it—as warriors and as citizens—thinking and acting more wisely.

At its best, history is moral instruction.

America's Navy, Marine Corps, and Coast Guard history is rife with good yarns and great wisdom; it's our job to capture it, preserve it . . . and pass it on.

And here, we are defining "history" broadly. Even the current issues of *Proceedings* are time capsules of intellectual history, as is our growing on-line repository of facts, debates, and opinions. What-is becomes what-was, or "history," if it is properly captured.

How? Key Strategies and Initiatives

Both information creators and information consumers will like the upcoming improvements.

For information creators: The phrase "freedom of the press" is about to gain more heft at USNI. Whether you are a junior officer with a clever idea, or an author with an out-of-print book, or a seasoned sailor or sergeant with a story to tell, you will increasingly find your voice at USNI. While the bar remains high in *Proceedings*, more junior professionals are publishing within it pages. New online editorial content extends those opportunities and the USNI Blog is a level playing field where anyone with an idea and the will to interact respectfully can be heard.

For information consumers: Formerly, if you wanted something that not many other people wanted—say, an old book, article, photograph, or USNI oral history—you were out of luck. Or, if you wanted to tap our online references or online forums, but didn't have access to the Internet or even to a computer, then again you were out of luck. That luck is about to change.

Our strategies to preserve and make available Navy, Marine Corps, and Coast Guard history rely on the power of recent technological advances. The list is long, but here is a sample:

1. Publishers like us have always had to weigh whether a particular book would justify the considerable expense of firing up the presses. Most new book proposals are rejected. Out-of-print books tend to stay out of print. Sheer economics have stifled the ability of the publishing industry to connect all those who had something to say and those who might be interested in hearing it. This has been so since Gutenberg—until now. Two innovations have obliterated that limitation.

   a. First, "print on demand" (POD) has changed the rules. This technology now means books can be printed, one at a time, as people want them. Like going to your local market to get a single copy of a single photograph of your family at Thanksgiving, you will be able to order a single copy of an old, forgotten nautical book, or print just a dozen copies of your memoirs. If a book becomes unexpectedly popular, we can always do a large run the old fashioned way.

   b. More than POD, e-books have broken down publishing barriers and are continuing to do so. When you download your books, there's no waiting for packages; when you carry your books on a reading device, you take your whole library with you.

   c. Related to both POD and e-books is the emergence of self-publishing as an important new way of preserving history in memoirs and similar recollections that do not require commercial success to prove their worth. USNI will be able to offer its members a full range of assisted self-publishing, including artwork, layout, editing, and distribution.

2. There's plenty of treasure locked within in USNI's library, including oral histories, back issues of *Proceedings* and *Naval History*, out-of-print books, and the most extensive collection of military photographs in private hands in the world.

Of course, our aim is to unlock that treasure, which we'll do by digitizing all that information and making it easily searchable and accessible online. That's no small chore (actually, it's a lot of big chores), but it will shine light more brightly onto American naval and Sea Services history than ever before.

3. Our active-duty members have a lot to teach each other on matters as diverse as how to conduct a burial at sea or how to command. They will be able to share that information through our USNI Naval Wiki, a wisdom-of-the-crowd tool to connect our professional community and help them help each other to solve practical problems.

4. Access to USNI's information, such as Naval Wiki, is great if you have a computer and an Internet connection. It's a problem if you don't. We will solve that problem by designing and building applications for Android & iOS (iPhone/iPad) devices that will hold information, make it instantly available, and then update it when the devices are re-connected to the Internet.

5. Our Digital Humanities Project will create and curate a tool for explorers: imagine something like Google Earth, but one in which the "domain" is American naval history. Imagine the capability to zoom in or out, to link from one name or event to another—to make history an intellectual adventure.

6. All of the foregoing cost money. So we will work to secure initiative-specific funding and support. That means prioritizing the work and bundling it into tasks. Some of those tasks may be achieved with the help of technology partners who may offer "in-kind" support for work such as scanning. Also, we expect some tasks to be particularly attractive to donors, as we match donors' interests to particular outcomes.

Objective #3

Increase, broaden, and engage our membership.

Why?

To improve the quality of our dialogue we need to increase the size and breadth of our membership. This especially means that we need to bring more active-duty personnel—and other patriots—into the fold.

A larger membership means not only broader impact. It also means a bigger impact, as we extend the intellectual reach reflected in our first two objectives.

Furthermore, we must pass down USNI's historical treasures to the next generation. They must be present for that to happen.

All of this depends on engagement: we need our members to be "members," not mere magazine "subscribers." More than most membership organizations, USNI relies on members' participation to realize its full potential.

How? Key Strategies and Initiatives

1. Develop and implement an active-duty membership engagement plan. Especially aim at the younger generation of active-duty members with two strategies. First, use new media, as mentioned in the strategies under Objective #2. Second, target recruitment efforts, especially during those career milestones where training and education occur. Reach young professionals at accession points, undergraduate schools, mid-career pipeline schools, postgraduate school, and war colleges.

2. Revise and update all membership collateral and improve our Annual Meeting.

3. Listen to our members. Leverage membership surveys and establish membership advisory groups.

4. Reconnect with the services we represent as referenced in Objectives #1 and #2.

Objective #4

Secure endowments to fund key strategies and initiatives that enable the Naval Institute to realize its vision.

Why?

We are an independent nonprofit, and we must earn or raise funds to support our mission. USNI's impact is impossible without the help of donors who support that impact. In fact, the plan you are reading depends upon the support of donors. Membership dues, book sales, conference fees, and other ordinary revenue sources help, but they are not enough.

How? Key Strategies and Initiatives

1. Hire a professional fundraiser who, in addition to raising funds, will help coordinate the fundraising efforts of the directors, key members, and the CEO and his USNI leadership team.

2. Develop a compelling donor case statement, one that demonstrates that USNI is focused on delivering impact—measurable outcomes and results on behalf of its mission (not mere outputs).

3. Build the base of those with a financial stake in the work of the Naval Institute.

4. Stay in better touch with donors and listen to them more carefully, and conduct donor events in nontraditional sectors.

5. Help individuals, companies, and foundations see the Naval Institute as a great place to advance their philanthropic goals.

6. Benchmark other organizations that are best in class.

7. Enable the Naval Institute to respond more adroitly to emerging opportunities.

In summary, we must work together to realize our Vision:

We are the preeminent thought leader serving all Navy, Marine Corps, and Coast Guard personnel by advancing the naval profession and preserving our naval history. USNI enhances the understanding of the vital contribution of American sea power to the defense and economic well-being of our nation.

… and meet our Objectives:

1. Enhance national understanding of the vital contribution of American sea power.

2. Preserve and make available naval history.

3. Increase, broaden, and engage our membership.

4. Secure endowments to fund key strategies and initiatives that enable the Naval Institute to realize its vision.

Conclusion

World and national events, plus a revolution in new media technology, have all converged to provide USNI an unprecedented opportunity for positive impact—on America's Sea Services, and on our country. With the active support of our membership, that is exactly where we are headed.

ENTER THE FORUM

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Only e-mail submissions will receive an auto acknowledgement.

Please include your return address and a daytime phone number.

Readers are also encouraged to comment on *Proceedings* articles online at www.usni.org.

Shooting for the Middle

(See C. Schlise, pp. 64–67, April 2012 *Proceedings*)

Captain Anthony Cowden, U.S. Navy—Lieutenant Commander Schlise has made an important and valuable contribution to the discussion of what ails U.S. Navy surface-shipbuilding. I would take his general suggestion for a new class of frigate that minimizes new design requirements (i.e., sunk costs) as literally as possible and dust off the *Perry*-class design. Its weapon and combat systems should be updated (replace the Mk13 missile launcher with a 16–24 cell Mk41 vertical-launch system, for example), but other hull, mechanical, and electrical system changes should be minimized unless they reduce manning requirements (i.e., recurring costs). Another advantage to this approach is making use of all of the logistic and training infrastructure that exists for this class (more sunk costs).

With regard to the littoral combat ship (LCS), the Government Accountability Office recently released a report showing that each hull alone for the current acquisition will cost $597 million, not including each (not-yet-completed) mission module (www.gao.gov/products/GAO-12-400SP, pp. 107–10). The cost of a new multimission frigate must be well below this cost, and my recommendation is to limit as much as possible the LCS-class acquisition as being unaffordable.

Unleashing the MH-60S Knighthawk

(See B. Armstrong, pp. 78–79, April 2012 *Proceedings*)

Commander Jeffrey B. Barta, U.S. Navy—Lieutenant Commander Armstrong's argument in favor of deployed helicopter gunships is spot-on with regard to the need. However, despite their superb sensor suites, neither variant of the -60 series (MH-60S or MH-60R) will fit the bill. Airframe limitations on the helicopters' pitch, roll, air-speed, and stabilator systems, built-in stability-augmentation systems, and the sheer size and weight of the -60, not to mention the $28 million dollar price tag, prevent them from being adequate gunship platforms for anything other than supporting visit/board/search-and-seizure operations, radar-scouting missions, or forward-looking-infrared cuing for other platforms. No strike-group commander would dare risk using his helo assets in any other way. I saw it while serving as an SH-60B pilot and helo-detachment officer in charge, and most recently as a planner at NAVCENT/5th Fleet.

Ironically, while advocating for the use of the -60, Lieutenant Commander Armstrong overlooks the platform that he bases his argument on—the UH-1E from the Vietnam-era Helicopter Attack Light squadrons, and the lessons they left behind. Those aircraft were cheaper, smaller, lighter, and more maneuverable than any -60 could hope to be, and carried weapons that were far more suited for the nautical/littoral battlefield than the -60's Hellfire missile systems.

A reading of history shows that during the "tanker wars" of the 1980s and Operations Desert Shield/Storm of the early '90s, hunter-killer teams of Navy -60s and small, inexpensive, highly maneuverable Army helos of Hughes AH-6 "Little Bird" and Bell "Kiowa" variants performed admirably. If the Navy and the helicopter community are going to be serious about using rotary-wing platforms in a weapon-delivery role, it is time to take a hard look at these past lessons and redevelop a proven capability. Until then, especially given the price tag of the -60 variants, the helo community will be stuck in the utility missions it has been wallowing in for decades.

There's a Lot in a Name

(See N. Polmar, pp. 88–89, April 2012 *Proceedings*)

Captain Edward W. Molzan, U.S. Navy (Retired)—Your readers may not be aware that there was an earlier class of 130 Navy LCSs—not littoral combat ships, but landing-craft support ships—that were involved in World War II combat operations from New Guinea

and Borneo to the Philippines, Iwo Jima, and Okinawa. Those LCSs had the greatest firepower per ton of any ship ever built for the U.S. Navy.

Twenty-six of them were sunk or damaged in battle, earning their crews Presidential Unit Citations, Navy Unit Citations, Silver Stars, Bronze Stars, Purple Hearts, and Navy Commendations. And the commanding officer of *LCS-122*, Lieutenant Richard McCool, was awarded the Medal of Honor by President Harry S. Truman in December 1945.

With a new class of LCSs being built and introduced to the Fleet, one would be deserving of the Richard McCool name. His Medal of Honor acknowledges extraordinary bravery and resolve while participating in rescue operations under attack, taking on survivors from the stricken and sinking destroyer USS *Porter* (DD-579). In the face of a kamikaze attack that heavily damaged and burned his ship and killed or wounded half the crew, Lieutenant McCool, despite his own serious burns, managed to save his ship, his surviving crew, and the *Porter* survivors.

It also would be fitting and honorable for the Secretary of the Navy to recognize Mrs. Carole Elaine McCool. Mrs. McCool may be the last surviving spouse of a Navy World War II Medal of Honor recipient.

Honoring Lieutenant McCool with a ship bearing his name would be in the highest Navy tradition of remembering its heroes.

Captain Walt Spangenberg, U.S. Navy (Retired)—It has done a lot for my morale, both on active duty and

COMMENT & DISCUSSION
Cont. on page 154

Another View

Why the Age of Great-Power War Is Over

By Lieutenant Doug Robb, U.S. Navy

In *Proceedings*' April "Now Hear This," Navy Lieutenant Commander Rachel Gosnell and Marine Second Lieutenant Michael Orzetti argue that "the possibility of great-power war [between the United States and China] cannot be ruled out." However, despite China's rise, which potentially threatens to alter international polarity, a preponderance of evidence suggests that the era of conventional large-scale war may be behind us.

For the purposes of my argument, the United States and China are defined as "great powers" because they have stable governments and large populations; influential economies and access to raw materials; professional militaries and a nuclear arsenal. Prussian war theorist Carl von Clausewitz's "trinity," which characterizes the interrelationship between the government (politics), people (society and the economy), and the military (in modern terms, deterrence and security), is useful to frame this debate.

U.S. NAVY (KENNETH R. HENDRIX)

Demonstrating a more cooperative aspect of U.S.-Sino relations, Vice Admiral Scott Swift, commander of U.S. 7th Fleet, met with Lieutenant General Zhang Shibo (center), commander of People's Liberation Army, on 19 March during an office call at the PLA Hong Kong Garrison barracks hall.

The 20th century brought seismic shifts as the global political system transitioned from being multipolar during the first 40 years to bipolar during the Cold War before emerging as the American-led, unipolar international order we know today. These changes notwithstanding, major world powers have been at peace for nearly seven decades—the longest such period since the 1648 Treaty of Westphalia codified the sovereign nation-state.

Whereas in years past, when nations allied with their neighbors in ephemeral bonds of convenience, today's global politics are tempered by permanent international organizations, regional military alliances, and formal economic partnerships. Thanks in large part to the prevalence of liberal democracies, these groups are able to moderate international disputes and provide forums for nations to air grievances, assuage security concerns, and negotiate settlements—thereby making war a distant (and distasteful) option. As a result, China (and any other global power) has much to lose by flouting international opinion, as evidenced by its advocacy of the recent Syrian uprising, which has drawn widespread condemnation.

In addition to geopolitical and diplomacy issues, globalization continues to transform the world. This interdependence has blurred the lines between economic security and physical security. Increasingly, great-power interests demand cooperation rather than conflict. To that end, maritime nations such as the United States and China desire open sea lines of communication and protected trade routes, a common security challenge that could bring these powers together, rather than drive them apart (witness China's response to the issue of piracy in its backyard). Facing these security tasks cooperatively is both mutually advantageous and common sense.

Democratic Peace Theory—championed by Thomas Paine and international relations theorists such as *New York Times* columnist Thomas Friedman—presumes that great-power war will likely occur between a democratic and non-democratic state. However, as information flows freely and people find outlets for and access to new ideas, authoritarian leaders will find it harder to cultivate popular support for total war—an argument advanced by philosopher Immanuel Kant in his 1795 essay "Perpetual Peace."

Consider, for example, China's unceasing attempts to control Internet access. The 2011 Arab Spring demonstrated that organized opposition to unpopular despotic rule has begun to reshape the political order, a change galvanized largely by social media. Moreover, few would argue that China today is not socially more liberal, economically more capitalistic, and governmentally more inclusive than during Mao Tse-tung's regime. As these trends continue, nations will find large-scale conflict increasingly disagreeable.

In terms of the military, ongoing fiscal constraints and socio-economic problems likely will marginalize defense issues. All the more reason why great powers will find it mutually beneficial to work together to find solutions to common security problems, such as countering drug smuggling, piracy, climate change, human trafficking, and terrorism—missions that Admiral Robert F. Willard, former Commander, U.S. Pacific Command, called "deterrence and reassurance."

As the Cold War demonstrated, nuclear weapons are a formidable deterrent against unlimited war. They make conflict irrational; in other words, the concept of mutually assured destruction—however unpalatable—actually had a stabilizing effect on both national behaviors and nuclear policies for decades. These tools thus render great-power war infinitely less likely by guaranteeing catastrophic results for both sides. As Bob Dylan warned, "When you ain't got nothing, you ain't got nothing to lose."

Great-power war is not an end in itself, but rather a way for nations to achieve their strategic aims. In the current security environment, such a war is equal parts costly, counterproductive, archaic, and improbable.

Lieutenant Robb, a surface warfare officer and 2005 graduate of the U.S. Naval Academy, holds master of arts degrees in security studies from both Georgetown University and the U.S. Naval War College. His next assignment will be as operations officer in the USS *William P. Lawrence* (DDG-110) in San Diego, California.

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The Fleet-Up Program Needs Fixing

By Lieutenant Matthew Farrell, U.S. Navy

Inundated by the epidemic of afloat commanding officer (CO) firings over the past few years, a common question in the surface community is "What the heck were they thinking?" Whether it is a lack of confidence in their ability to command, or fraternization, or conduct unbecoming an officer, junior sailors and senior military leaders alike have been furrowing their brows at the confounding behavior of those relieved. The trend even prompted then-Chief of Naval Operations Admiral Gary Roughead to issue a memo in June 2011 ("Charge of Command") reminding his COs of the responsibilities of command and reiterating his expectation of professional behavior.

If it can be assumed that the surface Navy exercises a sound command screening process (which may also be open to debate), perhaps we are not setting up our COs for success. The command training pipeline is constantly tweaked for improvement, with an emphasis over the past few years on the Fleet-Up program. Similar to the longstanding practice in naval aviation, participants in this surface program serve one 18-month executive officer (XO) tour then remain on board for 18 months of command. While the program's benefits are clear—stability, familiarity, sustained experience—does it simultaneously do a disservice to our commanding officers?

I recently conducted a qualitative survey designed to capture the challenges, successes, and lessons learned regarding command at sea. The survey was completed by close to 30 current and former commanding officers, spanning the ranks from O-4 to O-10, with periods of command between the 1950s and today. Although the survey responses provided several insightful themes, one in particular caught my eye: The time to reflect between XO and CO afloat tours was invaluable to several respondents' professional development. This message is echoed in the Naval Academy's plebe leadership course and has been the subject of academic study for the past 80 years. Whether conducted by famed philosopher and psychologist John Dewey in the 1930s, American philosopher David Kolb in the 1980s, or a U.S. Naval Academy plebe in 2012, research and study consistently indicate that reflection is a fundamental aspect of the learning and development process.

U.S. NAVY (TIFFINI JONES VANDERWIST)

Former Chief of Naval Operations Admiral Gary Roughead's 2011 memo reminding COs of their command responsibilities addressed inappropriate conduct by officers who may not be getting enough time away from the Fleet to gain perspective.

One may argue that officers in the Fleet-Up program are afforded time to reflect. Perhaps they keep notes in a journal at night or take five minutes each day for introspection between meetings. From my perspective at a lower rung on the totem pole, however, it seems COs and XOs move from one issue or crisis to the next at an impressive rate. This bias for action does not afford ample time for reflection. The respondents' answers in my survey support that belief. Furthermore, even if they do take the time to reflect and perhaps catch an error in their judgment, COs and XOs may feel that "flip-flopping" on a given judgment call may cause greater harm.

Most officers and enlisted crew recognize that inconsistency at the top level can be detrimental to morale. A shore tour between CO and XO billets would allow our prospective COs to improve their style beyond the watchful eyes of the crew. The idea recalls the adage, "When taking over a new job, for the first three months you are part of the solution; after that, you are part of the problem."

I am concerned that three straight years occupying the top-two leadership positions of a ship increase the chances that COs will develop a distorted view of reality, a perception of invincibility, or a "my way is the right way" mentality. Most COs will not fall into this trap, but the past few years indicate that some already have.

The recent high number of COs who have fallen from grace brings great discredit to others who have served, or aspire to serve, in the same role. Their behavior undermines the discipline and confidence in command on which an effective naval force is based. This trend demands a hard look at the various paths and policies leading to command at sea. The Fleet-Up program is one policy that should be re-examined. The program removes the time away from the Fleet—a prolonged period during which prospective commanding officers can truly learn from their previous mistakes—that is essential in developing effective ships' captains.

Lieutenant Farrell is currently assigned as the 21st Company Officer at the U.S. Naval Academy. He completed two division officer tours on board the USS *Milius* (DDG-69) in San Diego, California.

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A Kid with a Dream

By Senior Chief Jim Murphy, U.S. Navy (Retired)

Vince Patton, the eighth Master Chief Petty Officer of the Coast Guard and former chairman of the U.S. Naval Institute Editorial Board, recently reminisced on social media about joining the Delayed Entry Program in April 1972 and shipping off to boot camp later that year. In response, Coast Guard Chief Boatswain's Mate Chris Browning elegantly captured Vince's career: "You came in as a kid with a dream and you left as a man with a legacy."

Chief Browning's words are powerful and accurately describe a great and accomplished American by any standard. But they also reflect the experience of everyone who wears the cloth of our nation, even if their successes are not as public or prolific as Vince's.

Just as Chief Browning's words inspired this column, a leader's words can inspire or discourage an individual sailor, a squad of Marines, or a Coast Guard cutter crew. It is imperative for leaders to be mindful of their words and actions. Leaders are watched and, although they may not always think so, they are listened to. Their words are powerful; their deeds even more so.

Military leaders have incredible responsibility for their subordinates, but they do not owe them success. Leaders are not singularly responsible for that success, because they simply cannot guarantee it for every kid with a dream. Instead, leaders owe each sailor, Marine, and guardian the opportunities, tools, mentoring, and example to help them achieve their own success. Not providing these essentials makes the leader potentially responsible for their subordinates' failure.

We also must remember that even the kids who make mistakes still have a dream, and if they learn from those mistakes they can, and often do, come back stronger. It is for this reason that a zero-defect mentality, whether in policy or practice, is counterproductive. Everyone fails at some point, you and me included. It is not in failure that one's character is determined; it is in the response to and recovery from it.

U.S. COAST GUARD (HARRY A. CRAFT III)

Retired Master Chief Petty Officer of the Coast Guard Vince Patton, seen here when still on active duty, epitomizes the level of success "a kid with a dream" can achieve in the military—provided that dream is buttressed with hard work, dedication, and mentoring from able leaders.

As Marine General James L. Jones Jr. told the U.S. Army Command and General Staff Officer Course class of 2001, "Pervasive zero-defect mentality; it is a cancer that is eating us all." That mentality creates a culture of risk-avoidance and fear, and leaders who cannot see beyond tomorrow's headlines.

Consider for a moment the ensign who ran the USS *Decatur* (DD-5) aground entering a harbor in the Philippines on 7 July 1908. He deservedly went before a court-martial, was found guilty, and publically reprimanded. The same should occur today, but would a commanding officer now be treated as this officer was in 1908, allowed to continue in service and be promoted two grades?

No one could have imagined the ensign would become a fleet admiral. Nobody could have foreseen all that Chester Nimitz would accomplish. Fortunately for us, the early 20th-century Navy allowed a 22-year-old kid with a dream to continue serving, and he became a man with a legacy of epic proportions.

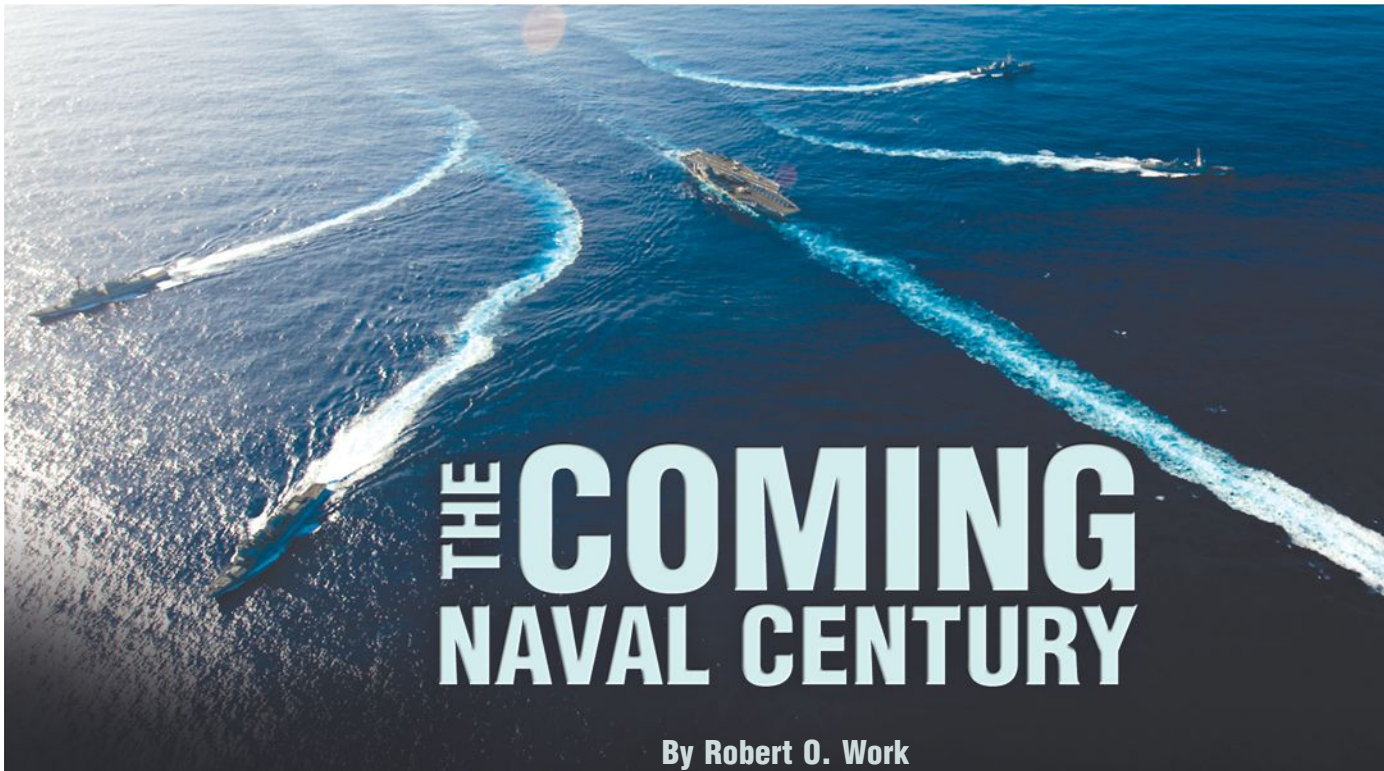
Not everyone has the potential of Nimitz, but behind every military professional is someone's son or daughter entrusted to a leader by parents with high hopes that their child will realize their full potential and reach their dream. Vince Patton was one of those kids in 1972. Somehow I doubt becoming the senior enlisted member of the Coast Guard was part of his dream then, and it's hard to believe anyone could have imagined 40 years ago all he would accomplish.

Although he achieved more than most, Vince is a reflection of what is possible in service to our nation. He experienced something that Chief Browning put so gracefully into words, something anyone could accomplish.

With hard work and dedication, and the inspiration and mentorship of strong leaders, today's servicemen and women have unlimited opportunities. Every kid with a dream will become a man or woman with a legacy. It is up to them to ensure their legacy is rich and proud, but the outcome, good or bad, may very well rest with the example set by a leader.

Leaders, help those kids with a dream build a proud legacy. It is their success or failure on which your own legacy relies.

Senior Chief Murphy transferred to the Fleet Reserve in 2008 after 21 years of active duty. He served his entire career in the cryptologic community and was a qualified submariner.



THE COMING NAVAL CENTURY

By Robert O. Work

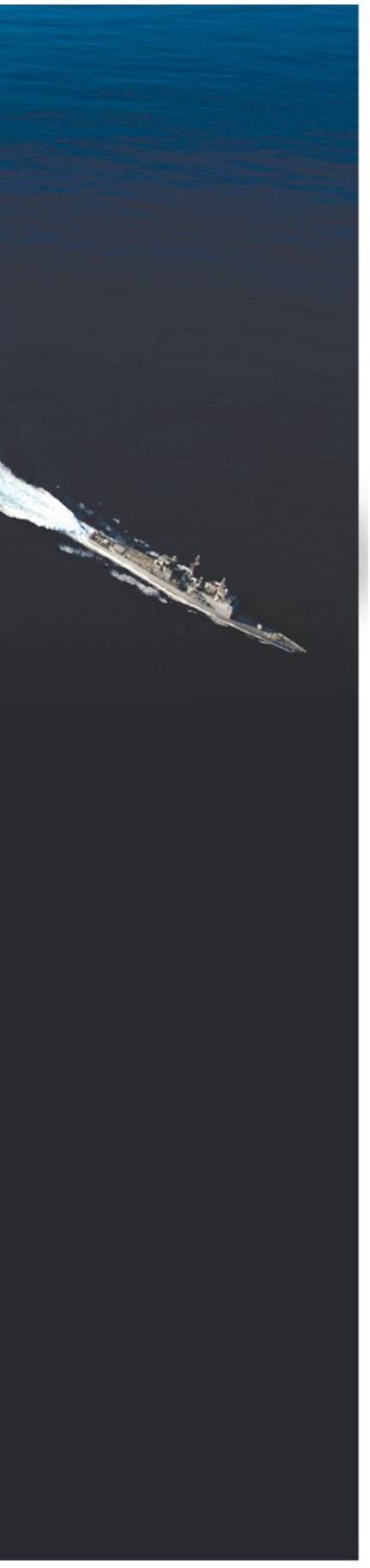
The Navy and Marine Corps will be the long arm of a National Fleet central to U.S. military power.

With the protracted campaigns in Iraq and Afghanistan either already complete or winding down, 25 years of sustained, high-tempo military activity will soon come to a close. Frankly, our all-volunteer joint force, which has given so much to the nation, is tired. The force—its platforms, equipment, and personnel, including families—needs time to recover, reset, reconstitute, and prepare for future challenges.

This period of reconstitution and transition will be made more challenging due to the fiscal circumstances in which we now find ourselves. President Barack Obama has developed a ten-year plan to bring our growing deficits under control and to renew our economy. In preparing and outlining this plan, the President has emphasized the inextricable connection between our national security and our economy, and the fact that our economic

U.S. NAVY (KENNETH ABBATE)

The President's new sustainable strategic guidance includes strong naval, aerospace, cyber, and special-operations capabilities and a forward presence in the Pacific (here, the *John C. Stennis* carrier strike group in February, during a seven-month deployment).



prosperity provides the foundation for all elements of our national power—including the military. The President's plan therefore calls for spending cuts across all national programs, and the Department of Defense must and will contribute its fair share.

For those in the military concerned about the impact of such cuts, I would simply say four things:

• Any grand strategy starts with an assumption that all resources are scarce, requiring a balancing of commitments and resources. As political commentator Walter Lippmann wrote: "The nation must maintain its objectives and its power in equilibrium, its purposes within its means, and its means equal to its purposes."

• The upcoming defense drawdown will be less severe than past post–World War II drawdowns. Accommodating cuts will be hard, but manageable.

• At the end of the drawdown, the United States will still have the best and most capable armed forces in the world. The President well appreciates the importance of a world-class military. "The United States remains the only nation able to project and sustain large-scale military operations over extended distances," he said. "We maintain superior capabilities to deter and defeat adaptive enemies and to ensure the credibility of security partnerships that are fundamental to regional and global security. In this way our military continues to underpin our national security and global leadership, and when we use it appropriately, our security and leadership is reinforced."

• Most important, as the nation prioritizes what is most essential and brings into better balance its commitments and its elements of national power, we will see the beginning of a Naval Century—a new golden age of American sea power.

The Navy Is More Than Ships

Those who judge U.S. naval power solely by the number of vessels in the Navy's battle force are not seeing the bigger picture. Our battle force is just one component—albeit an essential one—of a powerful National Fleet that includes the broad range of capabilities, capacities, and enablers resident in the Navy, Marine Corps, and Coast Guard. It encompasses our special-mission, prepositioning, and surge-sealift fleets; the ready reserve force; naval aviation, including the maritime-patrol and reconnaissance force; Navy and Marine special operations and cyber forces; and the U.S. Merchant Marine. Moreover, it is crewed and operated by the finest sailors, Marines, Coast Guardsmen, civilian mariners, and government civilians in our history, and supported by a talented and innovative national industrial base.

If this were not enough, the heart of the National Fleet is a Navy–Marine Corps team that is transforming itself from an organization focused on platforms to a total-force battle network that interconnects sensors, manned and unmanned platforms with modular payloads, combat systems, and network-enabled weapons, as well as tech-savvy, combat-tested people into a cohesive fighting force. This Fleet and its network would make short work of any past U.S. Fleet—and of any potential contemporary naval adversary.

It will only get better for the Navy–Marine Corps team. In a seminal essay in the May 1954 issue of the U.S. Naval Institute *Proceedings*, "National Policy and the Transoceanic Navy," political scientist Samuel P. Huntington divided the history of American national security policy into three distinct phases—the earlier Continental and Oceanic phases and the emerging Eurasian one. He argued that the service with the strategic concept and organizational structure most able to answer the dominant national-security challenges of the two earlier policy eras was the one most rewarded when it came time to allocate the country's scarce national resources.

Huntington specified that if the Navy–Marine Corps team expected its claims for resources to be answered in the new Eurasian phase, it would need to change its strategic concept and organizational structure. This was well suited to the previous Oceanic era, but not to the contemporary problem of containing a continental peer located across the world's oceans. In short, Huntington's basic argument was that the service with a strategic concept and organization best aligned with the country's national-security policy would reap the benefits in terms of strategic prestige and resources. Without a doubt, the Navy–Marine Corps

U.S. NAVY (SAM SHAVERS)

With total defense spending topping $700 billion a year, cuts will be necessary and difficult, but, the author says, will lead to a new golden age of American sea power. At the center of the painful process—and faced with the mandate to make strategic choices and prioritizations—are (from left) Commandant of the Marine Corps General James F. Amos, Secretary of the Navy Ray Mabus, and CNO Admiral Jonathan Greenert, testifying here before the Senate Appropriations Subcommittee for Defense in March.

team's strategic vision is *very* well aligned with the new strategic guidance for sustaining U.S. global leadership, and with the attendant priorities for 21st-century defense.

In the author Ralph Peters' "GPS approach" to strategy, the first thing you have to understand about any historical moment is where you are. To this I would add the "Work Corollary": The second thing you have to know is how you got there. With this in mind, and expanding on Huntington's timeless thinking, I would like to quickly try to place the nation's new strategic guidance, and the Department of the Navy's central role in implementing it, in the context of past and present U.S. national-security policy eras.

Continental Phase

The initial Continental Phase spanned the period 4 July 1776 through 29 December 1890. The primary national-security challenges were to deter, defeat, or frustrate any intervention of foreign powers in the newly formed United States or, later, the entire Western Hemisphere; screen our steady expansion to the limits of our continental borders and secure the continent from internal threats; and preserve the Union.

Consistent with these aims, we entered into no entangling alliances and sought no overseas bases. The Navy–Marine Corps team was the only U.S. military force that conducted out-of-hemisphere engagement and combat operations—a role that gradually imprinted an expeditionary mindset into its very DNA. Throughout this 11-decade era, the nation was at war for 181 months; the ratio of the number of years at war to the number of years at peace was 1:6.59. All of our wars were fought north of Veracruz, Mexico, and south of Canada. Under these circumstances, the Army was the service with the strategic concept and organization most aligned with U.S. national-security thinking.

Oceanic Phase

During the Oceanic Phase, 30 December 1890 to 12 March 1947, the fortunes of the Navy and Marine Corps changed in a big way. With the continent and Union secure, the primary security challenge was to solidify the nation's position as a hemispheric hegemon and project joint forces beyond the North American continent in support of U.S. interests. Both jobs required a team able to compete with any fleet in the world. The Navy–Marine Corps strategic vision of a powerful, concentrated battle force capable of seizing bases and establishing sea control, and of projecting power in any theater globally, quickly became central to U.S. strategic thinking.

As a result, during this period the Navy ultimately became the world's number-one naval power, and the Marine Corps perfected the arts of expeditionary warfare and seizing advanced naval bases. We also gained our first overseas bases, all located on U.S.-controlled territory (Cuba, Puerto Rico, Hawaii, Guam, the Philippines). Although

we often fought with allies and partners, we did so on our own terms, avoiding foreign alliances. During the Oceanic Era, the nation saw 108 months of major war, with a war-to-peace ratio of 1:5.24 years.

Transoceanic Era

In the paradigm of Huntington's post–World-War-II analysis, 13 March 1947 marked the beginning of the Eurasian Phase, which most know as the Cold War. I prefer to call this phase the Transoceanic Era, since the primary national-security challenge was to build and lead a global coalition of allied nations to contain and deter the Soviet Union, a hostile, ideological, continental peer across the ocean. In keeping with this mission, the United States entered into many entangling alliances. It also established large numbers of external U.S. bases on foreign soil along the contested frontier with the Soviet Union and its Communist allies. American long-range air and missile power underwrote the nation's strategic deterrent posture; and a large standing Army, Air Force, Navy, Marine Corps, and special-operations forces contributed to conventional deterrence.

Having acquired command of the sea in the Oceanic Era, the Navy–Marine Corps team expanded its strategic concept and organization to include maintaining combat-credible forces in major theaters to deter Soviet adventurism, reassure our allies, and respond to crises, and to use the oceans as a base to project power from the sea. Despite the valuable contributions of the Navy and Marine Corps, the national-security focus of this era remained squarely on the European central front. The era ended 12 May 1989, the day President George H. W. Bush announced the de facto end of the Cold War. The nation had been at war for a total of 138 months, for a war-to-peace ratio of 1:2.67 years.

Global Era

With the unexpected end of the Cold War, the country entered a fourth national-security policy phase, shaped initially by three apparent characteristics: uni-polarity, a new accelerated wave of globalization, and a revolutionary shift from unguided-munitions warfare to guided-weapons warfare. Those trends and characteristics shaped the new Global Era in which the United States became the primary guarantor of global security. Even as America began to dismantle its Cold War garrisons, leaders from both political parties pursued a consistent grand strategy of "global meliorism," described by Pulitzer Prize–winning historian Walter A. MacDougall as "an American mission to make the world a better place, based on the assumption that the U.S. can, should, and must reach out to help other nations share in the American dream." Central to this grand strategy was the idea of sustained engagement throughout the world and the enlargement of the community of democratic nations.

From a military perspective, the United States would build a joint force capable of rapidly winning two regional wars, and operate it forward during times of peace to "administer the global system." This proactive grand and military strategy led to an unprecedented pace of "peacetime" military activities, as well as major wars and operations in Kuwait, Somalia, Haiti, Rwanda, Bosnia, and Serbia. After 9/11, the United States amped up its already high-tempo military activity with two major irregular-warfare and nation-building campaigns into Afghanistan and Iraq, supported by a sustained global anti-terrorism campaign.

By 2003–4, a fourth characteristic of the Global Phase of national security was becoming clear: the reemergence of identity politics, defined by nationalism, religion, and ethnicity. To make matters worse, war among peoples and a steady diffusion of guided-weapon and battle-networking technologies to weak states and non-state actors made all military operations more challenging. Because of these factors, nation and democracy building proved time-consuming and very, very, expensive. And, while the United States remained

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Included in *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* is a long-term strategic partnership with India (here at Kochi) to help it remain a regional economic anchor and provider of security in the Indian Ocean.

U.S. ARMY (ALAN B. OWENS)

Since May 1989, the U.S. military has participated in not only increased combat operations, but also crisis response, humanitarian assistance, and disaster relief. In Haiti, these Seabees and members of the Indonesian Military Engineering Contingent repaired and refurbished the Dispensaire de Caracol and a school in February.

the single most powerful country in the world, its relative degree of economic, diplomatic, and military advantage was gradually declining.

By Fiscal Year 2004, total defense-budget authority reached approximately $555 billion (in FY 2011 constant dollars), exceeding the peak spending of both the Vietnam War ($533.6 billion) and President Ronald Reagan–era defense buildup ($552 billion), and was projected to rise further still. In an effort to rein in rising costs, the 2006 *Quadrennial Defense Review* emphasized a more indirect strategic approach based on building partnerships and partner capacity, and working with and through others. However, with the global economic downturn and the campaigns in Iraq and Afghanistan grinding on, efforts to reduce costs were not successful. By FY 2008, total defense spending reached $700 billion a year—a post–World War II high.

If the Global Era started on 12 May 1989, as of 31 December 2011 we had seen 130 months at war for a war-to-peace ratio of 1:1.08. Assuming we cease combat operations in Afghanistan as planned in December 2014, the ratio will fall to 1:0.85. And these figures count only Operations Desert Shield, Desert Storm, Enduring Freedom, and Iraqi Freedom; they do not include the many other major named operations in the Global Era, or many other crisis-response and humanitarian-assistance and disaster-relief operations. No matter how you slice it, this represents the highest tempo of military activity in U.S. history by a large margin. Indeed, this level of military operations and its accompanying pull on national resources is not sustainable over the long run. We are, therefore, at the cusp of turning a new chapter in the Global Era.

The Strategic Inflection Point

The President's plan to reduce deficits and revitalize the economy spurred a major review and rethinking of national military strategy. This strategic review, led by the President and Secretary of Defense, and with the full participation of all three secretaries of the military departments and all four service chiefs, sought to balance military plans and programs with our expected resources. Informed by the 2011 Budget Control Act, the review developed new strategic ends, identified new strategic and operational ways, and prioritized the Department of Defense means necessary to accomplish the desired ends.

As we prepare to address the defense cuts associated with the new strategy, it would be a big mistake to see or dismiss this effort as a simple budget drill. In keeping with Lippmann's guidance, the President is engaged in a concerted effort to put our global aims and leadership and power into better balance, bring our purposes within our means, and make our means equal to our purposes.

Some say such an effort is unnecessary, pointing out that although the absolute level of defense spending is at

an all-time high, the burden on our economy is manageable. After all, $700 billion–plus is slightly less than 5 percent of the nation's gross domestic product, far below that of the Cold War average. But this argument is not compelling. The first sin of strategy is failing to recognize that all resources are scarce and must therefore be prioritized, and that good strategists must make their priorities clear and be disciplined in following them.

Those who maintain that the world is now too dangerous to reduce the Pentagon budget need to look at the security challenges that President Dwight D. Eisenhower faced when he came into office and began to craft his FY 54 budget proposal. The United States was engaged in a major conventional war against Communist China on the Korean Peninsula. The Soviets were actively pursuing the hydrogen bomb. Throughout 1953, we were dealing with a major crisis in Iran, which ultimately led to a U.S.- and British-orchestrated overthrow of its democratically elected government. That same year, we were dealing with local proxy aggression and fomented insurrection in Southeast Asia, Greece, Guatemala, and the Philippines. There were continuing cross-strait tensions between Taiwan and mainland China. Demands for continental aerospace and civil-defense requirements were high. We were rebuilding NATO and Japan.

Despite this wide range of challenges, which were as or more serious than those we face today, President Eisenhower moved to cut defense spending. By making clear strategic choices and prioritizing his military ways and means, he was able to slash annual defense spending by 40 percent between FY 52 and FY 56. The results were far from ruinous; he went on to balance the budget to put the United States on the sustainable pathway that ultimately won the Cold War.

In a similar way, and as outlined in the recently published *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, President Obama and Secretary of Defense Leon Panetta are moving us along a different, more sustainable, and forward-looking national-security pathway. Their vision is framed by four key priorities: maintaining the best military in the world, avoiding a "hollowing out" of the joint force, keeping faith with our service men and women, and ensuring that any reductions in defense capabilities and capacities are taken strategically, not by equally apportioned budget cuts. In this regard, the new strategic guidance:

• Requires that we maintain a safe, secure, and effective nuclear deterrent—if possible with a smaller nuclear force. This puts a premium on the Navy's strategic ballistic-missile submarine force, which already provides the most secure nuclear deterrent in our strategic arsenal.

• Places great emphasis on sustaining freedom of access throughout the global commons, tying these efforts di-

U.S. AIR FORCE (ERICKA ENGBLOM)

To sustain U.S. global freedom of action, special-operations capabilities are essential, backed by the ability to conduct joint forcible-entry operations wherever and whenever needed. These participants in the 27th Special Operations Wing Capabilities exercise are returning to the safe zone after training at Cannon Air Force Base, New Mexico.

rectly to the health of the global system of commerce and America's continued economic growth. This line of thinking comes straight out of the *Cooperative Strategy for 21st Century Seapower* and requires a strong Navy–Marine-Corps Team.

• Prioritizes sustaining U.S. global freedom of action even in the face of increasingly sophisticated anti-access and area-denial threats. This calls for strong naval, aerospace, cyber, and special-operations capabilities, backed by a credible ability to conduct joint forcible entry operations in any theater, when required.

• Emphasizes nonmilitary means and military-to-military cooperation to address instability to reduce the demand for significant troop commitments to nation-building or stability operations.

• Rebalances the focus of U.S. military forces toward the Asia-Pacific region, whose broad expanse necessarily demands strong naval and aerospace forces.

• Calls for a long-term strategic partnership with India, to support its role as a regional economic anchor and provider of security in the Indian Ocean—which will hopefully lead to a closer maritime partnership.

• Continues to maintain U.S. and allied military presence in—and support of—partner nations in and around the Middle East and Persian Gulf, but with less emphasis on large numbers of boots on the ground. As we responsibly withdraw from Afghanistan and refocus our attention on the Asia-Pacific region, this theater will inevitably become more maritime in its focus.

• Reduces our land-based posture in Europe while increasing forward-stationed naval forces. We will work with NATO to pool, share, and specialize capabilities to meet mutual 21st century security challenges—capabilities that will likely be increasingly naval in nature.

• Calls for innovative, low-cost, and small-footprint approaches to achieve security objectives in Africa and Latin America—approaches routinely demonstrated by the Navy–Marine Corps team since the Continental Era.

A New Golden Age for American Maritime Power

After reviewing this guidance, it is very hard for me to imagine anyone thinking that maritime power, capabilities, and capacities are not absolutely central to our national-security policy thinking. In my view, the last time naval forces were so central to national-strategic aims was in the Oceanic Era. The Department of the Navy vision of an integrated National Fleet, with a Navy–Marine Corps total force battle network built and ready for war, and operated forward to preserve the peace, represents a broad strategic concept and outlines an organizational structure that aligns perfectly with the President's national-security policy goals. If Huntington is right—and I believe he is—then as we go forward, the nation will inevitably allocate the resources necessary to implement our strategic concept and organizational construct, as long as we articulate them and can back them up with tangible actions.

Our destiny is, thus, in our own hands. Together we must update the *Cooperative Strategy for 21st Century Seapower* to better refine our strategic concept, and then tirelessly explain how the combined capabilities of the Navy–Marine Corps team, the Coast Guard, Military Sealift Command, Maritime Administration, and Merchant Marine form a National Fleet with a broad range of capabilities and capacities absolutely vital to our national security. We must continue to make real our organizational construct, which envisions naval forces operating ashore; manned and unmanned platforms operating above, on, under, and from the sea; with enablers such as distributed sensor networks and durable data and communication links, modular, adaptable payload bays, open-architecture combat systems, innovative payloads, network-enabled weapons, and flexible logistics systems—all operated by the finest sailors and Marines in our history. They fight as a single, interconnected, and cohesive team.

We must continue to preserve and hone to an even finer point our unique expeditionary culture, first developed more than 200 years ago in the Continental Era, which offers the nation the most efficient and cost-effective way to provide a stabilizing presence around the globe. And, most important, we must remain ready to respond to crises or go to war at a moment's notice and be able to prevail over any potential adversary in any theater.

If we do all these things, then the 21st century will indeed be a Golden Age of American sea power. I am absolutely confident this will happen. Not because of our forces, ships, aircraft, or tanks, but because of the secret weapon of the Navy and Marine Corps, as of all the U.S. military: our people. Sailors, Marines, Coast Guardsmen, and civilians are our greatest asset. They are the most motivated, well-educated, innovative, tech-savvy, and adaptable warriors in the world. Every one of them is imbued with the spirit of Navy Lieutenant Commander Ernest E. Evans, who as commanding officer of the World War II destroyer USS *Johnston* (DD-557) told his crew: "This is a fighting ship, and I intend to take her in harm's way." These were not hollow words. At the Battle of Samar during the Battle of Leyte Gulf, Johnson turned his little ship to do battle with the cruisers and battleships of a vastly superior Japanese fleet. Although he lost his ship and his life—and many of the crew that willingly followed him—he helped save four escort carriers in his task force for further action. His actions earned him a posthumous Medal of Honor.

In the coming Naval Century, the National Fleet will be a central part of U.S. global military power. The Navy–Marine Corps team—built and ready for war, operated forward to preserve the peace—will be the Fleet's long arm. And with men and women like Evans, the team will continue to do what is required to be the best in the world, because, as in the past, they will be great by choice.

You should all believe it. I know America does, and always will.

Mr. Work is Under Secretary of the Navy.

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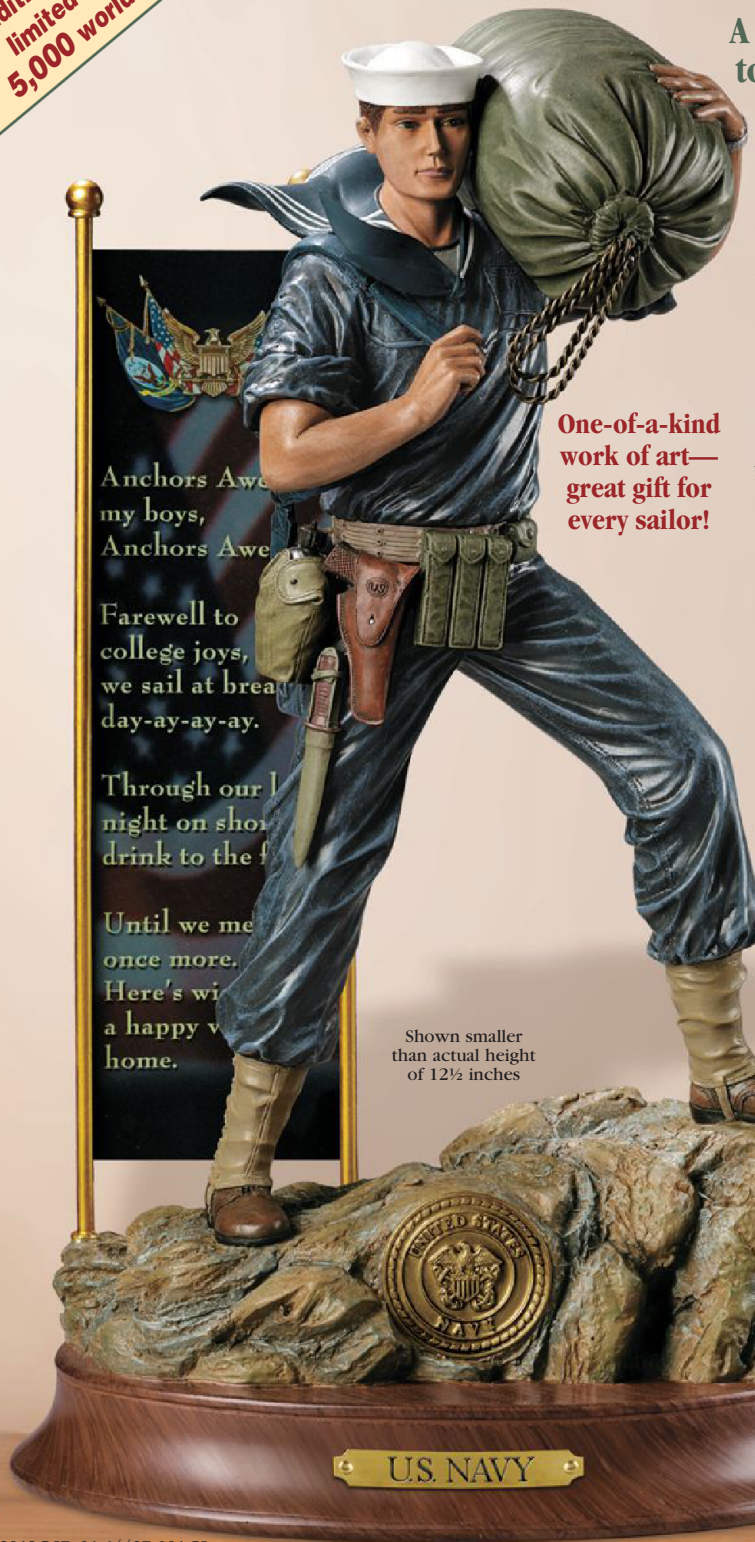

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BUILDING *on a 200-Year* LEGACY

By Admiral Jonathan W. Greenert, U.S. Navy

Three bedrock lessons from the War of 1812 remain the basis for U.S. Navy operations in the 21st century.

Today's U.S. Navy was born (or perhaps reborn) in the War of 1812. Though the Fleet was founded during the first year of the American Revolution, by 1812 it was still a small coastal navy with a limited ability to project power, protect ports, or control the sea. Those shortfalls hurt the United States in the War of 1812 and showed Americans very clearly the importance of a capable navy to protect the nation's security and economic prosperity. At the same time, the characteristics that eventually carried the small U.S. Fleet to victories against the British—tactical proficiency, forward operations, and warfighting readiness—became hallmarks of our Navy that endure to this day.

The U.S. Navy was not ready for the War of 1812 because America's early leaders were not convinced the country even needed an ocean-going force. Presidents George Washington and John Adams initially planned to build up the Fleet to protect the nation's growing economy. But Presidents Thomas Jefferson and James Madison later slowed naval construction because they were wary of either increasing the national debt or raising taxes. In the lead-up to war, many in the Madison administration, recognizing the disparity against the British, argued that the Fleet would best be kept in port to focus on harbor defense.

Small Fleet, Large Impact

As a result, the American Navy that sailed into the War of 1812 consisted of just 20-odd ships—with seven of those undergoing or in need of repair. Despite its size, however, that small Fleet made a big difference. Before Britain completed its blockade of America's coast, most U.S. frigates and other warships were able to get to sea and remain under way throughout the war to challenge the Royal Navy. Those ships and their crews won a series of individual engagements in the Atlantic and on the Great Lakes and Lake Champlain, surprising many observers in both countries and boosting morale in the United States.

Once it was able to mobilize in North America, the larger and more experienced Royal Navy blockaded U.S. merchants and some warships in port and eventually supported an invasion of Washington, D.C. The impact of the British offensive was significant. Insurance rates soared and imports dropped, dramatically raising the price of finished goods from Europe needed in America's homes and factories. Meanwhile, commodity exports fell by more than 80 percent, denying American businesses and the government badly needed revenue.[1] Britain eventually lifted the blockade and negotiated for peace because of the financial drain of the war, the persistent challenge from American warships that evaded the blockade, and a continued threat from France. But the cost of the blockade to the U.S. economy and the Navy's limited effectiveness in ending it forged a consensus after the war that America needed a strong Navy to assure the nation's security and prosperity.[2]

A Young Navy's Enduring Traits

The young American Fleet was able to defeat the preeminent Royal Navy in individual battles because it evidenced traits that continue to be essential today. First, U.S. commanders were bold and innovative, having developed

U.S. NAVY (CLAY WEIS)

Sailors serving on board the USS *Constitution* stand at attention during a 2009 commemoration of the frigate's 19 August 1812 victory over HMS *Guerriere*. While some of today's U.S. sailors serve tours of duty in a ship made famous during the War of 1812, that conflict provides lessons applicable to the present-day Navy.

a strong culture of command and independence through the Quasi-War with France and conflict with the Barbary pirates. In the earliest example, Commodore John Rodgers put to sea within hours of learning of the outbreak of war to go in search of British convoys, stretching the limits of his orders and quickly showing the Royal Navy that America was willing to fight. Master Commandant Thomas Macdonough, after twice being knocked unconscious in the Battle of Lake Champlain, was able to maneuver his flagship, the *Saratoga*, around to bring a fresh broadside to bear and ultimately win a decisive victory. And, in one of the first examples of transoceanic U.S. power projection, Captain David Porter took the frigate *Essex* around Cape Horn in 1813 and successfully disrupted British whaling and trade.

Second, U.S. Navy crews were confident and proficient. American sailors drilled daily at their guns, and were able to shoot more accurately and more rapidly than the British. Through multiple engagements, the Americans demonstrated superior gunnery skills and seamanship, such as when the *Constitution* evaded a more powerful force because her crew towed and winched the ship away when winds had calmed. Events like those during the War of 1812 reinforced John Paul Jones' earlier conclusion that "men mean more than guns in the rating of a ship."

Third, U.S. ships were well built and resilient, surprising the British with their agility and firepower. American 44-gun frigates were bigger, had thicker hulls, carried larger crews, and were outfitted with more guns than the standard frigates of the day. They made such an impression on the British that the Royal Navy began to question their classification. "Though they may be called Frigates," read a secret order from the Admiralty to all station commanders, they "are of a size, Complem[e]nt and weight of Metal much beyond that Class, and more resembling Line of Battle Ships."[3] The *Constitution,* in fact, was given the nickname "Old Ironsides" by her crew after witnessing enemy shot bounce off the oak timbers that made up her hull.

Looking to the Past for the Future

Our Navy's experience in the War of 1812 provides lessons we should apply today. Two hundred years ago our burgeoning industrial base built a Fleet with a focus on warfighting capability, ensuring that our frigates would deliver overwhelming fires while withstanding attacks. Our commanders, in turn, kept their crews' attention on combat in the lead-up to conflict. Today we must continue applying that tenet of warfighting first—delivering durable, effective capabilities to the Fleet so it can overcome present-day threats.

The War of 1812 showed the vulnerability of our economy to disruptions in overseas trade. Today, globally interconnected supply and production chains make it even more imperative that we operate forward to protect the freedom of navigation at strategic maritime crossroads where shipping lanes and our security interests intersect. Those locations—such as the Gibraltar, Malacca, and Hormuz straits—will only grow in importance as production chains become more global and dependent on reliable trade routes.

America's second war with Great Britain also made clear that confident and well-trained sailors provide a warfighting edge no amount of technology can duplicate. In 1812 American naval victories helped persuade Britain to negotiate peace. Today our forces must be ready to fight every day to promptly counter aggression or dissuade aggressors from their objectives.

Warfighting First. Operate Forward. Be Ready. Those are the key lessons from the U.S. Navy's first sustained trial by fire. Those three tenets are the foundation of my Sailing Directions and keep us linked to our rich heritage.

1. Ian W. Toll, *Six Frigates* (New York: W. W. Norton and Company, 2006) p. 429.
2. Ibid., pp. 456–7.
3. First Secretary of the Admiralty to station commanders-in-chief, 10 July 1813, in William S. Dudley and Michael J. Crawford, eds., *The Naval War of 1812: A Documentary History*, 3 vols. to date (Washington, DC: Naval Historical Center, 1985–) 2:183.

Admiral Greenert is Chief of Naval Operations.

America Must Be Careful WHERE IT PIVOTS

By Captain Gerard D. Roncolato, U.S. Navy (Retired)

What will the future hold in an atmosphere of rolling Arab crises and a U.S. shift of focus on the Pacific region?

In a January article published by *Foreign Affairs*, Lebanese-born Fouad Ajami, a senior fellow at Stanford University's Hoover Institution, wrote the following:

> It was a bleak landscape: terrible rulers, sullen populations, a terrorist fringe that hurled itself in frustration at an order bereft of any legitimacy. . . . Consent had drained out of public life; the only glue between ruler and ruled was suspicion and fear. . . . When consent and popular enthusiasm fell away the state rested on fear, and fear was defeated.[1]

In the past year unprecedented and unexpected changes have taken place in the Middle East and north Africa.[2] The Syrian crisis is but the most recent swell in a torrential flood unleashed by the December 2010 self-immolation of a Tunisian street vendor. Despite the obviously nascent nature of the Arab Spring's dynamics, the United States has cast its die in favor of a strategic shift to the Pacific, while at the same time reducing its military resources. At issue is whether or not the United States will be allowed to de-emphasize the Middle East in favor of this strategic choice. The tension between choices and demands will have stark implications for the U.S. Navy.

Ongoing Upheaval

In late spring 2011 Lebanese-American essayist and bestselling author Nassim Taleb and Mark Blyth, a faculty fellow at Brown University's Watson Institute for Interna-

KELLY ERL NGER

AFP/GETTY IMAGES (F BELA D)

Thousands of Tunisians rally on 17 December 2011 in Sidi Bouzid's Mohamed Bouazizi Square, named after the fruitseller whose self-immolation a year before spawned the Arab Spring. Instability in the Middle East and north Africa, from Morocco in the west to Oman in the east and from Turkey in the north to Yemen in the south, cannot be ignored, the author stresses.

tional Studies, wrote in *Foreign Affairs*: "Complex systems that have artificially suppressed volatility tend to become extremely fragile, while at the same time exhibiting no visible risks."[3] The Arab Spring came as a surprise early in 2011. Seemingly stable regimes crumbled, one after another. Only in retrospect did their brittleness become clear. From the rubble of the old regimes comes the promise of spring. What began in Tunis will take decades to mature, and its ultimate shape and direction cannot yet be discerned. What is certain is that the process will be dangerous, volatile, potentially violent, and will send ripples out across the global system.

Long-suppressed passions and political entities within the region will emerge and ask to have their voices heard. Extra-regional forces will be attracted and will play their part, for good or ill. Throughout, the multilayered complexities of the region will continue their historic interplay: Arab and non-Arab, Sunni and Shi'a, Jew and Muslim, elites and masses.

While it has spread across the region, the Arab Spring is not a pan-Arab movement or revolt. It is a series of popular uprisings stemming from conditions unique to each country: the nature of the opposition, the conditions in each country, the structure and strength of specific regime power centers, and the influence of competing forces (nations, groups, and ideas; internal to the region and beyond it). Consequently, from a policy standpoint, each demands its own singular consideration.[4]

Yet in this lies danger. U.S. Middle East policy has historically been based on relations with individual countries or groups. A more integrated and comprehensive regional and global view has too often been muted. As a consequence, decisions have been tactical, and U.S. policy has frequently run aground on sub-optimized actions. Now, more than ever, nuance is needed. Dealing with the specific aspects of each nation's journey through reform will be essential; yet so too will be the need to view the region as a whole as it evolves and as it interacts with the global system. Policies will have to be shaped accordingly.

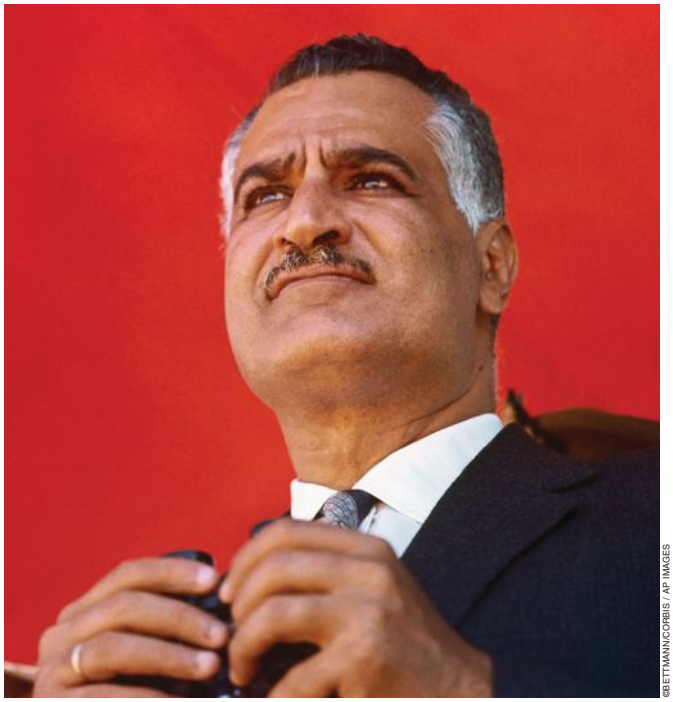
'Both Historic and New'

From a regional context, the struggle that is emerging is at once both historic and new. Islam has long struggled with modernity: What does the Muslim man or woman look like in the modern world? How can the precepts of Islam and Islamic law fit into the modern world without surrendering Islam's core tenets? From the pan-Arab movements of the 19th century through Egyptian President Gamal Abdel Nasser's United Arab Republic of the 1960s, up to the recent Islamist-versus-traditional political structures, Islam has tried to modernize. It has largely failed.

The current struggle is but the latest variation on an old theme. New factors include the urban and more liberal middle classes on one hand, and the strongly traditional, even regressive Islamic forces on the other. Both sought the downfall of the status quo; but the former wants accommodation with the modern world on new terms, while the latter, in its extreme variant, rejects that world.

Recent developments in the region have placed Islamists in parliamentary majorities in Morocco, Algeria, Tunisia, Libya, and Egypt. Even Turkey, though thus far immune to the Arab Spring, has been moving increasingly away from its secular past toward a more Islamist state. Syria is not far behind. Yemen and Bahrain are on the cusp. This Islamist surge is perhaps the inevitable reaction to years of oppression and the anti-Americanism of the heretofore muzzled masses.

Left to its own devices, the Islamist wave could crest, just as its predecessors did. The Egyptian Muslim Brotherhood and its political arm, the Freedom and Justice Party, serve as a good example. Now a parliamentary majority in Egypt, it is rumored that they will form a government in advance of the June transition. They presumably will establish a theocratic state based on Sunni law (Shari'a) and pursue a more radical foreign policy.[5] This will tend to squelch personal freedoms, dry up tourist income, and repel foreign investment. The path to economic ruin will be set. Similar dynamics are at play in the other countries of the region. Given the demands of protestors—the educated middle class intent on democratic and economic reforms—this path cannot be sustained.



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Among other historic movements to modernize Islam was the United Arab Republic, led by Egyptian President Gamal Abdel Nasser in the 1960s. According to the author, Islam's longtime struggles with modernity are "at once both historic and new." And, he points out, they have "largely failed."

Instability, uncertainty, and the risk of conflict (not just internal, but also regional sectarian strife) will likely characterize the emerging era in the Middle East.[6] Such highly fluid conditions will tend to attract outsiders. An increasingly powerful and confident China is already making moves into the region. A frail and resentful Russia has long standing there, while a distracted Europe cannot fulfill its historic role as a force of moderation. Terrorism of the al Qaeda brand may retrench and diminish (there is no love lost between al Qaeda and the Muslim Brotherhood, for example), but it may be supplanted by more radical foreign policies of the new governments. Regardless, U.S. leverage has been greatly reduced while its interests remain as vital as before.

We're Not the Only Ones With a Vote

Included in the new defense strategy announced in January is the following:

U.S. economic and security interests are inextricably linked to developments in the arc extending from the Western Pacific and East Asia into the Indian Ocean region and South Asia, creating a mix of evolving challenges and opportunities. Accordingly, while the U.S.

AFP/GETTY IMAGES

A supporter of former Egyptian intelligence chief Omar Suleiman holds a poster that reads "Run, run, don't leave us to the Muslim Brotherhood" in Cairo's Abbassiya Square on 6 April. The brotherhood is a parliamentary majority, and the author expects it to "pursue a more radical foreign policy," which will "tend to squelch personal freedoms, dry up tourist income, and repel foreign investment."

military will continue to contribute to security globally, *we will of necessity rebalance toward the Asia-Pacific region*.[7]

Thus, the United States has made a strategic choice to shift its focus to the Pacific. This makes for nice speeches, neatly written documents, and convenient policy. But that choice may well fly in the face of reality. Such a shift might be necessary to counter a rising China in the face of needed reductions in U.S. government spending, but that is not to say the Middle East and north Africa will allow us to do it. In fact, shifting to the Pacific relies heavily on burden-sharing with partners and allies in other regions. Our Middle East partners and allies are vanishing like sand castles in the surf. It has been said that nations fight where they must, not where they choose. The United States may be facing just such a reality.

America can no longer avoid the issue of democratization versus Islamists. And it will not be able to rely on the old pillars of its position in the region. New policies and strategies will have to be forged—ones that acknowledge a new set of realities. In fact, the United States would do well to embrace the changes, which are inevitable, and seek to regain some of its lost leverage, based not on military aid but on core American values of democracy, personal dignity, stability, and economic opportunity for all.[8]

The region is volatile and will remain so for several decades. The United States will not be able to turn its back on the problem, and in fact may discover that more rather than fewer resources must be applied there. This situation may well be exacerbated by external forces. The Russians could seek to play the spoiler role, if for no other reason than to assuage bruised post-Soviet Union pride and divert attention from severe domestic challenges. China will play an increasing role, one that will seek to secure natural-resource supplies while simultaneously seeking to draw U.S. focus away from the Pacific.

AFP/GETTY IMAGES

Syrians carry the coffin of one of the 27 people killed in two bomb blasts that were aimed to wreck political efforts in Damascus to resolve the crisis in that country. Unrest there and in other "hostile Islamist regimes" have Israel seeing itself as surrounded. Because of this situation, the author fears, "the United States will be pressured to provide more security."

Implications for the U.S. Navy

The latest maritime strategy from 2007 laid out the objectives of projecting power from the sea:

> Our challenge is to apply seapower in a manner that protects U.S. vital interests even as it promotes greater collective security, stability, and trust. While defending our homeland and defeating adversaries in war remain the indisputable ends of seapower, it must be applied more broadly if it is to serve the national interest.[9]

Overall, while the Navy stands to gain from the strategic shift to the Pacific, it will find itself hard-pressed to meet commitments there while continuing to support U.S. policy in the Middle East. This will be exacerbated by the likelihood that U.S. naval support will be increasingly important in the Mediterranean littoral as well as in the Persian Gulf. Iranian antics notwithstanding, a broader arc of trouble is brewing that will stretch naval resources.

Three factors are at play here: the rise of maritime competitors, particularly China, but also Russia; the withdrawal of Europe into itself and the continued contraction of European military capacity; and the likely erosion of land-based support locations for U.S. military and naval operations. In short, it is entirely possible that the U.S. Navy will have to go it virtually alone.

Other naval implications include:

• Expanding missions. For example, as Israel sees itself increasingly surrounded by hostile Islamist regimes (potentially including a post-Assad Syria), the United States will be pressured to provide more security. This may well take the form of increased naval deployments to the eastern Mediterranean, including enhanced ballistic-missile defense patrols.

EU NAVFOR

The Chinese frigate *Maanshan* (background) escorts the World Food Programme vessel *Amina* to Bosasso, Somalia, in March 2011. "How will China behave in the region?" the author asks. "Will it be a spoiler, intent on distracting the United States from the Pacific? Or can it be convinced to play a constructive role?"

• Growing role for combined Navy–Marine Corps missions. Navy irregular warfare and Marine Corps capabilities will be ideally suited to supporting re-formed militaries with low-end teaming, which would build confidence with newly established governments. In addition, the Navy–Marine Corps team may be called on to protect U.S. citizens and interests in unstable countries. In both cases, low-footprint operations will signal a new type of U.S. presence in the region, one well suited to reassuring populations and governments long accustomed to heavy American interventionism.
• The need to become more self-sustainable. The demise of shore-based infrastructure, from bases to places, including air heads, will put a higher premium on the Navy's oft-touted ability to operate independently on the high seas. Such a capability is becoming increasingly important in the Pacific as well. But the cost will be high.
• Demands for U.S. naval presence in the Persian Gulf will not go away. In fact, as the old Arab order crumbles and as Turkey finds its putative leadership role thwarted in every direction, Iranian adventurism may well climb to new heights. The Navy will be looked to as the U.S. bulwark.

Hard Questions

All this suggests several questions that call for careful thought and analysis:
• How can the U.S. Navy position itself to meet likely emerging demands in the Middle East while continuing to honor America's strategic shift to the Pacific? As a corollary to this question, how can the Navy's irregular-warfare capabilities be fine-tuned to support U.S. interests in the Middle East and north Africa?
• What equipment, training, and doctrinal implications flow from this analysis?
• How will China behave in the region? Will it be a spoiler, intent on distracting the United States from the Pacific? Or can it be convinced to play a constructive role?
• How can the Navy influence and support U.S. policy in the region? In what way can it provide low-footprint engagement with new governments and their restructured militaries to encourage positive relationships?
• What should be the Navy's comprehensive, region-based approach be to the Middle East and its navies?
• How can Navy strategic-communication efforts be harnessed to improve U.S. leverage in the region?

Though certainly warranted, the nation's choice to shift focus to the Pacific may not be viable in the face of spreading change and instability in the Middle East and north Africa. The Navy will be placed in the position of executing that shift while also providing potentially greater presence from the western Mediterranean to the North Arabian Sea and the Persian Gulf. This reality suggests the need for thorough analysis and carefully crafted and integrated policies.

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4. Lisa Anderson, "Demystifying the Arab Spring: Parsing the Differences Between Tunisia, Egypt, and Libya," *Foreign Affairs*, May/June 2011, p. 3.
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RETHINKING
THE STRAIT OF HORMUZ

By Commander Daniel Dolan, U.S. Navy

If hostilities break out over any disruption of traffic through this busy sea lane, the Navy had better look long and hard at Iran's anti-access/area-denial capabilities.

In 2010, Dr. Shmuel Bar, director of studies at the Institute of Policy and Strategy in Herzliya, Israel, wrote the following:

> Armor and in particular tanks had been the keys to Israeli success in previous wars. Following the battle of Bint Jbeil and the broadcast of destroyed Merkvas [Israeli "Chariot" tanks], the regional population knew that God's Chariot, a symbol of power in the region for decades, was no longer invincible.[1]

The lessons of the 2006 Israeli-Hezbollah conflict, the 1987–88 Tanker War, and observations of recent developments in Iran offer insight into the scope and scale of what a potential conflict with Iran would hold for the U.S. Navy and its coalition partners. During the 2006 conflict in the Levant, Iran's proxy Hezbollah executed a form of hybrid warfare that combined well-trained conventional forces, unexpected new weapons and tactics, and masterful exploitation of the information environment.[2]

Those events in Lebanon, when viewed as an extension of lessons learned from the 1987–88 Tanker War, demonstrate both Iran's ability and willingness to wage a guerrilla war at sea using a mixture of conventional and irregular forms of warfare. A detailed analysis of the hybrid threat currently posed by Iran will reveal that a coalition naval force can defeat Iran, achieve desired objectives, and survive the experience only by selecting a strategy that uses reach and maneuver to its operational advantage.

AFP/GETTY IMAGES

A cargo ship cruised toward the Strait of Hormuz off the shores of Khasab, Oman, on 15 January 2011 after Iran threatened to close the strait, cutting off the transport of 20 percent of the world's oil. If such a closure happens, the United States must have a strategy in place to take military action. The author recommends the North Arabian Sea as the best staging area.

Three Arguments

This analysis seeks to provide a recommended strategy built on the premise that a coalition force can better achieve its objectives by operating in the North Arabian Sea as opposed to risking operations inside the Persian Gulf. This strategy will be supported by advancing three arguments. First, a critical analysis of a prevailing school of thought that contends freedom of navigation through the Strait of Hormuz can and must be maintained during a conflict with Iran will show that approach to be flawed. Second, an examination of Iran's current anti-access/area-denial (A2/AD) capabilities will illustrate that they can overwhelm even the most modern warship. Finally, this analysis will demonstrate that, despite the level of threat, a coalition force can defeat Iran's A2/AD capabilities and achieve desired objectives in a regional limited conflict.

Contrary to the option of remaining outside the Persian Gulf and using the tactical advantages of reach and mobility, U.S. Navy strategists predominently contend that transiting the strait in a time of conflict is a manageable risk. It is noteworthy that one of U.S. Naval Forces Central Command's (USNAVCENT's) standing mission objectives is "to ensure the free flow of commerce in the Arabian [Persian] Gulf."[3] Backing up this objective is the Navy's commitment to exercising and maintaining freedom of navigation through international waters, even when risk is involved. Further supporting this objective is a foundation of naval tradition and international law.

An example of how this paradigm is infused in the doctrine, praxis, and culture of coalition forces operating in this region is reflected in the comments of Captain David Adler, commanding officer of the USS *Port Royal* (CG-73). Captain Adler made this statement following the widely publicized December 2007 incident involving aggressive maneuvers of Iran Revolutionary Guard Corps Navy (IRGCN) small boats in the strait: "[T]he U.S. Navy's regular transit through the Strait of Hormuz is to support regional stability. We're here with the 19 other Coalition countries to keep the sea lanes open for international traffic."[4]

Captain Adler's comment was echoed in the press by then-USNAVCENT commander Vice Admiral William Gortney. When queried at a 2009 press conference about the incident, he concluded that the ships harassed by the IRGCN followed correct procedures and "had every right to be there."[5] These remarks regarding the incident reflect the application of USNAVCENT's mission objectives to uphold the international law of the sea and the longstanding traditions of the U.S. Navy.

Three Assumptions

Political and economic pressures are also being applied to support the option of keeping the strait open regardless of the level of conflict in the region. These arguments are built, all or in part, on the following three assumptions:

• The Iranians cannot afford to shut down the strait.

AFP/GETTY IMAGES

An Iranian small boat fires a missile during the Velayat-90 exercises in the Strait of Hormuz on 30 December 2011. In the wake of especially aggressive maneuvers by Iran's Revolutionary Guard Corps Navy four years earlier, Captain David Adler, commanding officer of the USS *Port Royal*, said: "We're here with the 19 other Coalition countries to keep the sea lanes open for international traffic."

• A coalition force will be able to keep the strait open through the use of superior force.
• Iran is militarily incapable of shutting down the strait.

In response to the rising tensions in the gulf during recent years, many global business and professional organizations have weighed in on the prospect of Iran closing the Strait of Hormuz. This business-world perspective offers an interesting risk-assessment analysis, and because of its potential influence on decision makers it must be taken into consideration. For example, political scientist Eugene Gholz addresses the question: "How hard would it be for Iran to disrupt the flow of oil?" with "The answer turns out to be: very hard."[6] Gholz supports his argument that Iran is incapable of shutting down the strait by noting that it is still too large and deep for that country to completely deny access. Gholz' thread of risk-versus-reward reasoning draws heavily from the 1987 Tanker War period, when a risk of attack was accepted by merchantmen as the cost of doing business. Gholz and others also note that the tanker ship design proved to be surprisingly resilient against mines and missiles.

This is supported by statistics: "[S]ome 441 ships had been hit during the Iran-Iraq conflict . . . 239 were tankers."[7] And fewer than 2 percent of ships passing through the Persian Gulf were attacked or damaged.[8] These data are used by current analysts to build the case that shipping losses in any potential future conflict with Iran will once again be viewed as a manageable risk. Another variable in this line of reasoning is the fact that closing the strait would cause Iran tremendous economic damage. This argument hinges on the knowledge that Iran is as economically dependent on the flow of commercial traffic as its neighbors.

COURTESY OF J. PETER PHAM

J. Peter Pham, who has served as an adviser to the United Nations, foreign governments, and multinational corporations, wrote in 2010 that "Iran needs hydrocarbons to continue to flow through the Strait of Hormuz even more than perhaps any other country." Caitlin Talmadge, from the Security Studies program at MIT, "and other like-minded academicians," the author notes, "conclude that the Iranian threat can be quickly neutralized through superior tactical means." Consequently, he concludes, some analysts "are at risk of oversimplifying the complexity of Iran's current A2/AD threat."

COURTESY OF CAITLIN TALMADGE

A 2010 analysis by political scientist J. Peter Pham cites the fact that "Iran itself exports some 2.4 million barrels of petroleum a day through the Strait of Hormuz. The sale of this oil provides the regime with approximately two thirds of its budget."[9] Pham also notes that "Iran is forced to import about one third" of its gasoline for its citizens.[10] Considering these facts, Pham assesses, "Iran needs hydrocarbons to continue to flow through the Strait of Hormuz even more than perhaps any other country."[11]

Like many others writing on this topic, he concludes that the internal pressures on the regime brought on by this reality will undoubtedly cause Iran to give serious consideration before creating a mêlée in the strait. If this is indeed true, it follows that Iran's own interests rest in keeping the sea lanes open. From a military operational-planning perspective, the key question then becomes: Will Iran refrain from attacking merchants in the strait if it is not directly challenged? To answer this important question, consider the following: Given even odds that Iran will exercise restraint if it is not directly challenged in the strait, then it is worth planning to have the coalition forces stay clear of Iran's littorals. The alternative of blasting through Iran's A2/AD gauntlet will almost certainly guarantee some degree of disruption to this vital lane of commerce.

A third element to the school of thought that the strait must remain open is built on the grounds that a coalition force's military superiority will defeat Iran's A2/AD capabilities with relative ease. A 2010 editorial by security analyst George Friedman went as far as to say that "going after Iran would be the kind of war the United States excels in fighting. No conventional land invasion . . . just a very thorough bombing campaign."[12] Friedman frequently refers to lessons from the 1999 NATO Kosovo bombing campaign, where coercive bombing eventually achieved NATO's operational objectives.

A second example is an analysis of Iran's A2/AD capabilities by Caitlin Talmadge of MIT. She delves deeply into what she assesses to be the superior tactical capabilities of U.S. military power compared with Iran and concludes that a coalition force's conventional superiority will rapidly defeat Iranian forces. For example, she states, "Facing this trap [in the Strait of Hormuz], the United States could employ two assets in the strait that the British lacked in the Dardanelles: sophisticated surface defenses and offensive airpower against enemy fire positions ashore."[13] With these military capabilities, Talmadge and other like-minded academicians conclude that the Iranian threat can be quickly neutralized through superior tactical means, and commerce can continue to flow.

Beware Hybrid Warfare

At the very least, Friedman, Talmadge, and others are at risk of oversimplifying the complexity of Iran's current A2/AD threat. To present Iran as "the kind of war the

United States excels in fighting" ignores the lessons of the country's new style of hybrid warfare demonstrated in Lebanon in 2006.[14] After all, when Israeli forces entered southern Lebanon, they were prepared to fight the type of war they exceled in fighting. But as the popular adage of military strategists states, "the enemy gets a vote." Just as Hezbollah did not choose to fight on Israel's terms, it would be naïve to think that Iran will fight on ours.

Consider the following: "In 1987, the U.S. estimated that Iran could close the Strait of Hormuz for a maximum of one to two weeks, but Iran's present capabilities to interdict traffic in the strait far exceed those it had in the 1980s."[15] In 2006, Defense Intelligence Agency Director General Michael Maples estimated that Iran's recent military developments "will significantly enhance Iran's defensive capabilities and ability to deny access to the Persian Gulf through the Strait of Hormuz."[16] General Maples does not offer a specific time or level of threat with his assessment, but his comment clearly reflects an appreciation for the new reality in the Persian Gulf. His comment also underscores the importance of recognizing that since the Tanker War, Iran's tactical-weapon capabilities have improved in both quality and quantity; therefore, when assessing current threats, Navy planners must look beyond Iran's confrontational rhetoric and make empirical observations of its actual capabilities.

These include the acquisition of thousands of sea mines, wake-homing torpedoes, hundreds of advanced cruise missiles, and possibly more than 1,000 small fast-attack craft and fast inshore-attack craft.[17] The majority of these weapons are concentrated astride the vital Strait of Hormuz. In recent years, this growing inventory has allowed Iran to disperse forces to more than 70 ports along its 1,300 miles of coastline. The net result is that it has created a strong and resilient A2/AD network.

Improved Training in Iran

In addition to better hardware, it is wise to assume that the training and skills of Iranian forces have also improved since the late 1980s. The performance of Iranian-trained and -equipped Hezbollah forces in the 2006 conflict with Israel may serve as an indicator. This is especially relevant because the training provided to the Hezbollah fighters was supplied by IRGC advisers and the IRGCN. In 1987, the Iranian Revolution was young and still finding its direction. Since that time Iran has indoctrinated an entire generation of devoted revolutionary warriors. The regime has inculcated this generation of youth by instituting a form of warfare known as *Alavi*. Military analyst Fariborz Haghshenass describes this form of warfare as "part of the new lexicon the IRGC has developed to describe its doctrine of asymmetric warfare, which emphasizes the deterrent and warfighting value of religious belief."[18] Iranian military leaders define Alavi warfare as "a defensive war based on religious and national values using fighters who are psychologically prepared to fight to the death."[19]

As the employment of suicide bombers in Israel, Iraq, and elsewhere has repeatedly proved, the addition of this variable radically changes the dimension of the conflict.

AFP/GETTY IMAGES

A Lebanese man walks amid destruction in Beirut caused by Israeli air strikes against Hezbollah fighters in summer 2006. The performance of Iranian-trained and -equipped Hezbollah forces in that conflict represents "the new reality in the Persian Gulf," the author points out. "The net result is that it [Iran] has created a strong and resilient A2/AD network."

U.S. NAVY (C. J. MCNEELEY)

In a 2009 press conference, then-commanding officer of U.S. Naval Forces Central Command Vice Admiral William Gortney, responding to a question about Iranian naval activity in the Strait of Hormuz in 2007, said that the ships engaged by the Iranians "had every right to be there." In the same conference, he remarked "We see that their [Iran's] rhetoric is much greater than their real capability." The author hopes the latter statement was "not a disregard for the 2006 events in Lebanon" and other Iranian capabilities.

For example, Iran has reportedly equipped small speedboats with modern cruise missiles and shaped explosive charges to others. This tactic can be used like a wave of World War II–era kamikaze aircraft.to overwhelm a ship's defenses. Like the kamikaze, it only takes one attacker to get through the defensive network to achieve a mission kill against a capital asset.[20] The destroyer USS *Cole* (DDG-67) stands as a grim reminder of the damage an explosive-laden small craft piloted by suicidal attackers can achieve.

As further evidence, a study by foreign-policy analyst Steven Ward on Iran's evolving military doctrine stated: "Unconventional warfare . . . will continue to be attractive to Iranian leaders because of plausible deniability and of past successes in Lebanon and elsewhere."[21] The Iranians seem to agree. In a 2010 television interview, IRGC commander Brigadier General Ali Fadavi said: "I think there is no comparison between our conditions today, our capabilities and power of deterrence, and those of the previous years. Our enemies are aware of many of these things."[22] Clearly, U.S. military and political leaders are well aware of Iran's weapon acquisitions and demonstrations of military presence in the region. Admiral Gortney indicated his awareness of Iran's new capabilities when he said, "We see that their rhetoric is much greater than their real capability."[23]

One would expect that his statement was just shaping the information environment and not a disregard for the 2006 events in Lebanon, the deadly effects of Iranian-designed improvised explosive devices in Iraq, and the known capabilities of Iran's A2/AD weapons. This puts teeth into Iranian claims about their ability to close the Strait of Hormuz. Even if the truth is somewhere in the middle—between the best- and worst-case scenarios for Iran's actual A2/AD capability—one possible strategy makes it unnecessary for a coalition force to operate in the littorals of Iran in any low- to medium-level conflict.

'A Fool to Fight a Fort'

As elementary as it may appear, the best option for denying Iran the opportunity to attack coalition warships is to operate beyond the reach of their A2/AD weapons. By simply abiding by one of the great cornerstones of fleet operations—a ship's a fool to fight a fort—a coalition force can fight, win, and survive. Today's "fort" is represented by the lethal A2/AD capabilities proliferating around the world. As illustrated, Iran has gone to great lengths to create a hybrid force designed to achieve its desired goal of controlling the strait during a conflict. The facts presented thus far raise a critical question for military planners: What course of action will defeat such a threat?

The first step to answering that question is to recognize the contextual nature of the threat. Major Christopher McCarthy, in his article "Anti-Access/Area Denial: The Evo-

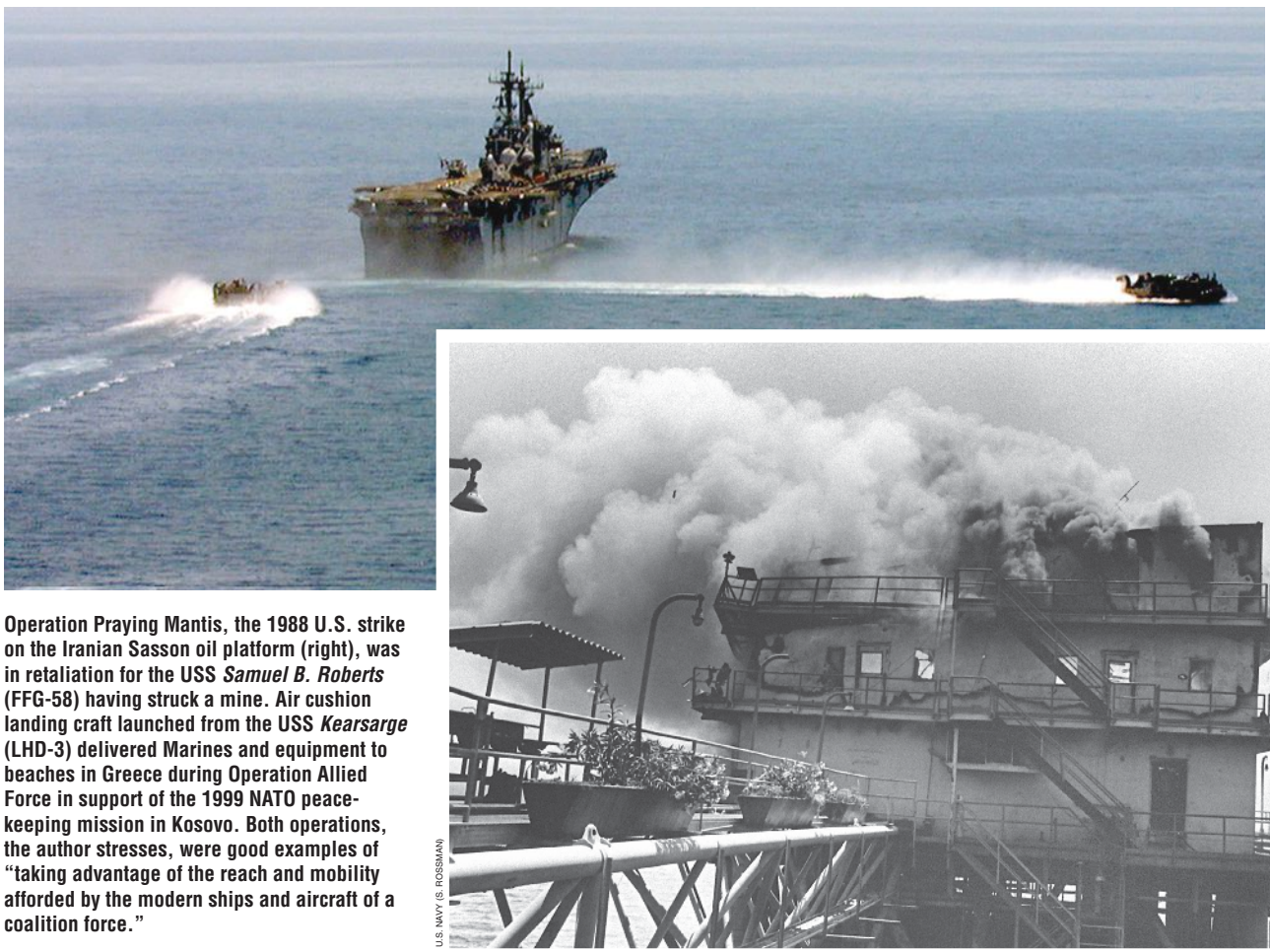
lution of Modern Warfare," raised a salient point when he wrote, "[i]n terms of domain control, U.S. military success against A2/AD will require a philosophical shift in what constitutes an acceptable level of air, space, and maritime superiority."[24] McCarthy's point about recognizing the "philosophical shift" is supported by the lessons of history when prevailing tactical and operational paradigm shifts were not recognized by military leaders. For example, the painful lesson learned in the loss of countless lives and treasure when in 1942–43, "the United States failed to grasp that the new killing weapon [of the Japanese] was the torpedo."[25] Today's Navy leaders must take pause to recognize the "philosophical shift" necessary to defeat the emerging A2/AD threat that is changing the old rules of the game. In this reassessment, it is necessary to define the acceptable level of air, space, and maritime superiority required to achieve the objectives.

When examining these variables, the important question becomes whether or not entering the strait, or the constricted water of the Persian Gulf, is even necessary to accomplish the objective. The answer is no, at least to a point determined by the scale of the conflict. In a low- to mid-level conflict, a coalition force can allow Iran temporary control over its littoral waters while conducting long-range coercive strikes that wear down Iran's forces. In a large-scale conflict with Iran, forced access through the strait and even amphibious landings may be required to establish control.

'Reach and Mobility'

By taking advantage of the reach and mobility afforded by the modern warships and aircraft of a coalition force, Iranian forces can be systematically defeated. This was true during Operation Praying Mantis in 1988, when a carrier strike group operated in the North Arabian Sea.[26] This was also the case during Operation Allied Force in 1999, when the USS *Theodore Roosevelt* (CVN-71) carrier strike group operated outside the restrictive waters of the Adriatic Sea. This option denied the Iranians, and later the Serbs, an easy opportunity to attack our capital assets. Most important, it gave the coalition force freedom to maneuver and unimpeded sea lines of communication.

This option will also give the advantage of force, space, and time to the coalition. By remaining outside the high-threat environment of the gulf, coalition forces can concentrate available firepower on offensive, not defensive operations. The North Arabian Sea base of operations also offers the advantage of the factor time by placing the coalition force in the offensive position; allowing it to choose when and where to strike. Praying Mantis and Allied Force offer successful precedence for leveraging these operational advantages. In light of Iran's current



U.S. MARINE CORPS (J. HYP)

U.S. NAVY (S. ROSSMAN)

Operation Praying Mantis, the 1988 U.S. strike on the Iranian Sasson oil platform (right), was in retaliation for the USS *Samuel B. Roberts* (FFG-58) having struck a mine. Air cushion landing craft launched from the USS *Kearsarge* (LHD-3) delivered Marines and equipment to beaches in Greece during Operation Allied Force in support of the 1999 NATO peacekeeping mission in Kosovo. Both operations, the author stresses, were good examples of "taking advantage of the reach and mobility afforded by the modern ships and aircraft of a coalition force."

A2/AD threat environment and all other factors presented here—a North Arabian Sea base of operations is the prudent choice for the combined-force maritime component commander (CFMCC).

However, it is important to note that accepting this strategy will require a philosophical shift both for military planners and leaders. For instance, accepting limited sea control in the strait and portions of the Persian Gulf runs counter to the determination of the U.S. Navy and many of its coalition partners to maintain freedom of commerce in the region. It is here that Navy leadership must accept a change in the standard operating procedures in the gulf. Basil H. Liddel-Hart, the prolific champion of maneuver warfare, offers some helpful advice for this problem, he believed that "the best tactics involve ingenuity and avoid head-to-head battles of attrition."[27]

With Hart's advice in mind, the option of operating safely outside the range of Iran's A2/AD weapons is not just a reasonable survival measure—it is the best way to optimize the operational advantages of a coalition force. An operating base in the North Arabian Sea will afford the coalition near-absolute sea control. Among many advantages, this option will allow a force to optimize strikes against the enemy fleet by freeing limited strike assets that otherwise would be employed in defensive operations. This strategy also allows the coalition to limit the enemy lines of approach/threat axis. That in effect will allow the CFMCC the ability to concentrate available reconnaissance and strike forces against the limited threat axis instead of the alternative of a 360-degree threat that is present in the restrictive Persian Gulf waters.

Let Them Have Temporary Control

What this strategy would require in a time of conflict is temporarily allowing Iran to exercise limited sea control in the Strait of Hormuz and most of its littoral waters. This temporary condition is the trade-off for gaining operational advantage over the duration of the conflict. From the onset of hostilities, Iran's limited control of the strait would be deliberately hampered by coalition air, missile, and sub-surface forces selectively attacking Iran's tactical capabilities. Interestingly, this strategy also leaves open the possibility that if not directly challenged, Iran may, in its own self-interest or as a display of rational statehood, keep the strait open for commercial shipping. Perhaps most important, whether Iran chooses to allow commerce to flow or attempts to disrupt it, what this strategy will do is put the onus of what happens in the strait on Iran.

The potential for incremental victories from information operations is far greater with this course of action than by risking the loss of a capital ship battling through the strait. This strategy will in effect leave Iran temporarily responsible for the fate of neutral shipping in the strait. If Iran chooses to attack commercial shipping, the images of burning oil tankers on global television will only serve to further paint Iran as a pariah state and garner additional support for the coalition. And it will allow the CFMCC to score a significant information victory by being correctly perceived as exercising due restraint in the conduct of combat operations.

Military planners and strategists concerned with the threat posed by Iran are wise to remember what CIA analyst Steven Ward warns: "Iran draws on a heritage of more than 2,500 years of strategic thinking for its doctrine."[28] When examining the known threats and the possible level of war with Iran, the prudent choice for the CFMCC is to establish a blue-water base of operations in the North Arabian Sea. This would allow the coalition force to use its conventional superiority to achieve the desired objectives while keeping Iran's A2/AD threat at arm's length.

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Still Relevant After All These Years

By Commander Jim Griffin, U.S. Navy

It may be the stuff of three-decades-old history, but the Falklands conflict offers warfighting lessons of distinct importance to the U.S. Navy of today.

This year marks the 30th anniversary of the Falklands War between Great Britain and Argentina. For three months in the spring of 1982, 40,000 airmen, sailors, soldiers, and marines fought a short, sharp war over a group of South Atlantic islands with no significant resources and a population of more sheep than people. What is the significance of this seemingly anachronistic colonial war in the 21st century? Future budget constraints will require hard choices on procurement, doctrine, deployments, and training. The Falklands War was the first modern anti-access/area-denial (A2/AD) war, pitting a joint expeditionary force against a regional power with modern land, air, and sea capabilities fighting over control of territory close to home. As such, it may prove far more relevant for the future U.S. Navy than any conflict in the past two decades.

Whose Islands, Anyway?

The war was the culmination of a 150-year dispute between Britain and Argentina. Britain had occupied the Falkland Islands since 1830, but Argentina never recognized the legitimacy of the British presence and claimed sovereignty. In April 1982 the military junta ruling Argentina took advantage of a perceived window of opportunity to seize the islands and force a resolution. Up to that point, neither nation believed the territorial dispute could erupt into open warfare. Argentina viewed its primary security threats as leftist insurgents and Chile, and Britain was reshaping its forces to fight the Soviet Union within the context of NATO. In fact, the Royal Navy was actually divesting itself of the fixed-wing aviation and amphibious-lift capabilities—which would prove vital in the Falklands—because they were judged superfluous to the Royal Navy's NATO missions.[1]

London was genuinely surprised Argentina chose to force the issue militarily; Buenos Aires was equally surprised when London promptly dispatched a naval task force to retake the islands by whatever means necessary. Over time, the British task force encompassed more than 28,000 men, 51 warships, 21 fleet auxiliaries, 54 chartered merchant ships, and nearly 200 aircraft supporting combat operations 8,000 miles from home. The task force's mission was to defeat the Argentine forces around the islands and retake control prior to the onset of the South Atlantic winter in late June. At that point, deteriorating weather conditions would have made major combat operations nearly impossible and almost certainly forced a political resolution favorable to Argentina. To win, the Royal Navy needed to guarantee access to the Falklands to be able to

ROBERT TAYLOR

HMS *Hermes* (center) of the Royal Navy's South Atlantic Task Force prepares to launch her Sea Harriers while HMS *Arrow* (foreground) plows into the swell. In the 1982 showdown over the Falklands, the author notes, the military junta ruling Argentina was "surprised when London promptly dispatched a naval task force to retake the islands by whatever means necessary."

land ground forces and sustain a campaign to compel the surrender of the occupying Argentine forces.

Once the Argentinians realized the British were willing to fight, they belatedly marshaled their military to hold the islands. Argentina committed more than 11,000 soldiers, deployed more than 120 combat aircraft, and assembled naval forces that included six Exocet antiship cruise-missile-equipped frigates/destroyers, a light cruiser, a light carrier capable of launching A-4 strike aircraft, and two Type 209 diesel submarines. Argentina's strategy was to deny British access to the Falklands until external political or environmental conditions compelled an agreement on favorable terms.

From Showdown to Shooting War

Major combat operations began on 1 May 1982 with long-range strikes by British Vulcan bombers against the airfield at Port Stanley, the islands' largest settlement. Those attacks were followed by carrier-launched Harrier strikes against Argentine forces on the islands and Argentine air attacks on the task force. The war escalated when the submarine HMS *Conqueror* sank the Argentine cruiser *General Belgrano* on 2 May, followed rapidly by the loss of HMS *Sheffield* to an Argentine Exocet antiship missile. Those two events alone resulted in a combined loss of more than 350 lives only a week into the fighting. Combat intensified through May, leading to an amphibious landing by British forces at San Carlos on 21 May. The campaign culminated with the final assault on the Argentine main body at Port Stanley and the surrender of Argentine forces in mid-June.

In six weeks of combat, more than 900 men were killed in action and more than 1,000 wounded; seven ships were sunk, and nearly 40 percent of the Argentine Air Force was shot down. The British task force was able to successfully counter Argentina's A2/AD strategy—and that success provides several lessons relevant to future A2/AD conflicts.

Successful attack equals mission kill. Eleven warships were damaged by weapon systems larger than 20-mm cannon; of those, nine were either sunk or immediate mission-kills. Only two ships were able to absorb damage and continue on their missions, and those ships were withdrawn from the theater as quickly as possible. The damaged ships actually consumed additional resources, requiring air-defense coverage, search-and-rescue support, and towing out of the combat zone. Sound damage-control

IMPERIAL WAR MUSEUM

8 June 1982: The landing ship *Sir Galahad* is ablaze after an Argentine air attack that took the lives of 33 Welsh Guardsmen. Because "modern naval-combat dynamics involve a large number of personnel in a compact space," the author points out, "the majority of British casualties . . . happened at sea, usually in double-digit numbers for every attack. . . . It took nine years of fighting in Afghanistan to inflict the same number of British casualties as six weeks of fighting in the Falklands."

training and procedures allowed the Royal Navy to save several badly damaged ships, but that only prevented their loss, it did not keep them in the fight. The U.S. Navy's experience with the USS *Stark* (FFG-31), *Samuel B. Roberts* (FFG-58), and *Cole* (DDG-67) are consistent with this.

Quantity still has a quality all its own. Limited inventory of key weapon systems was a challenge for both countries. Argentina sank two ships and established a 40-percent kill ratio with its air-launched Exocet missiles; however, it only had five. Despite aggressive efforts, the Argentinians were unable to acquire more of one of their most effective weapons. Argentine air operations also failed to gain the maximum value of their air-to-air refueling capability because of a limited number of tankers.[2] This reduced the size of the Argentine strike packages and limited them to a more easily defended-against single-axis approach. Britain had to carefully balance the disposition of its Type 42 air-defense frigates to cover both the task-force carriers and the landing ships at San Carlos. This problem would have been insurmountable after Argentina sank two of the three Type 42s in the original task force, but two additional Type 42s arrived in time to maintain air-defense coverage over both locations.

Training, aggressiveness, and skill are still force multipliers. Often operating their aircraft at the very edge of their performance envelopes while demonstrating tactical competence, innovation, and courage, Argentine pilots regularly conducted successful long-range strikes with low-level approaches against an opponent with an effective naval integrated air-defense system. Eleven of the 14 British ships lost or heavily damaged by Argentine forces were hit by unguided general-purpose bombs dropped by 20-year-old A-4 Skyhawks or Mirage fighters. Ashore, British land forces swiftly engaged and defeated an Argentine force of the same size, with equal, or in some cases better, equipment in prepared defensive positions. The difference was the superior training and leadership of British forces in comparison with a poorly led and inadequately trained Argentine conscript army.

Submarines punch above their weight. Britain's aggressive employment of its submarine force and Argentina's lack of a meaningful antisubmarine-warfare capability had a major impact on the course of the war. The sinking of the *General Belgrano* prompted the withdrawal of Argentina's surface fleet to port for the duration of the war, preventing seaborne resupply of Argentine forces on the Falklands and eliminating the threat of Argentina's Exocet-capable ships and A-4 Skyhawk–equipped aircraft carrier. Even though neither of the Argentine Type 209 diesel subs was employed successfully, concern over their potential threat remained an important consideration in the planning and timing of the British amphibious landing.[3]

Casualties accrue quickly. Although nearly 20,000 troops were ultimately involved in the ground fighting on the Falklands, nearly half the casualties came from losses at sea. Of Argentina's approximately 650 killed in action, half were lost with the *General Belgrano*. The majority of British casualties also happened at sea, usually in double-digit numbers for every attack: 49 killed in the attack on amphibious ships at Fitzroy, 20 killed on the *Sheffield*, 19 killed on the *Coventry*, etc. Modern naval-combat dynamics involve a large number of personnel in a compact space; that combined with the effectiveness of modern antiship weapons guarantees that any meaningful hit on a warship will inflict a significant number of casualties. It took nine years of fighting in Afghanistan to inflict the same number of British casualties as six weeks of fighting in the Falklands. (British casualties in the Falklands totaled 255; the 256th British casualty in Afghanistan occurred in February 2010.)

War can be a total surprise. Neither Britain nor Argentina began 1982 expecting to fight a war in the Falk-

lands. Even after seizing the islands, Buenos Aires thought London either would accept a fait accompli or negotiate a resolution. The Argentine military's belated preparations to defend the islands and the improvised, ad hoc nature of its command structure created after the dispatch of the British task force are clear evidence that the junta was surprised at the results of its handiwork.[4] Britain can claim no better foresight. Although the Falklands' sovereignty had long been an issue, London clearly did not expect to have to fight to protect it. The standing naval patrols in the region were reduced, and the Ministry of Defence was basing its procurement plans around the Soviet threat and Britain's planned role within NATO. The Royal Navy was planning to battle Soviet submarines and bombers as part of a large allied fleet, leading to the presumed abandonment of the kind of expeditionary capability required to retake the islands.[5] In fact, had Buenos Aires been a bit more patient, the two carriers essential to British efforts, HMS *Hermes* and *Invincible*, would have been unavailable.

Future Falklands-like Scenarios?

In the post-9/11 world, how are these lessons relevant? The Falklands War has similarities to many potential flashpoints facing the U.S. Navy in the next few decades: territorial disputes in the western Pacific, ensuring freedom of navigation through the Strait of Hormuz, or even supporting Western allies against a resurgent Russia in the Baltic or Black Sea. In these circumstances, mission accomplishment would require the U.S. and allied forces to achieve victory through expeditionary operations at sea before shifts in the political, environmental, or economic situation force a settlement on the opponent's terms. With this in mind, the implications of the Falklands War's lessons should be considered as we design and procure future weapon systems, develop doctrine, plan for contingencies, and train our forces.

IMPERIAL WAR MUSEUM

Carrier-launched Royal Navy FRS 1 Sea Harriers scored 22 air-to-air combat victories in the Falklands War. The two carriers that took part in the campaign, HMS *Hermes* and *Invincible*, were "essential to British efforts," the author writes. "Protection of the carriers was a constant concern . . . had either carrier been badly damaged or sunk it would have meant defeat."

Effective militaries balance training, technology, and numbers. The Argentine Air Force was well trained and equipped with effective weapon systems; however, shortfalls in a number of selected systems (Exocets, air-to-air tankers) had a critical impact on the service's ability to accomplish its mission. The Argentine Army was well equipped and equivalent to its opponent in size, but was poorly trained and led. The British task force was well trained, technologically well equipped, and had a sufficient order of battle to accomplish its mission (although in certain areas that was a near-run thing). Retaking the Falklands required the commitment of all of the Royal Navy's carrier strength and as it was, the *Hermes* and *Invincible* were just enough. Protection of the carriers was a constant concern, and the task-force commander acknowledged that had either carrier been badly damaged or sunk it would have meant defeat.[6] The benefits of a "deeper bench" are clear if one looks at the British escort fleet. The frigates, destroyers, and their crews were able to protect the carriers and the landing forces while absorbing the loss of ten ships from their order of battle. The enduring American temptation is to push the boundaries of technology while accepting trade-offs in training, and especially in numbers. The challenge is to not let "the best" become the enemy of "good enough" if the cost of developing "the best" leaves nothing for procurement, training, and sustainment. The most advanced warship in the world still cannot be in two places at once, and it cannot perform as advertised if its crew is poorly trained.

Do not assume strategic warning. If a possible flashpoint exists, potential enemy capabilities should be the planning metric rather than far more transient political intentions. The presence of a Royal Marine contingent and a naval-security patrol shows that Britain recognized a latent threat to the Falklands but never seriously considered the requirements of fighting a campaign in the South Atlantic, or they would not have been planning to divest themselves of the capabilities (carrier aviation, amphibious lift) that proved essential to win the war, simply because such elements had no apparent utility in a war with the Soviet Union. Far more egregious was Argentina's lack of preparation for a forceful British response to its actions, especially given history and the reputation of British Prime Minister Margaret Thatcher. Defense planners must not become bore-sighted on a single contingency, nor should they assume that preparing for their worst-case scenario will leave them prepared for all the missions they may

be tasked to execute. This is not a justification for every item on a planner's wish list, but it does mean that prudent preparation will consider all potential flashpoints, not just the most likely ones.

Plans must consider the impact of casualties, both in matériel and personnel. Any engagement at sea is likely to produce significant casualties very quickly. Commanders at the component and theater levels need to consider the casualties' potential impact both on the execution of their plans and on the political value of the conflict. As any damaged ship is likely to be at least temporarily a mission-kill, commanders will need branch plans that simultaneously shift missions to alternate platforms while providing other assets to support the damaged ships until they can either leave the combat zone or return to the fight. This will require a deeper theater reserve than in recent wars. Rapid personnel casualties also will impact the political commitment to the conflict. The American response to a punch in the nose is as often to double down as it is to fold, but in either case, it is likely that commanders will receive radical shifts in guidance immediately following the first engagement at sea. They need to have branch plans for escalation and de-escalation.

IMPERIAL WAR MUSEUM

The big push came with the British amphibious assault on San Carlos on 21 May 1982. Here, a Royal Marine with a Blowpipe surface-to-air missile defends the landing site. "The Falklands War was the first modern anti-access/area-denial war," observes the author, "pitting a joint expeditionary force against a regional power with modern land, air, and sea capabilities fighting over control of territory close to home."

Submarine warfare is very hard, but properly done, very rewarding. With a single torpedo attack, three British nuclear submarines eliminated the Argentine navy as a threat, allowing the task force to focus on dealing with a one-dimensional, single-axis, land-based air threat. Conversely, Argentina's failure to effectively employ its submarine force was a prime missed opportunity. That country's two operational Type 209 diesel subs had the potential to inflict serious damage or at least disruption on the British task force if they had been aggressively employed. Undersea warfare is an easy area to underfund and underemphasize. It is a complex, expensive capability, with limited utility in low-intensity, non-traditional naval missions, or when conducting unhindered power projection ashore. For the past two decades, submarines have largely supported carriers and surface-launched Tomahawks in order to project power on land, but as we move into an environment where what can be seen, can be hit, and what is hit is likely out of action, the benefits of a truly stealthy multimission platform are clear. In future wars at sea, it may well be the carriers and surface ships supporting power projection by submarine.

The World of Yesterday, Tomorrow

The U.S. Navy faces myriad challenges as it adjusts to a rapidly changing international environment. The rise of China, ongoing tensions with Iran and North Korea, continued turmoil in Central and South Asia, and a more assertive, resurgent Russia make it likely that the challenges the Navy will face in 2020 will be different from the operations of the last decade. While terrorism will remain an enduring concern, our potential enemies at sea will present us with a more traditional threat. Future wars at sea are more likely to involve submarine warfare, antiship missile defense, and higher-technology threats from other nation-states over political issues.

It may seem strange to argue that a 30-year-old war between two Western nations is more relevant for the Navy of tomorrow than the last ten years of counterterrorism operations, but that is the most likely reality. The greatest challenge facing the future Navy is a regional power employing advanced weapon systems in an effort to conduct a successful A2/AD campaign. The Falklands War was the first, and so far, only, modern naval anti-access war. We ignore its lessons at our peril.

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Russia's World TURNED UPSIDE DOWN

By Lieutenant Daniel T. Murphy, U.S. Navy

GETTY IMAGES

If the Arctic continues its current rate of melting, future Russian coastal cities (here, Murmansk Harbor) will look north on a busy ocean as the region's population and commercial activities grow.

Oil, melting ice, and shifts in military and economic power will reshape Russian naval strategy.

When oil peaked at more than $140 per barrel in 2007–8, Russian Admiral Vladimir Vysotsky projected that the navy would add three carrier battle groups to the Northern Fleet and three to the Pacific Fleet.[1] Naval War College professor Milan Vego thought the buildup possible and believed shipyard capacity, not cash, would be the key challenge.[2] Predictions changed when oil prices dropped in 2008–9, and some analysts boldly predicted the Russian fleet would eventually cease to exist. But while Russia's naval ambitions will *not* include six carrier groups, Moscow absolutely *will* continue to build and/or acquire a formidable navy. Globalization requires that it do so.

Post-Soviet Russian Concerns

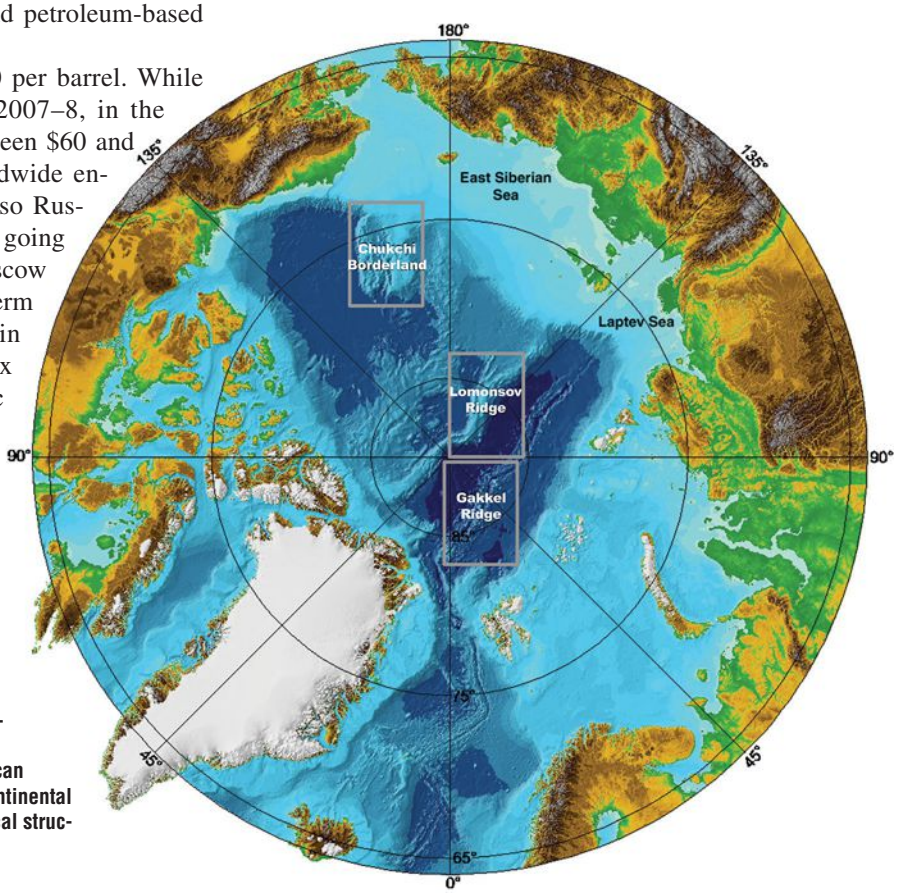
In the years after the 1991 collapse of the Soviet Union, half the Russian navy was scrapped or mothballed. The Black Sea Fleet was divided between Russia and Ukraine. The Caspian Flotilla was divided between Russia, Azerbaijan, Kazakhstan, and Turkmenistan. Naval bases outside of Russia, except Sevastopol, were evacuated, and shipyards at Odessa and in the Baltic States were lost. The navy reached its low point in 2002, when fleet construction came to a standstill. The situation significantly improved through the mid-2000s, as the country's gas and petroleum-based economy grew significantly.

In March 2012, oil topped $100 per barrel. While this is significantly less than in 2007–8, in the short term prices may bounce between $60 and $150 per barrel.[3] Long term, worldwide energy supply will outstrip demand, so Russia's energy-based economy is not going to collapse anytime soon. But Moscow now knows it cannot rely on long-term high-priced oil to build and sustain (for the first time in its history) six carrier groups. Too many economic variables could drive prices down, or at least keep them volatile.

Many countries have shipping and energy infrastructure that may increasingly need to be protected; Russia is not unique in that respect. What makes it different is that it is staking a claim on the natural resources in a new region: the Arctic. Seeing China as the most significant new threat and with cash to spend, Russia can now purchase all the naval shipping it needs on the commercial market. Finally, the accelerated melting of the Arctic ice cap will convert Russia from a mostly landlocked nation to one with a seacoast comparable to that of the United States.

Something to Protect

In September 2011, when the Arctic sea ice extent reached its yearly minimum, it was the second lowest since satellite records began in 1979 and close enough to the record low of 2007 to be deemed a statistical tie. The receding ice has uncovered nearly a million square miles of new ocean.[4] Most of that is in the exclusive economic zones of Canada, Russia, and the United States. A recent study by the U.S. Geological Survey estimated that 13 percent of the world's undiscovered oil supply and 30 percent of undiscovered natural gas may be located under the Arctic. Researchers estimated the area likely contains 83 billion barrels of untapped oil, which represents 4 percent of the planet's remaining conventional oil and enough to sustain demand for almost three years. The Arctic contains



NOAA

With 30 percent of undiscovered natural gas possibly under the Arctic, Russia's plans to develop a major energy infrastructure include a claim that the underwater Lomonosov Ridge (center) extends its maritime territory. A nation's exclusive economic zones can indeed be extended if the structure of the continental shelf is demonstrably similar to the geological structure in its territory.

approximately 1,550 trillion cubic feet of natural gas, they estimated, enough to meet world demand for about 14 years. Most of these fields lie offshore in less than 500 meters of water, making them accessible to drilling.[5] Therefore, Russia has something to protect.

In 2001 the country argued to the United Nations that the waters off its northern coast are an extension of its maritime territory; in 2007 it planted a titanium flag on the seabed of the North Pole. The claim is based on the argument that an underwater feature, in this case the Lomonosov Ridge, extends the landmass. The 1982 United Nations Convention on the Law of the Sea grants countries an exclusive economic zone of 200 nautical miles beyond their coastlines, which can be extended if it can be proven that the structure of the continental shelf is similar to the geological structure within its territory. Russia's claim has yet to be settled.

In 2009, First Deputy Prime Minister Sergey Ivanov confirmed that the new maritime strategy would focus on the Arctic. Strategic priorities would include enhanced coordination between the navy and commercial shipping companies, as well as development of the Arctic territories.[6] Later that year, President Dmitry Medvedev released a new national-security strategy stating that "in a long term perspective the attention of international policy will be focused on access to energy reserves, including on the continental shelf in the Barents Sea and other parts of the Arctic."[7] Since then Russia has initiated planning to exploit resources in this region, especially the Shtokman natural gas deposit, which contains 3.8 trillion cubic meters of natural gas. This field is being developed by a consortium of companies, including Russia's Gazprom, France's Total, and Norway's Statoil.

RIA NOVOSTI

First Deputy Prime Minister Sergey Ivanov (left) confirmed Russia's Arctic maritime strategy in 2009. He confers here, at a Modernization and Technological Development Committee meeting, with Herman Gref of the credit institution Sberbank and Anatoly Chubais of the open joint-stock company Rusnano.

Because Russia has clearly stated its strategic intentions in the Arctic, the U.S. intelligence community must reach a greater understanding of what that means from an operational and infrastructural standpoint. We need to study how Russia will conduct future operations in the Arctic, where it will likely build energy infrastructure and at what pace, and which platforms and capabilities it will likely put in place for its operations and defense. What is the likelihood Russia will try to exclude other nations from the region, and how would it most likely try to do that?

Threats Old and New

Russian leaders today see a conflict with NATO as extremely unlikely and are aware of the relative decline of U.S. military and economic superiority. Moscow has instead turned east and is spending considerable effort improving diplomatic and economic ties with China, which it ultimately considers its most significant long-term threat.

Moscow sees that Beijing has increased military spending by an average of 12 percent per year during the past decade, with more than a third allocated to the People's Liberation Army Navy.[8] According to the International Energy Agency, China will double its demand for oil and quadruple its demand for natural gas during the next 25 years. With 1 percent of the world's energy resources, China consumes 20 percent. Chinese admirals recently told the press they want "warships to escort commercial vessels that are crucial to the country's economy."[9] And as of early 2011, the country's navy had made 18 ship deployments to the Gulf of Aden.[10]

As the country's economic power continues to grow, some believe it will take a colonial shape similar to those of the colonies or outposts across the globe of its British, Dutch, French, and U.S. predecessors, acting "as would be expected of a rising world power."[11] As Dr. Harsh Pant put it, "There is only one kind of great power, and one kind of great power tradition. China will not be any different; power is necessarily expansionist."[12] If all this is true, China will protect its *access* to energy resources as much as Russia will protect its *ownership* of them.

The Russian State Armaments Program for 2011–20 indicates that the navy's operational emphasis will shift from countering U.S. and NATO naval forces to the protection of economic activity (e.g., smuggling and poaching in territorial waters), and that the geographic emphases will shift south to the Caspian and Azov seas, east to the Pacific (which, of course, will overlap with China's sphere

of influence) and north to the unresolved territorial claims in the Arctic.

The State Armaments Program shows that the strategic submarine force will remain a priority. By 2017, 5 to 7 more *Borei*-class ballistic-missile submarines and 2 to 7 more *Yasen*-class attack subs will be commissioned. Two to 7 more *Lada* diesel subs will enter service by 2020, by

RIA NOVOSTI

The Russian State Armaments Program for 2011–20 includes protecting economic activity and the territorial claims in the Arctic, with the strategic submarine force remaining a priority. By 2017, five to seven more *Borei*-class ballistic-missile submarines (here, the *Yuri Dolgoruky*) and two to seven more *Yasen*-class attack subs will be commissioned.

which time the surface fleet will acquire 2 *Mistral*-class amphibious assault ships from France and 3 to 5 *Ivan Gren*–class landing ships. Within the next 20 years, Russia intends to commission 10 to 12 new 10,000-ton destroyers, 20 *Admiral Gorshkov*–class frigates, and 20 *Steregushchy*-class corvettes. While the 6 carriers projected by Admiral Vysotsky are not in the plan, there has been mention the possible restoration and modernization of several mothballed *Kirov*- and *Slava*-class Cold War cruisers.[13]

In the years ahead, U.S. policy makers must study and understand the aspirations of the Russian and Chinese governments. Where do they potentially collide, and how could the ripple effects lead to greater regional or global conflict? The U.S. intelligence community must be on the watch for indications and warnings of clashes. Our analysts should be developing and comparing competing hypotheses on how the relationship may play out in the coming years, each country's likely courses of action, and the best one for the United States.

Money to Spend

In September 2010, Defense Minister Anatoly Serdyukov announced that total Russian defense spending in the next ten years would equal $600 billion. This is an increase of 3.5–4 percent of the country's gross domestic product, up from its current 2.9 percent.[14] Russian GDP is currently $2.2 trillion. By comparison, U.S. GDP is $14.6 trillion, Chinese $10.1 trillion, Indian $4.1 trillion, and U.K. $2.2 trillion. Increasing Russian defense spending to 3.8 percent of its GDP means that the country's annual military budget will exceed $80 billion per year, significantly less than the United States or China but on a par with India and significantly greater than the United Kingdom. These are not small spending numbers.

Analysts opine that the increase in funding promised for the State Armaments Program 2011–20 may not be sustainable, because it depends on stable and increasing prices for oil and natural gas in the coming years. In September 2011, the World Bank re-forecasted Russia's economic growth for 2011 from 4.4 percent to 4 percent and lowered its forecast for Russia's 2012 GDP from 4.0 to 3.8 percent. The downgrade was the result of a worse-than-expected second quarter, and oil prices that fell through the end of 2011. However, the bank emphasized that Russia would continue to outperform other developed countries in terms of GDP growth. The World Bank believes that despite falling global demand for goods and commodities, relatively high oil prices (which we have certainly seen in the first quarter of 2012) and low unemployment will facilitate sound Russian economic growth through 2012 and beyond.[15] Thus, revenues will be available to support a fairly robust defense budget.

Some analysts have pointed to Russia's lost shipbuilding industry as further proof that the country cannot rebuild and sustain a viable naval fleet. "Au contraire!" say the Europeans. Because globalism has transformed the defense industry, unlike during the Cold War, when defense manufacturing was bipolarized between NATO and the Soviet Bloc, today Russia can purchase any naval assets it needs on the commercial market. Previously the country maintained an aging infrastructure that never produced high-

SCF UNICOM

Aside from new possibilities for energy sources, a melting Arctic is opening trade routes. The Russian tanker *Baltica* (background) sailed in 2010 from Murmansk through the Arctic to Ningbo, China, carrying 70,000 tons of gas condensate. The transit was shortened almost by half.

quality equipment. Now Moscow can focus on purchasing *Mistral*-class amphibious assault ships and other modern hulls and technologies from French and other European and Asian shipyards. While it cannot count on the kind of sustained high oil prices necessary to build six carrier battle groups, Russia will remain an energy-rich country in a future where demand will exceed supply. If its navy can meet even a significant percentage of its growth objectives, and if European countries continue to sell it equipment, Russia will remain a formidable potential adversary.

U.S. policy makers still seem to be in some kind of post–Cold War fog when trying to understand Russian national-security aspirations. This is largely because of Russia's own evolving strategic emphases. The mist will start to dissipate as we build a more fact-based estimate of how much money Moscow will have available to spend in the future. Our analysts should be building a predictive model that will help clarify the relationship between Russia's projected oil prices, military spending, and naval shipbuilding and acquisition. The U.S. intelligence community should not be changing its predictions of future fleet size (by dozens of hulls) every time the price of a barrel of oil changes by $20.

A New World

Along with exposing nearly a million square miles of the Arctic to energy exploitation, the ice melt is opening an entire new ocean to shipping and naval operations. In 2007, the Arctic sea ice melted enough that for the first time in history, the Northwest Passage above Canada became navigable without an icebreaker.[16] Between 1906 and 2006 only 69 ships, primarily sailed by explorers and scientists, transited the Passage. In 2010 alone the Canadian government counted 24.[17] Russia's Northern Sea Route is being termed the "trans-Arctic Panama Canal." In the words of Rear Admiral David Titley, director of the U.S. Navy's task force for climate change, "We are confronted by a new ocean for the first time in 500 years."[18]

As a representative from the Norwegian Tschudi Shipping Company explained: "Shipping via the polar route is gradually becoming routine. This brings Asia closer to Europe. The route of the MV *Nordic Barents*, for instance, from the Norwegian port of Kirkenes to China, was shortened by roughly 50 percent. That saved us 15 days at sea."[19] London analyst Christian Le Mière adds: "Strategically speaking, the value of an open Arctic lies in the emerging trade routes, and who controls those is key."[20]

If the ice melt continues at the current rate, in coming decades Russia will transition from being mostly landlocked. Like the United States, it will have a lengthy seacoast and year-round access to two oceans. Merchant and naval vessels will be able to transit from one to the other without leaving coastal waters. The next generation of Russians will view the Arctic in much the same way as

Europeans and Americans see the Atlantic. As the Arctic becomes ice-free, shipping will begin to go *over the top* of the world because it will be the shortest and cheapest route. This is an important shift. Historically, Russian policy makers have been preoccupied with the West, where they have little access to the sea and from where they have been invaded twice. They have also had to worry about the south: the Balkans, Ukraine, Afghanistan, and so on. Now they will look north.

Globalization requires that the country maintain as formidable a navy as it can afford. Moscow has a *motive* to build the fleet—protection of the Arctic oil and gas fields, and a Chinese neighbor growing stronger. It has the *means* in the form of energy revenues, and the *mindset*, with Russian Prime Minister Vladimir Putin and President Dmitri Medvedev proving every day that they are staunch realists.

For Russian policy makers, defense of the homeland continues to be the first priority, but today economics have replaced ideology and the homeland extends north into the Arctic. Most important is the Kremlin's new map. Throughout history, discoveries of new oceans have resulted in transformed civilizations. In the coming decades, the world will turn upside down in Russia's favor. Russian coastal cities will look north on a warming ocean that will be a far busier place. Schoolchildren will likely have a very different world map hanging in the front of the classroom.

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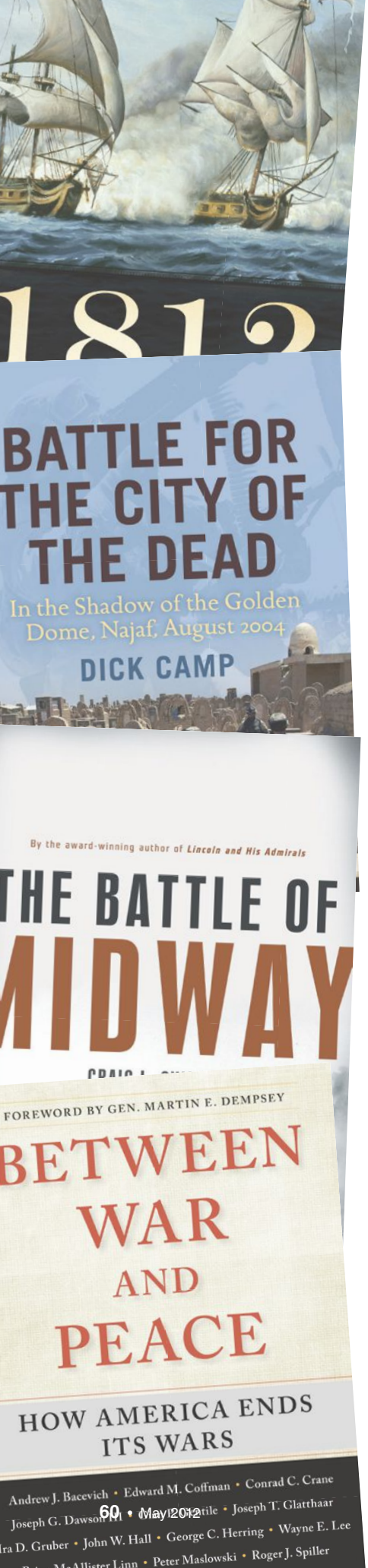
Lieutenant Murphy is a naval intelligence officer and graduate student at the National Intelligence University, Washington, DC. He was previously the ISR Collections Requirements Manager at the Combined Air and Space Operations Center, al Udeid Air Base, Qatar; and the Intelligence Department Head (N2) at Maritime Expeditionary Security Squadron Eight, Newport RI.



Notable NAVAL BOOKS OF 2011

By Lieutenant Commander Thomas J. Cutler U.S. Navy (Retired)

As in previous years, the list of notable naval books for 2011 was compiled, refined, and ultimately decided by a number of people, all of whom are widely recognized for their knowledge of matters pertaining to the Sea Services. Because the list is subjective and consequently may cause some disagreement, these individuals will remain anonymous. Their contributions, however, are hereby recognized and most appreciated.

The list again includes only books published in the previous calendar year and is restricted to a maximum of 20. The basic criterion for selection is that the book must contribute to the edification of naval professionals in some meaningful way. In many cases these books expand our knowledge of a certain subject; in others they serve to stimulate discussion and debate; and occasionally one comes along that inspires or adds to our basic understanding of who and what we are.

As before, reference books that are published on a regular basis (such as *Jane's Fighting Ships*) and longstanding professional books (such as the *Watch Officer's Guide*) are not included. While there is no question that such books are notable, mentioning them year after year would be redundant and unnecessary; those interested in this list are quite likely already aware of them and need not be reminded.

Because inclusion on the list is considered by many to be a prestigious accolade, and because coming up with a list of only 20 from the many fine books published in 2011 is difficult and subjective enough without trying further to rank them in some manner, the editors again list the books in alphabetical order by title to avoid any perceptions of hierarchical ranking or favoritism. Selecting the better and the best from this list will be left to the reader.

The Naval Institute is first and foremost an open forum, so the editors welcome the inevitable disagreement that likely will be stimulated by these choices.

1812: The Navy's War by George C. Daughan (Basic Books)

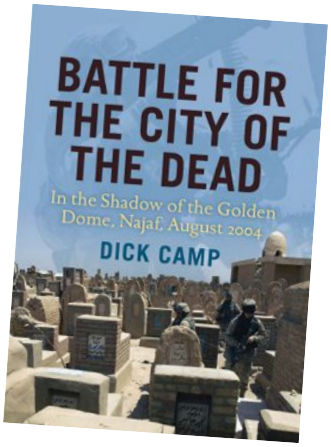
With the 200th anniversary of the start of the War of 1812 looming, it is no surprise that several of this year's books are early entries to the inevitable (and welcome) commemoration of that historical milestone, when Great Britain finally acknowledged the loss of its colonies and recognized the birth of a new and important player on the world stage. By contrast to many other aspects of that all-but-forgotten war, the U.S. Navy's significant successes at times approach mythic

status. Prize-winning author George Daughan has made a great story even better by delivering an account that author and historian Douglas Brinkley describes as "riveting" and Robert Middlekauff (author of *The Glorious Cause: The American Revolution, 1763–1789*) calls a "sparkling effort."

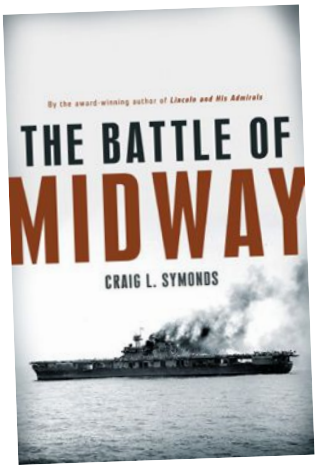
(For a full review, see June 2012 *Naval History*.)

Battle for the City of the Dead: In the Shadow of the Golden Dome, Najaf, August 2004 by Dick Camp (Zenith Press)

Retired Marine colonel and accomplished author Dick Camp captures the grit of urban warfare in this oral history of one of the Iraq War's most challenging battles. Using the sensitivities and the sanctity of the Imam Ali Mosque and the largest Muslim cemetery in the world to their advantage, the so-called "Mahdi Militia" of Shiite cleric Muqtada al-Sadr fought American forces in an intense campaign that reflected much of the political and military complexity of the war. Battling 120-degree heat as well as a fanatical enemy who exploited American rules of engagement, the U.S. Army and Marine Corps proved their mettle in yet another testament to the courage and capability of Americans at war.



(For a full review, see July 2011 *Proceedings*.)

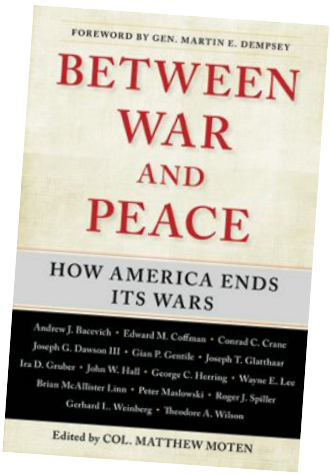


The Battle of Midway by Craig L. Symonds (Oxford University Press)

Part of Oxford University Press's *Pivotal Moments in American History* series, this account of the battle most historians acknowledge as the turning point in the Pacific war sheds fresh light on an event that has been written about countless times. Craig Symonds, winner of numerous prestigious awards as both author and U.S. Naval Academy professor emeritus, has uncovered new evidence in this analysis of the battle and the events leading to it. His account reads better than most fiction, and even though many readers know the outcome, its sense of drama makes it a page-turner. Overturning the conventional wisdom that portrays the American victory as relying heavily on luck, Symonds explains why other more quantifiable factors determined the outcome. Selected as a Best Book of 2011 by *Military History Quarterly*, Symonds' latest work is described as "clear and readable" (*The Wall Street Journal*) and "absolutely outstanding" (*The Washington Times*).

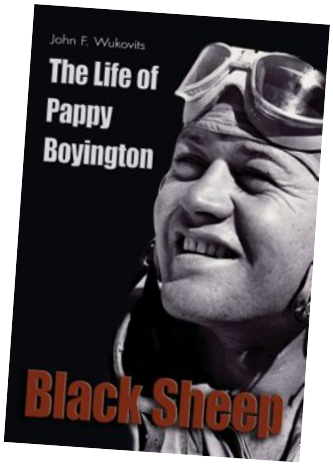
(For a full review, see December 2011 *Naval History*.)

Between War and Peace: How America Ends Its Wars Edited by Col. Matthew Moten (Free Press)



As the United States attempts to extricate itself from two long and costly wars, the phrase "exit strategy" is often tossed around by news media pundits. But this is more than mere rhetoric; it is an essential element of any sound strategy that too frequently is overlooked as nations make the leap from diplomacy to war. Many wars are tainted by this oversight, often with tragic results. Moten, a history professor at West Point, has gathered an impressive group of military historians to provide a collection of informative and sometimes provocative essays that recount and evaluate the endings of 14 American wars, from the Revolutionary War to the first Gulf War. *Between War and Peace* is a thought-provoking volume that offers lessons and guidance that strategists will ignore at their peril.

(For a full review, see June 2011 *Proceedings*.)



Black Sheep: The Life of Pappy Boyington by John F. Wukovits (Naval Institute Press)

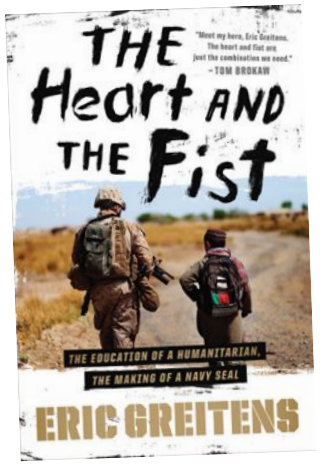
No stranger to the Pacific War (*Admiral "Bull" Halsey: The Life and Wars of the Navy's Most Controversial Commander*, Palgrave Macmillan, 2010)

John Wukovits turns his considerable skill to the life of Gregory "Pappy" Boyington, a sometimes larger-than-life fighter pilot who evokes many emotions, but never boredom. An ace many times over, Boyington earned the Medal of Honor and Navy Cross and secured a deserved reputation as a "black sheep." Wukovits recounts Boyington's colorful life, including his time as a Flying Tiger in the Burma and China theaters, his exploits as a Corsair pilot and squadron commander in the South West Pacific Area (the subject of a popular television series in the 1970s), and his ordeal as a prisoner of war. This is biography as it should be written.

(For a full review, see February 2012 *Naval History*.)

The Heart and the Fist: The Education of a Humanitarian, the Making of a Navy SEAL by Eric Greitens (Houghton Mifflin Harcourt)

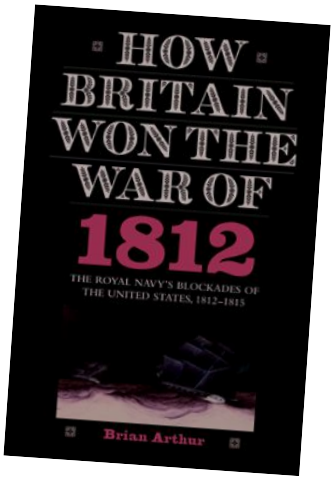
Exemplifying the words of John Stuart Mill, who wrote, "The person who has nothing for which he is willing to fight, nothing which is more important than his own personal safety, is a miserable creature," Eric Greitens delivers a singular memoir that reveals the seemingly disparate qualities merged in the warrior and the humanitarian. *Publisher's Weekly* says the book confronts "the same dilemma as the American military, which strives to be a strong deterrent against the evils of the world, while protecting the sick and powerless." Combining the rigors of SEAL training with the compassion that emerges from witnessing the suffering of fellow human beings struggling in dismal parts of the world, Greitens is both participant and observer, describing "nuns who fed the destitute in Mother Teresa's homes for the dying in India, aid workers who healed orphaned children in Rwanda, and Navy SEALs who fought in Afghanistan." The result is a thought-provoking, often inspirational account of "the incredible possibilities that exist for each of us to live our one life well."



(For a full review, see July 2011 *Proceedings*.)

How Britain Won the War of 1812: The Royal Navy's Blockades of the United States, 1812–1815 by Brian Arthur (Boydell Press)

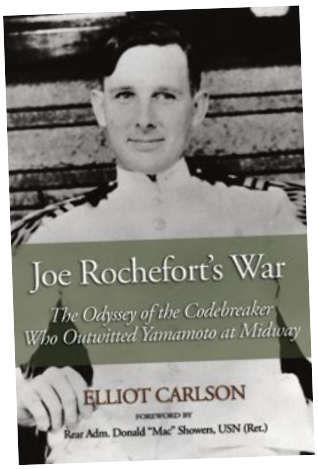
Before the Vietnam War, many Americans asserted that the United States had never lost a war. Had this book appeared then, it might well have aroused a great deal of opposition. Today, chastened by our experience in Vietnam and doubts about the situations in Iraq and Afghanistan, Brian Arthur's contention that the British won the War of 1812 seems far less controversial. Arthur argues convincingly that America achieved none of its war aims, but advocates of the importance of sea power will see more value in his contention that a major factor in Britain's victory was its imposition of a commercial blockade that inflicted serious damage to the vulnerable American economy.



(For a full review, see June 2012 *Naval History*.)

Joe Rochefort's War: The Odyssey of the Codebreaker Who Outwitted Yamamoto at Midway by Elliot Carlson (Naval Institute Press)

Winner of this year's prestigious Theodore and Franklin D. Roosevelt Prize in Naval History, this is the first biography of the man who headed the U.S. Navy's decrypt unit at Pearl Harbor when it broke the Japanese navy's code before the Battle of Midway. Rochefort was an iconoclast whose friends and enemies were many and vocal. He has appeared in many other accounts as a bit player and occasionally a prominent character, but this independent and often irreverent man, whom many credit with changing the course of World War II, has never been fully explored until now. Elliot Carlson skilfully transforms a caricature into a flesh-and-blood human being, providing not only excellent biography but a major contribution to the history of the Pacific war.

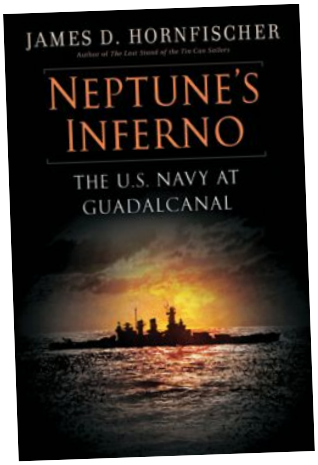


(For a full review, see April 2012 *Naval History*.)

Neptune's Inferno: The U.S. Navy at Guadalcanal by James D. Hornfischer (Bantam)

When James Hornfischer first appeared on the literary scene, it was clear that naval history had a new star. His skill in combining excellent scholarship with damned good reading was evident from the start, and this latest contribution does not disappoint. Much has deservedly been made of the Marines' ordeal and ultimate victory at Guadalcanal, but the Navy's struggle there has been consigned to relative obscurity, despite the fact that more sailors died

there than did Marines. This early naval campaign, waged before the so-called "sleeping giant" had fully awakened, was strategically important and a source of hard-earned lessons for the Navy as it rose, phoenix-like, from the ashes of Pearl Harbor to become the most powerful naval force in the history of the world. Hornfischer's gripping tale is edifying, gratifying, and it is to be hoped only one of many more works to come from this gifted writer.



(For a full review, see January 2011 *Proceedings*.)

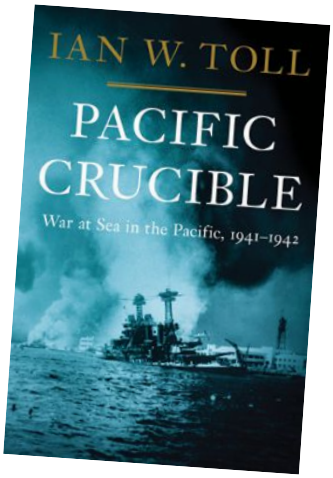
Pacific Air: How Fearless Flyboys, Peerless Aircraft, and Fast Flattops Conquered the Skies in the War with Japan by David Sears (Da Capo Press)

Taking the unusual tack of including the aeronautical engineers who designed the naval aircraft that fought and won the Pacific war along with those who flew them, David Sears has told an important and often overlooked story of how the Americans won this sweeping conflict. The contributions of the men in the cockpits is well documented, but there is little known of the vital impact made by the people who designed the F4F Wildcat, F6F Hellcat, and the TBF Avenger. Sears rectifies that with a readable, convincing account. These aircraft were, in many ways, the most successful naval weapons ever designed. Sears' skills as a researcher and writer and grasp of his subject gained from his own experience as a former naval officer always lend authenticity and credibility to his work. This latest book is no exception.

(For a full review, see October 2011 *Naval History*.)

Pacific Crucible: War at Sea in the Pacific, 1941–1942 by Ian W. Toll (W. W. Norton & Company)

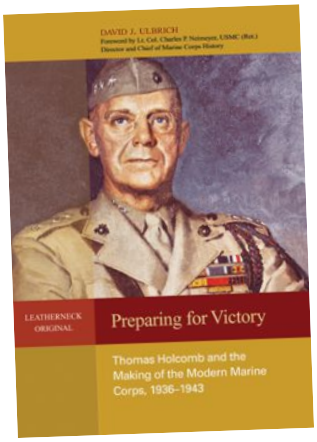
After his success with *Six Frigates: The Epic History of the Founding of the U.S. Navy* (W. W. Norton, 2008), Ian Toll turns his attention to the early days of the Pacific war. Combining first-hand accounts with recent scholarship, he adroitly tells the story of the early months of the war, when the U.S. Navy emerged from the devastation of Pearl Harbor and, despite operating on a shoestring while waiting for the nation's industrial might to gear up, managed to turn the tide in a way no Hollywood screenwriter could dream up. Toll enhances an already powerful script with top-notch storytelling skills to produce what *Kirkus Reviews* describes as "an entertaining, impressively researched chronicle of the tense period between the bombing of Pearl Harbor and American victory at the battle of Midway."



(For a full review, see April 2012 *Naval History*.)

Preparing for Victory: Thomas Holcomb and the Making of the Modern Marine Corps, 1936–1943 by David J. Ulbrich (Naval Institute Press)

One of the *Leatherneck Originals* series (a cooperative effort, with the *Leatherneck Classics* series, of the U.S. Naval Institute and the Marine Corps Association to produce the best of Marine Corps literature), this is an outstanding biography of one of the Corps' important figures, who served as commandant during the years leading to World War II and for several of the war years as well. Holcomb was instrumental in transforming the Marine Corps from a relatively small, ship-based force to a formidable service in its own right. *Preparing for Victory* is a model of good biography, meticulously researched and analytical. Predicting that "this classically crafted biography will go far toward gaining Gen. Holcomb his rightful place in the history of our Corps," *Leatherneck Magazine* selected it as its June 2011 Book of the Month, praising Ulbrich for having portrayed Holcomb as "a visionary leader, shrewd publicist, progressive thinker, meticulous planner, and a courageous combat leader."

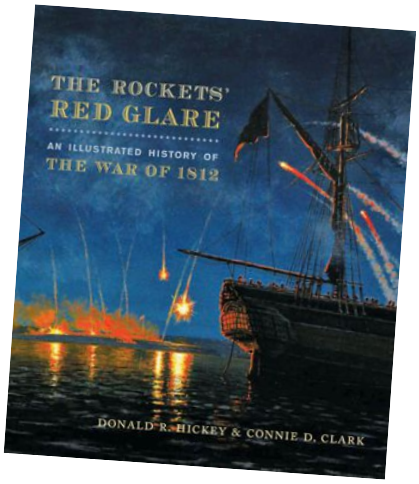


(For a full review, see October 2011 *Naval History*.)

The Rockets' Red Glare: An Illustrated History of the War of 1812 by Donald R. Hickey and Connie D. Clark (Johns Hopkins University Press)

Capturing the domestic, diplomatic, and military history of the War of 1812, this stunningly illustrated volume is a

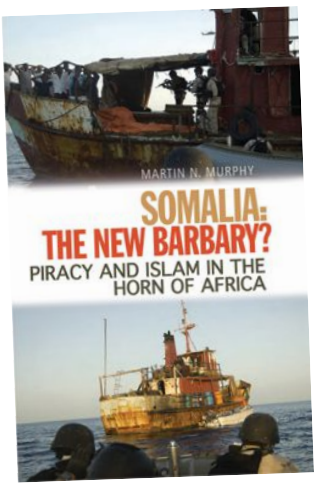
rare blend of scholarly achievement and visual pleasure. The glory, controversies, successes, and failures here portrayed transport the reader to an era when the United States was not a world power but behaved like one. Although today the war is largely forgotten, or at least ignored, by many Americans, some of its milestones are remembered in disparate and unconnected ways. The bombardment of Fort McHenry (which inspired the words to our national anthem), the Shawnee chieftain Tecumseh (whose exploits are little known but whose name is familiar), and the Battle of New Orleans (popularized in both film and song) are but a few examples made more significant when put in proper context. This impressive book is a welcome commemoration of the war's 200th anniversary.



(For a full review, see June 2012 *Naval History*.)

Somalia: The New Barbary? Piracy and Islam in the Horn of Africa by Martin N. Murphy (Columbia University Press)

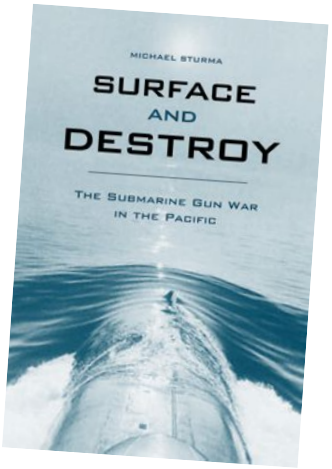
An expert in the contemporary version of the ancient problem of piracy, Martin Murphy reviews the history, motivations, methods, and operational tactics of Somalian pirates from the early 1990s to the present. Linking their activities to those of Somali political groups, Martin explains how and why violent Islamists operate in Somalia and predicts the extent to which they may exploit maritime dimensions in the future. He concludes with an analysis of the political and military solutions that have been proposed or implemented and suggests a future course in dealing with the problem. Rear Admiral Terence E. McKnight, former commander of the counterpiracy task force operating in the Gulf of Aden, writes that Murphy "does a masterful job of capturing the history of piracy, explaining the current threat and making some brilliant recommendations on how to prevent pirates from getting the upper hand in the years ahead. This book should be at the top of the reading list for every well-educated naval officer."



(For a full review, see May 2011 *Proceedings*.)

Surface and Destroy: The Submarine Gun War in the Pacific by Michael Sturma (University Press of Kentucky)

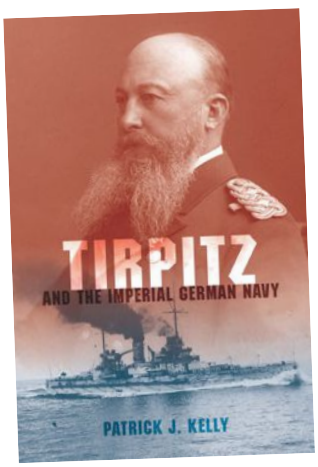
Popular scenarios of submarines attacking surface targets during the Pacific war include captains peering through periscopes and ordering "Fire One! Fire Two!"—but, as Michael Sturma makes clear, there were times when these engagements took place on the surface as gun battles. These encounters presented a different set of challenges and were much more personal for the participants. Sturma explores this latter aspect in some detail in this comprehensive and interesting study. His conclusions are thought-provoking, making this more than mere narrative history. Ronald Spector, the respected author of *Eagle Against the Sun: The American War with Japan*, writes that Sturma's book fills "an important gap in our knowledge of the War with Japan in general and the submarine war in particular" and that it will appeal to the specialist and general reader.



(For a full review, see October 2011 *Proceedings*.)

Tirpitz and the Imperial German Navy by Patrick J. Kelly (Indiana University Press)

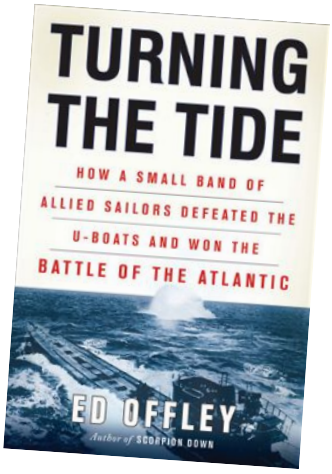
It is one of the accidents of history with far-reaching implications that Alfred von Tirpitz appeared on the scene during Imperial Germany's Second Reich as the effective complement to Kaiser Wilhelm's delusions of naval grandeur. Wielding great influence over the national agenda, Tirpitz was—unlike his vacillating and unpredictable Kaiser—a highly capable individual who greatly increased the German navy's potential and, in so doing, contributed to one of the primary causes of World War I. A history professor at Adelphi University, Patrick Kelly has produced a first-rate biography of this grand admiral who is better known for his political skills than his naval ones.



(For a full review, see October 2011 *Naval History*.)

Turning the Tide: How a Small Band of Allied Sailors Defeated the U-Boats and Won the Battle of the Atlantic by Ed Offley (Basic Books)

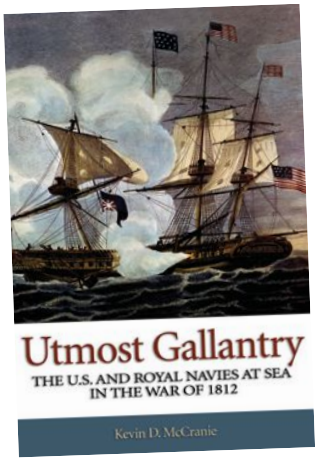
Because it lacked the drama and compressed intensity of the great Pacific fleet engagements during World War II, the Battle of the Atlantic is often underappreciated as the vital component of overall maritime strategy that it was. Ed Offley does much to correct this imbalance in his vivid retelling of the campaign that ultimately turned the tide in spring 1943 and which avoided a catastrophic logistic defeat and enabled the critical invasion of Europe a year later. Combining jaw-dropping statistics with "you-are-there" accounts of two specific convoys, this is both a strategic study and an inspiring testament to the capabilities of those confronted with seemingly impossible circumstances. *Publisher's Weekly* credits Offley with focusing "on individual combatants, from the lowest ranks to the highest, emphasizing the human elements and making for an extremely readable text," and *Proceedings* calls this a "thorough and scrupulous operational history."



(For a full review, see June 2011 *Proceedings*.)

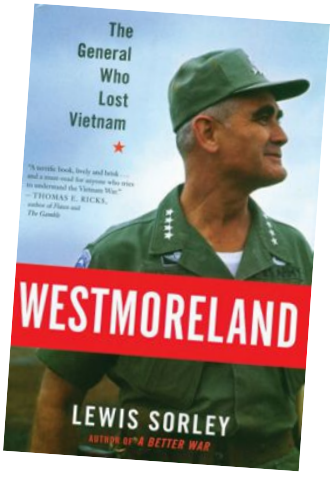
Utmost Gallantry: The U.S. and Royal Navies at Sea in the War of 1812 by Kevin D. McCranie (Naval Institute Press)

Focusing on the oceanic war rather than the war in the Great Lakes, Kevin McCranie has produced a distinctive and useful account of the War of 1812. McCrainie's coverage of this David-and-Goliath clash between the world's preeminent naval power and the fledgling fleet of an (at best) third-rate power is enhanced by his descriptions of entire cruises by individual warships, not just the individual battles that so often dominate studies of the war. He does not ignore the battles—far from it—but his comprehensive treatment provides a perspective that is often missing in other versions. McCranie considers both sides' strategies, making the entire war more understandable. A must-read for serious students, the book also will delight the casual reader.



Westmoreland: The General Who Lost Vietnam by Lewis Sorley (Houghton Mifflin Harcourt)

Former Secretary of Defense Melvin Laird contends that "to understand the Vietnam War in its totality one must logically try to understand General Westmoreland." Lewis Sorley penetrates much of the mystery of this controversial general who led American forces in Vietnam during the war's formative and defining years. As the title makes clear, this is no hagiography, and while balance may not be one of its qualities, the book is an important contribution to the literature of the Vietnam War, whatever the reader's preconceptions. The research is meticulous and the writing fascinating. Former South Vietnamese Ambassador to the United States Bui Diem writes that this "brilliant portrait . . . helps us understand why our war lasted so long and ended as it did," and Tom Ricks (*The Gamble: General David Petraeus and the American Military Adventure in Iraq, 2006-2008*, Penguin Press, 2009) predicts that this "terrific" work will be "the definitive book on Westmoreland."

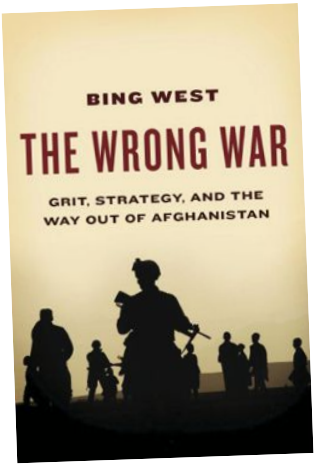


(For a full review, see December 2011 *Proceedings*.)

The Wrong War: Grit, Strategy, and the Way Out of Afghanistan by Bing West (Random House)

A former assistant secretary of defense, combat Marine, and acclaimed war correspondent, Bing West is well placed to offer strategic advice and a "way out of Afghanistan." Bringing to bear not only his own battlefield experience but observations made during three years as an embedded reporter, West builds a case for withdrawal while providing a vivid, on-the-ground view of this brutal and frustrating war. While unsparing in his criticisms of past actions, West also offers constructive alternatives for an acceptable outcome that readers (and perhaps policy-makers) may judge for themselves: withdraw most troops from Afghanistan, stop spending billions on the dream of a modern democracy, and insist the Afghans fight their own battles.

(For a full review, see March 2011 *Proceedings*.)



Lieutenant Commander Cutler, senior acquisitions editor for the Naval Institute Press, enlisted in the Navy at 17 and was a gunner's mate second class prior to being commissioned in 1969. A Vietnam War veteran, he is the author of several books, including *A Sailor's History of the U.S. Navy* and *Brown Water, Black Berets*, published by the Press.

Officers Eat First

By 1st Lieutenant Patrick Darcey, U.S. Marine Corps

As the Marines re-embrace their amphibious roots, shipboard service shows the differences between (but same ultimate goals of) rank and leadership, Corps-style and Navy-style.

U.S. NAVY (MAIVS TILLMAN)

Sailors and Marines man the rails as the USS *Iwo Jima* (LHD-7) visits New York in 2011. "Marines are moving back where they belong—training, serving, and deploying on Navy ships," observes the author. But this move "will present new challenges to the current generation of Marines."

Over the course of the past decade the Marine Corps has found itself moving further from its amphibious mission and closer to becoming a second land army. Sensing this, in the October 2010 issue of *Joint Forces Quarterly* former Commandant General James Conway stressed the importance of maintaining the Corps' expeditionary nature. "When I go to meetings and I hear 'Army and Marine Corps' talked about in the same breath, I get uncomfortable. It should be 'Navy and Marine Corps.'" In August 2010, then–Secretary of Defense Robert Gates voiced similar sentiments. In a speech to the Marines' Memorial Association in San Francisco, Gates stated that regarding the Marine Corps, many in the Department of Defense had "the perception . . . that they have become too heavy, too removed" from their roots as an amphibious force. "Ultimately, the maritime soul of the Marine Corps needs to be preserved."

Finally, General James Amos, who succeeded General Conway as Commandant, reemphasized his predecessor's push to bring the Marine Corps back to its heritage. He believes the shift to a more traditional role as the nation's premier expeditionary force will become a possibility in the near future. At his congressional confirmation hearing, General Amos said, "as our dwell begins to increase in the Marine Corps, thanks to Congress approving the 202,000 growth of the Marine Corps, it's finally getting us up to a point now where, when we come home with a unit, we can actually do something besides go to Twentynine Palms and do counterinsurgency training."

Marines are moving back to where they belong—training, serving, and deploying on Navy ships. Moving back aboard ship will present new challenges to the current generation of Marines. Despite sharing similar language and heritage, many differences exist between the two services. Some would say the Navy is more stratified than the Marine Corps when it comes to the rank structure between officers and enlisted. There are a multitude of reasons for requiring such a distinct separation between ranks on board ship that wouldn't ordinarily be found in a garrison environment. With

close quarters and long periods under way, unduly familiar relationships are easier to develop or become improper. Without a clear division, the decision-making ability for officers becomes jeopardized and threatens the welfare of the crew and ship. To promote the separation between the ranks, naval tradition has promoted unique privileges and rights for officers. Examples include eating in the wardroom, sleeping in separated staterooms, laundry services, and head-of-the-line privileges. Conversely, the enlisted men and women eat on the mess decks, live in crowded berthing spaces, do their own laundry, and waste many hours standing in endless lines. Yet the relationship between officers and enlisted in the Marine Corps appears very different. No phrase better summarizes what it means to be a Marine officer than "officers eat last."

Officers eat last in the Marine Corps because the young men and women in their care eat first. The welfare of the Marines comes before the personal welfare of the officer. Still, while Marine officers are ingrained with that motto from early in their careers, naval officers also are continually reminded that their greatest honor is leading their young enlisted. The history of the silver-dollar salute draws on this privilege. The tradition goes back to naval officers who upon commissioning would present their enlisted mentors a silver dollar. They were in essence buying their first salute—but every salute after that would need to be purchased with the dignity and respect they offered to their subordinates. In the Naval Educational Training Manual 12967, useful information is provided for newly commissioned officers, specifically dealing with the enlisted members who serve in the officers' wardroom. Paragraph 5, Section 2 states that as an officer dealing with enlisted members, you should "base your relations with enlisted personnel upon the same mutual respect as you base your relations with your fellow officers. The measure of respect you inspire in your enlisted personnel is your measure of success as an officer."

Finally, naval officers should look no further than the Father of the Navy himself, Captain John Paul Jones. In his *Qualifications of a Naval Officer*, he states that a true naval officer should be "a gentleman of liberal education, refined manners, punctilious courtesy, and the nicest sense of personal honor." Leaders should be courteous and respectful to everyone they encounter, officers and enlisted alike. Still, the level of privilege and distinction on board ship may seem unnerving for Marine officers. At first glance, the rank structure even seems like personal servitude. Cooking, cleaning, and doing dishes plus the most unpleasant tasks of chipping paint, scrubbing bulkheads, or removing garbage would never be performed by an officer. Yet shared hardship is a respected trademark of the Corps. Marine officers do not seek special treatment. The Marine officer will be the last to sleep and the first to rise. If there was ever a choice that they would go hungry so their subordinates could eat, the Marine officer would make that decision in a heartbeat. Having enlisted sailors and Marines provide such a wide variety of personal services can make any Marine officer instilled with the "officers eat last" mentality very uncomfortable.

This is the difficult dilemma that a Marine officer faces while deployed with the Navy. It is obvious these young men and women did not join the Navy or Marine Corps to clean dishes, sweep floors, and sanitize toilets for their officers; they joined to serve. On ship during a recent Thanksgiving, it was decided that dinner would be served by the officers as a sign of appreciation and respect for the enlisted. Following dinner, I volunteered for the trash detail. My job entailed making sure the sailors and Marines separated their trash into the proper barrels marked paper, plastic, metal, and food. The food container was a large garbage bucket that quickly took on an unrecognizable smell and orange color as all the leftovers were brusquely and unceremoniously scraped into the trash.

There were Marines and sailors who did this every day. These young men and women in uniform were responsible for taking out my trash, cleaning my dishes, and cooking my food. I began to think about how officers eat last and that the needs of the enlisted should always come before my own. However, as I stood there I realized it would be inappropriate to suddenly jump into the scullery and start washing dishes. I would be looked at funny if I waited at the back of the line for a haircut or got on my hands and knees and scrubbed the floor in the passageway.

How then should a Marine officer act while on board ship? The answer I was looking for was right in front of me. I looked to the example provided by my Navy counterparts. Having a genuine appreciation for the hard work that the young sailors and Marines do each day in the staterooms, wardrooms, and sculleries is perhaps the most important thing a Marine officer can bring aboard. Maintaining customs, courtesies, and the golden rule are strong qualities for any officer, Navy and Marine alike. As the Marine Corps shifts to its traditional amphibious mission and more Marines find themselves under way at sea, they need to keep in mind that the Navy operates differently. While the officers won't be able to eat last and are catered to in a way that borders on servitude, they are always able to be respectful and courteous to the crew who serves them. I can only think of two words to eloquently share my appreciation for their efforts: "Thank you."

First Lieutenant Darcey is a 2008 graduate of the U.S. Naval Academy. In August 2010 he deployed as the disbursing officer of the 26th Marine Expeditionary Unit on board the *USS Kearsarge* (LHD-3). He deployed again in December 2011 to Afghanistan, where he served as the resource, evaluation, and analysis officer for Regional Command Southwest.

U.S. Navy in Review

By Scott C. Truver and Robert Holzer

It was a full-ROMO—as in full "range of military operations"—year for the U.S. Navy. As Chief of Naval Operations (CNO) Admiral Jonathan Greenert noted in his Fiscal Year 2013 Posture Statement:

> Our Navy today remains global, operating forward from U.S. bases and international "places" around the world. From these "places" we continue to support and operate with allies and partners who face a range of challenges, from piracy and terrorism to aggressive neighbors and natural disasters. "Places," from Guantanamo Bay to Singapore, enable us to remain present or have access to the world's strategic maritime crossroads—areas where shipping lanes, energy resources, information networks and security interests intersect. On any given day over the last year, more than 50,000 sailors were underway or deployed on 145 of the Navy's 285 ships and submarines, 100 of them deployed overseas. They were joined by more than 125 land-based patrol aircraft and helicopters, 1,000 information dominance personnel, and over 4,000 Naval Expeditionary Combat Command Sailors on the ground and in the littorals, building the ability of partners to protect their people, resources and territory.

The Navy's posture last year did have some annoying "chinks," however. Instead of the traditional six-month deployments, a constrained force structure and growing commitments saw deployments run to seven, eight, even ten months. For example, in February 2012 the amphibious assault ship USS *Bataan* (LHD-5), amphibious transport dock *Mesa Verde* (LPD-19), and dock landing ship *Whidbey Island* (LSD-41) returned from a deployment that reached almost 11 months—a record not seen in more than 30 years. According to Navy projections, eight months will now be the norm, something that is sure to negatively affect future personnel retention and material readiness.

"Our ships and their crews are being driven hard," naval analyst and historian Norman Polmar said. "And it's only going to get worse as Navy force structure will continue to hover around 285 ships in the near term." Somehow, amid routine operations and lengthening deployments during the past year, the Navy demonstrated its ability to respond to crisis and conflict, anywhere, anytime.

U.S. NAVY (P. D. LAWLOR)

Chief of Naval Operations Admiral Jonathan Greenert observes the crew of the Royal Navy submarine HMS *Astute* during joint exercise Fellowship 2012 with the USS *New Mexico* (SSN-779) in the Atlantic Ocean on 26 January. In his Fiscal Year 2013 Posture Statement, he said, "we continue to support and operate with allies who face a range of challenges." But such commitments have lengthened deployments that are "sure to negatively affect future personnel retention and material readiness," the authors contend.

Friendship in Dire Straits

Within hours of the 9.0-magnitude earthquake and tsunami that struck Japan on 11 March 2011, the U.S. 7th Fleet repositioned ships and aircraft to support the Japanese Self-Defense Force (JSDF) in a massive humanitarian-assistance/disaster-relief (HA/DR) operation. More than 3,600 sailors and Marines served as the lead elements of the joint force, delivering humanitarian aid—500 tons of food and supplies, 2.15 million gallons of water, and 51,000 gallons of fuel—rescuing those in danger and facilitating the evacuation of almost 8,000 American citizens. The United States ultimately deployed 24 ships, 132 Navy and Marine Corps aircraft, and more than 15,000 sailors and Marines to carry out vital Operation Tomodachi, "friendship," tasks.

Forces from the 7th Fleet systematically mapped and cleared obstructions to navigation in harbors and coastal waterways, provided fuel and supplies to Japanese ships and aircraft, and searched more than 2,000 square miles of ocean to find the remains of victims. Navy ships also served as important staging bases for JSDF personnel and aircraft. A "steel bridge" of Military Sealift Command (MSC) ships—including the USNS *Carl Brashear* (T-AKE-7), *Pecos* (T-AO-197), *Rappahannock* (T-AO-204), *Matthew Perry* (T-AKE-9), and *Bridge* (T-AOE-10)—transferred supplies and fuel that kept other ships on station and crews doing their jobs.

Operation Tomodachi also included measures to deal with the nuclear disaster at the Fukushima No. 1 plant. Among other critical U.S. government support, the Navy provided two barges with half a million gallons of fresh water that was used to cool the power station's damaged reactors. And the Marine Corps Chemical Biological Incident Response Force provided training to JSDF personnel operating nearby the stricken facility.

Secretary of the Navy Ray Mabus on 20 April 2011 thanked more than 1,000 7th Fleet sailors and Marines in Yokosuka for their commitment to disaster-relief operations off the coast of Japan. "To be as flexible as you were," he underscored, "to go from one mission to suddenly turn and do humanitarian assistance and disaster relief without costs, without changing any equipment, any people, changing any training and going from your normal day-to-day jobs without any hesitation and doing it so well, no other country can do that, and no other service can do that like the people here."

A few examples provide testimony of the Navy's contributions at the low—but still vital—end of the full ROMO. The *Essex* Amphibious Ready Group (ARG) concluded its support to Tomodachi on 7 April, after nearly three weeks of constant HA/DR operations alongside JSDF assets. As the full extent of the human and material tragedy was becoming clear, sailors assigned to the amphibious assault ship USS *Essex* (LHD-2) were recalled from liberty in Kota Kinabalu, Malaysia. In less than 24 hours, the *Essex* got under way and made full speed for Japan, rendezvousing with the USS *Germantown* (LSD-42) and *Harpers Ferry* (LSD-49), which had been operating off the coast of Indonesia. Because of concerns over radiation and navigational hazards on the eastern coast of Honshu, Navy commanders directed the three ships to take position on the west coast of Honshu. They arrived off Sakata on 17 March and immediately began flying coastal surveillance flights with embarked helicopters.

When the earthquake and tsunami struck, the USS *Tortuga* (LSD-46) was in port in Sasebo and immediately embarked landing craft and got under way. The 7th Fleet directed the ship to proceed to Tomakomai, Hokkaido, where the crew embarked 273 Japan Ground Self-Defense Force (JGSDF) troops, 93 vehicles, and other equipment. Directed to reposition to the northeast coast of Honshu on 20 March, the *Essex*, *Germantown*, and *Harpers Ferry* arrived off Hachinohe two days later and immediately began flying supplies ashore. Helicopters with Marine Medium Helicopter Squadron 262 also flew aerial surveys of some 200 miles of affected coastline between Miyako and Ofunato.

U.S. NAVY (D. MCCORD)

The rescue and salvage ship USNS *Safeguard* clears obstacles to navigation near the port of Miyako in northeastern Japan as part of relief operations following the March 2011 earthquake and tsunami that devastated the country. She is the Navy's only forward-deployed rescue and salvage vessel.

The *Essex* ARG also included elements from Commander, Amphibious Squadron 11, the 31st Marine Expeditionary Unit (MEU), Beach Master Unit 1 (BMU-1) and Assault Craft Unit 1 (ACU-1), which performed numerous operations in the Hachinohe region.

Equipped with more than 150 amphibious vehicles and 20 aircraft, the 31st MEU managed a near-constant ship-to-shore movement of critical supplies and equipment. ACU-1 and BMU-1 supported the operation with amphibious landing craft that they used to transport vehicles, cargo, supplies, and personnel to affected areas. In all, the *Essex* ARG launched and recovered 218 aircraft and landing craft, delivering more than 83 tons of supplies ashore.

While not as massive a contribution as made by the *Essex* ARG, Seabees from Naval Mobile Construction Battalion (NMCB) 133 provided support for Joint Support Forces Japan in the reconstruction of a Japanese high school that had been damaged significantly. It was was small-scale, to be sure, but it was no less important to those in need. Seven NMCB 133 Seabees operating out of Camp Sendai in the Miyagi Prefecture were part of a 50-person joint-forces team tasked with supporting cleanup and rebuilding efforts at the Ishinomaki Technical High School. After the earthquake and tsunami struck, more than 800 students, school staff, and local residents were isolated on the second floor of the school for two days without running water, the first floor flooded with mud and debris by the rush of the tsunami. This was the first of more than 40 schools identified by the JGSDF and slated for assistance of U.S. forces in cleanup and rebuilding operations.

Clearing obstacles to navigation was critical to expanding relief efforts. The MSC's USNS *Safeguard* (T-ARS-50), along with personnel and assets from Explosive Ordnance Disposal (EOD) Mobile Unit 5 and Underwater Construction Team (UCT) 2 arrived at Hachinohe on 25 March to assist the Japanese coast guard as recovery efforts continued in the city. Homeported in Sasebo, the *Safeguard* is the Navy's only forward-deployed rescue and salvage ship.

On 4 April, Japan's minister of defense, Toshimi Kitazawa, accompanied U.S. Ambassador John Roos to thank the crew of the USS *Ronald Reagan* (CVN-76) for its *tomodachi*, noting, "I have never been

U.S. NAVY (D. MCCORD)

Naval Air Crewman Second Class Brian Fox speaks with Japanese men about additional supplies needed in the Oshima-Mura area on 22 March 2011. Fox was assigned to Helicopter Antisubmarine Squadron 4, embarked on board the aircraft carrier *Ronald Reagan*. Japan's minister of defense, Toshimi Kitazawa, later thanked the *Reagan* crew. "I have never been more encouraged by and proud of the fact that the United States is our ally," he told the sailors.

more encouraged by and proud of the fact that the United States is our ally."

Supporting the Arab Spring

The past year witnessed the Navy's full return to crisis response in March 2011 in the Mediterranean Sea supporting an international effort to protect the popular uprising to overthrow Libyan dictator Moammar Gadhafi. The Libyan engagement was characterized by two distinct operations—Unified Protector and Odyssey Dawn—the first under UN auspices and the latter the subsequent NATO-led operation.

U.S. naval forces played an outsized role in the operation, both in the initial directly U.S.-led combat phase and follow-on NATO-directed portion of it. U.S. aircraft, submarines, and surface and amphibious ships all played important roles during the campaign—and fully demonstrated the strategic value of forward deployments. While a limited crisis-response combat operation, the Libyan campaign nonetheless brought together a sizable international naval and air coalition, including the presence of the Chinese frigate *Xuzhou,* which carried out China's first noncombatant evacuation of that country's nationals in a combat zone.

A total of 50 ships from 12 nations participated in the Libyan operation—including Italy's significant deployment of the carrier *Giuseppe de Garibaldi* and eight additional ships, while Turkey dispatched five ships and a submarine. NATO members and other nations hailed 3,000 ships, conducted 300 boardings, and cleared mines while enforcing a naval blockade of Libyan ports. Meanwhile, alliance aircraft, many of which were on board the three small carriers (USS *Kearsarge* [LHD-3] the *Garibaldi*, and the French *Charles de Gaulle)*, totaled 27,000 sorties, including 3,100 reconnaissance flights, 500 unmanned aerial vehicle (UAV) missions, and 1,800 electronic warfare/suppression of enemy air defense system operations.

The campaign also boasted a number of significant firsts. Those include:

- The first combat engagement in memory without a large-deck aircraft carrier committed (although the USS *Enterprise* [CVN-65] transited the operational zone)
- The first combat employment of a guided-missile/special-operations submarine, with the *USS Florida* (SSGN-728) accounting for the bulk of the 221 Tomahawk cruise missiles fired by U.S. forces during the campaign
- The innovative use of the Firescout UAV to detect hidden artillery batteries for destruction by allied aircraft during the siege of Benghazi
- The first combat search-and-rescue mission for the MV-22 tiltrotor aircraft—an Osprey operating from the *Kearsarge* successfully rescued the pilot of an F-15 that went down in Libyan airspace.

All told there were many improvisations and mission changes among U.S. naval assets in this campaign, as political and operational demands quickly evolved. The *Kearsarge* was actually on her way home after a seven-month deployment when she quickly diverted to Corfu to bring aboard additional Marine aircraft. The Aegis destroyer USS *Stout* (DDG-55) was assigned to a ballistic-missile-defense (BMD) mission in the Mediterranean, when her orders changed to support regime-change operations off Libya. As Admiral Samuel Locklear, who led the operation, told the Surface Navy Association in January this year, the lesson here is that "ships and crews must be ready. We must invest in what we have today, to be able to fight and carry on in a complex world."

Speaking of BMD in the Mediterranean, in November the guided-missile cruiser USS *Monterey* (CG-61) returned to her Norfolk homeport after an eight-month deployment there as the initial platform for the ballistic-missile defense of Europe under President Barack Obama's European Phased Adaptive Approach. While deployed to the U.S. 6th Fleet, the *Monterey*'s principal duties included performing an evaluation and assessment of the operating environment for sustained BMD. The ship was also instrumental in creating and validating the SPY Readiness Program, designed to maximize the potential of ships equipped with the A/N SPY-1B air- and missile-defense radar. Her commanding officer, Captain James Kilby, noted: "Such programs as this do not, of course, represent the whole answer to the ongoing problem of combat readiness. But I am certain they provide one of the most critical keys."

'Good Job!'

They might have been among the most important words President Obama spoke during the evening of 24 January this year. Working his way through a noisy House of Representatives chamber to deliver his State of the Union Address, the President leaned over to Secretary of Defense Leon Panetta and—barely audible—thanked him for a "Good job tonight. Good job!"

Unknown to all but a few, an elite joint special-operations team only a few hours earlier had rescued an American and a Dane who had been held by Somali pirates for three months. During his address, the President did allude to the relentless shadow-war to bring terrorists to justice since 9/11, noting "One of my proudest possessions is the flag that the SEAL team took with them on the mission to get bin Laden." So his compliment to Panetta was a spec-ops culmination of the previous 12 months or so, which saw triumph punctuated by tragedy.

The killing of Osama bin Laden in the early morning of 2 May 2011 was the climax of a risky special-operations mission that had been planned, refined, and rehearsed for almost two years. In June 2009, the President directed then-CIA Director Panetta to expend every effort to capture or kill bin Laden. After intelligence assessed that the al Qaeda leader was probably hiding in an Abbottabad neighborhood about a mile from the Pakistani army military academy, Panetta contacted Vice Admiral William McRaven, a Navy SEAL and commander of the Joint Special Operations Command, to begin operational planning in earnest. That ultimately identified several options, including an airstrike by B-2 Spirit stealth bombers. On 29 March 2011, President Obama decided on a nighttime helicopter raid dubbed Operation Neptune's Spear.

Shortly after 2300 on 1 May, two MH-60 "Ghost" Hawk stealth helicopters—"Razor One" and "Razor Two"—from the Army's "Night Stalkers" 160th Special Operations Aviation Regiment took off from Jalalabad air base in eastern Afghanistan with 20 SEALs from the Naval Special Warfare Development Group, a.k.a. SEAL Team Six. They entered Pakistani air space undetected, and by midnight another four MH-47 Chinook helicopters had departed Jalalabad. Two Chinooks with another 25 SEALs embarked flew to the border with Pakistan to serve as a strategic reserve if anything went wrong. The other two Chinooks continued to the target to serve as a command platform and gunship.

SEALs from "Razor One" fast-roped onto the building where bin Laden was thought to be living, and "Razor Two" SEALs attacked a guesthouse where his brother lived. Just minutes into the operation, the SEAL commander radioed "Geronimo Echo KIA," indicating bin Laden was dead: one shot to his chest, a second to his head. They took samples of his DNA, and his body was bagged and loaded, along with bags of materials and disks, into one of the CH-47s. As the SEALs departed, Razor Two went into a spin, crashing into the compound. Unhurt, crew members and SEALs re-

U.S. NAVY (J. KIMBER

The guided-missile submarine USS *Florida* arrives at Naval Submarine Base Kings Bay, Georgia, after a 15-month deployment on 29 April 2011. Her actions off Libya represented the first combat deployment of a guided-missile/special-operations submarine, accounting for many of the 221 U.S. Tomahawk cruise missiles fired in the campaign.

U.S. NAVY (B. KNAPPER)

An MH60-S Sea Hawk helicopter from Helicopter Sea Combat Squadron 9 hovers above U.S. Navy SEALs in rigid-hull inflatable boats during a training exercise with the USS *Gettysburg* (CG-64) in the Gulf of Oman on 23 August. It was a big year for SEALs, who rescued an American and a Dane from Somali pirates and killed Osama bin Laden.

moved sensitive equipment and destroyed the aircraft, then scrambled to one of the Chinooks. Back at Jalalabad, bin Laden's body was transferred to a Marine MV-22 for transport to the USS *Carl Vinson* (CVN-70) in the North Arabian Sea. The entire operation took less than an hour.

Although various conspiracy theories had Osama bin Laden's body somewhere in the United States, officials confirmed he received a Muslim ceremony and was buried at sea, within 24 hours of his death. On 25 February, the Pakistani government destroyed the compound, concerned that it would become a bin Laden shrine or serve as a reminder of the "reach" of U.S. SpecOps teams and the humiliation of a massive Pakistani intelligence failure.

Sadly, on 6 August 2011, tragedy struck the SEALs and joint special-operations community. Thirty International Security Assistance Force (ISAF) service members, a civilian interpreter, and seven Afghan commandos were killed when their CH-47 Chinook crashed during a nighttime raid about 100 miles southwest of Kabul. All of the ISAF service members on board were from the United States and numbered three Air Force air controllers, 22 Navy SEALs from Team Six (none was part of Operation Neptune's Spear), and a military-dog handler and his sidekick. The incident represented the highest number of U.S. forces killed during a single event in support of Operation Enduring Freedom and was also the single largest loss of life in the history of Team Six. The helicopter went down as it was arriving to reinforce Army Rangers engaged in fierce fighting with Taliban insurgents.

With the past 12 months as prelude, it is little wonder that *Act of Valor* played to blockbuster audiences in the late winter 2012—if also fueling the ire of retired Army special-operations Lieutenant General James B. Vought, who chastised Admiral McRaven to "get the hell out of the media!"

Making Ends Meet Means

The past year also witnessed the significant strategic enhancement of the nation's maritime focus and commitment to the Asia-Pacific theater of operations, with the U.S. Navy expected to play an increasing role in this vitally important region—where the natural flexibility and offshore footprint of naval forces are capabilities valued by U.S. combatant commanders. In reality, the service never actually left the Pacific region, despite ten years of land warfare in Iraq and Afghanistan. As Admiral Greenert told Congress in March, fully 60 percent of the 100-odd ships the Navy has deployed on any given day are already based in this region, and those totals will change only marginally in the coming years.

The Obama administration announced its "strategic pivot" to this region in a carefully orchestrated series of policy announcements, documents, and agreements beginning last fall. "The United States is a Pacific power and we are here to stay," President Obama told the Australian Parliament last November, as the United States and Australia signed an agreement to initially allow several thousand Marines per year to rotationally deploy to Darwin for training and exercises. As this review went to press, the first 200 Marines had arrived in Darwin. Driving this policy pivot is China's rapid naval modernization—it tested its first aircraft carrier at sea last August—and the need to reassure U.S. allies and other nations across this vast region that America has no intention of relinquishing

its longstanding role as a neutral force for stability and open access to the maritime commons.

In late March, the United States and Australia were deepening this commitment, with discussions focusing on basing long-distance unmanned systems on the Cocos Islands and perhaps permitting U.S. submarines to use Australian ports on the Indian Ocean as forward bases. Other pieces of this regional realigning of U.S. forces include Singapore agreeing to host four littoral combat ships in coming years, and the Philippines' new willingness to expand military training ties with Navy and Marine units. U.S. Navy ships officially visited Vietnam over the past year, and the annual U.S.-Indian MALABAR naval exercises included carrier operations for the first time. Even more important, the President vowed that ongoing Pentagon budget cuts "will not—I repeat, will not—come at the expense of the Asia Pacific."

These strategic pronouncements were reinforced in January with the release of the Defense Department's strategy *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* and the President's Fiscal Year 2013 budget submission the following month. Together, they underscored the types of naval capabilities to be emphasized in support of the pivot to Asia. The Navy will sustain 11 large-deck aircraft carriers and ten air wings. There will be new investments in a variety of anti-access/area-denial (A2/AD) capabilities—boosting the cruise-missile capacity of *Virginia*-class attack submarines—and continued development and production of the short-takeoff/vertical-landing aircraft and carrier-based versions of the F-35 joint strike fighter. The Navy will also make key investments in the full range of electronic-warfare capabilities and bolster its cyberspace force, which are considered important to the nation's counter-A2/AD weapon portfolio.

Despite the removal of six older *Ticonderoga*-class cruisers and pushing several additional amphibious ships beyond the current five-year defense-planning horizon, the Navy will still maintain a total battle force of 285 ships. This force will increase to 298 beyond the current five-year plan, with 37 ships under construction in early 2012. "We have a very large backlog," Navy budget Director Rear Admiral Joseph Malloy told reporters in February. "There is just an extensive amount of work." The Navy will contract for another nine ships in 2012.

'A Different Fleet'

"This is a different Fleet," Under Secretary of the Navy Robert Work told the Surface Navy Association earlier this year. "It is not about 500 or 600 ships. You can't just count the ships. . . . There is all sorts of capability in this Navy."

The looming operational challenge the Navy faces, which is directly tied to the Asian pivot, is the growing complexity of A2/AD capabilities proliferating in the arsenals of many nations—most important, China. Beijing has made investing in these capabilities, which include a diverse set of technologies like precision-guided ballistic and cruise missiles, advanced submarines and fighter aircraft, electronic-warfare systems, sea mines, and cyberspace capabilities. Pentagon officials are concerned the development, proliferation and most critically, the networking of these capabilities together into a coherent system could dramatically complicate U.S. military abilities to project power uncontested into important regions of the globe. While China is widely considered to possess the most dominant A2/AD challenge, others like Iran and even North Korea can also present difficult challenges in some narrow A2/AD scenarios.

To offset these trends and to provide new options for combatant commanders, the Navy and Air Force during the last year advanced the AirSea Battle (ASB) concept. The two services are intent on surmounting longstanding institutional rivalries to more closely integrate and align their long-term research and development efforts, training and exercises, and doctrine to keenly focus on defeating A2/AD threats. An ASB program office was established last year, including elements from all four uniformed services, and a host of new initiatives are being assessed and evaluated for their contribution to ASB. As General Norton Schwartz, Air Force chief of staff, and CNO Greenert explained in a 20 February 2012 article published online at *The American Interest*, which remains the most detailed public discussion of the concept, ASB will be organized around a three-phrase rubric—Networked, Integrated, and Attack-in-Depth.

Technology aside, the real value of the Navy/Air Force teaming will emerge when the two services can develop new tactics, techniques and methods of operating honed during rigorous experimentation and exercises. Importantly, Admiral Greenert told Congress that the Navy and Air Force will expand their ASB integration with the Army in the areas of doctrine, systems, training and exercises. Oddly, the same should be said of the U.S. Marine Corps . . . and maybe even the U.S. Coast Guard in its national defense and military roles.

Déjà Vu?

Routine ops, response to human tragedy and disaster, chasing down pirates, covert and clandestine missions, and crisis-conflict missions—the full ROMO—underscored the fact that Navy had been there, before.

Secretary of the Navy Mabus in March announced that a force structure/force-mix analysis articulating the way ahead for the service would be released in the late fall. The CNO and the Air Force Chief of Staff embraced an ASB plan that would provide "the concepts, capabilities, and investments needed to overcome the challenges posed by emerging threats to access like ballistic and cruise missiles, advanced submarines and fighters, electronic warfare and mines." And Admiral Greenert ordered a "tech-fresh" of the tri-service *Cooperative Strategy for 21st Century Seapower*. The service's new 30-year shipbuilding plan showed what might actually occur. The Navy in May 2012 clearly contemplated numerous forks in its road ahead.

With a presidential election looming large on the horizon, a strategic framework yet to be fully fleshed out, and draconian budget cuts in the offing, this will prove to be a watershed year for America's Navy. But in the end, past will indeed be prologue.

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Mr. Holzer is a senior national security manager for TeamBlue. The authors relied on numerous Department of Defense, Navy, and published sources for this annual review.

U.S. Naval Aviation and Weapons Development in Review

By Commander Jan C. Jacobs, U.S. Navy Reserve (Retired)

With the implementation of budget constraints as a result of the congressional cost-cutting measures of 2011, most, if not all, of the Navy's weapon-procurement programs will be affected in some way. Programs that are important in the grand scheme may have to be scrapped to save others with a higher priority. Programs with a history of minimal performance may end up on the chopping block. The coming years will be marked with tough decisions as the Navy seeks to keep up with its commitments with older equipment being pushed to the limit by nonstop war operations that began in 2001 and replacement systems delayed because of funding shortfalls.

Fixed-Wing Aircraft

F-35 Lightning II: The F-35 Lightning II program is aiming to field the new strike fighter in Fiscal Year 2016. The program manager, Vice Admiral David Venlet, said that although changes made to the program have extended flight testing and slowed development by about a year with an overall price increase of $4.6 billion, the program has made progress over the past year after the F-35B short takeoff/vertical landing (STOVL) version was put on probation for non-performance by then–Secretary of Defense Robert M. Gates and taken off by incoming SecDef Leon Panetta.

The F-35 program completed static structural testing of the F-35C and sea trials of the F-35B, achieving two of five milestones established by the Joint Program Office for 2011 that would result in bonus money for Lockheed Martin. Those milestones were: (1) F-35B initial sea trials (completed); (2) F-35C land-based catapult and arrested landing tests (catapult test completed, awaiting fix of arresting gear problems); (3) F-35C structural static-loads testing (completed); (4) delivery of Block 1B software for training (at least six weeks behind schedule); and (5) release Block 2A software for flight testing (delayed due to Block 1B problems).

After several years of hanging by a thread, the F136 engine being designed and built by the General Electric/Rolls-Royce Fighter Engine Team as an alternate powerplant for the F-35 was directed to be terminated in March with final program dissolution taking place on 2 December 2011.

F-35B: Sea trials of the F-35B were held 3–24 October 2011. The three-week trials were conducted on board the USS *Wasp* (LHD-1) sailing from Norfolk Naval Base, Virginia. The test began when one of the two aircraft, BF-2, piloted by Lieutenant Colonel Fred Schenk, made the first shipboard vertical landing on 3 October. The next day, BF-2 executed the first takeoff from the *Wasp*. Between the two aircraft, 72 short takeoffs and an equal number of vertical landings were made in the three-week trials. The next sea trial is scheduled for 2013 after the *Wasp* receives additional modifications for F-35B operations.

F-35C: The Marine Corps signed an agreement in March 2011 to take delivery of 80 F-35C carrier-based Lightning IIs. The accord incorporates a plan to provide five Marine Corps F-35C squadrons to the Navy's carrier air wings. The 80 Marine Corps F-35Cs are in addition to 340 F-35B STOVL aircraft already on order. The additional squadrons also may relieve the Navy of providing strike-fighter squadrons to the Marine Corps Unit Deployment Plan.

LOCKHEED MARTIN

The USS *Wasp* was the venue for short takeoffs and vertical landings during sea trials for the F-35B off the Virginia coast in 2011. The trials marked progress for the aircraft, which had been put on temporary probation but is again moving forward programmatically.

The F-35C in 2011 began system tests at Maryland's Naval Air Station Patuxent River and at Joint Base McGuire-Dix-Lakehurst in New Jersey. Tests were conducted from land-based steam catapults at

both facilities, and an F-35C was launched from the Electromagnetic Aircraft Launch System (EMALS) catapult at Lakehurst. An F-35C performed Jet-Blast Deflector (JBD) testing at Lakehurst to ensure the design is compatible with current aircraft-carrier equipment.

The test teams also investigated an issue with the launch bar not lowering enough to engage flight-deck hardware for the catapult hookup; the piece was redesigned to ensure a greater range of motion. Initial tests also revealed a problem with the F-35C's arresting-hook design. A reworked system, with a different hook point and stronger tailhook hold-down damper, is being tested in 2012. Sea trials of the F-35C on board a *Nimitz*-class aircraft carrier are scheduled for 2013.

EA-18G Growler: The first deployment of the Boeing EA-18G Growler was completed on 9 July 2011 as Electronic Attack Squadron (VAQ) 132 Scorpions returned to NAS Whidbey Island, Washington, after completing an eight-month deployment. The expeditionary squadron participated in combat operations in the U.S. Central Command area of responsibility (AOR) in Iraq and the U.S. Africa Command AOR operating from Italy in support of NATO operations in Libya. Growlers deployed with the VAQ-141 Shadowhawks on board the USS *George H. W. Bush* (CVN-77) marked the aircraft's first sea-based deployment. The Navy is planning to be fully transitioned to the Growler by 2016.

F/A-18E/F Super Hornet: The Navy took delivery of the 500th F/A-18 Super Hornet/EA-18G Growler during ceremonies on 20 April 2011 at the Boeing facility in St. Louis, Missouri.

Boeing also began production of the Distributed Targeting System (DTS) for the F/A-18E/F Super Hornet in late 2011. DTS provides enhanced targeting capability and uses geo-registration technology to compare images taken from aircraft sensors with an onboard imagery database that results in highly accurate target coordinates. The system is on schedule to achieve initial operational capability (IOC) in January 2013.

E-2D Advanced Hawkeye: Following a Defense Acquisition Board review in April 2011, funding for an additional ten Northrop Grumman E-2D Advanced Hawkeye aircraft was authorized. The decision came shortly after a VX-20 E-2D made the type's first carrier landing while operating from the USS *Harry S. Truman* (CVN-75). The board's approval marked the beginning of the E-2D's initial operational test and evaluation with an IOC scheduled for the first quarter of FY 15. The Navy plans to procure 75 E-2Ds with deliveries ending in 2021. With its advanced search radar, the E-2D can operate in the littorals or over land, and scans a larger area, detects smaller objects, and processes information more quickly than its predecessor, the E-2C. The glass cockpit and tactical operator's station in the co-pilot position allow the aircraft to accomplish these tasks more easily through improved avionics and computers.

P-8A Poseidon: The Navy continued its testing of the P-8A Poseidon by VX-1 at NAS Patuxent River with four aircraft. The program's static test plane, S1, completed its test program in early 2011. S2, the fatigue test plane, will begin testing in 2012. The Navy plans to purchase 117 Boeing 737-based P-8A antisubmarine-warfare, antisurface-warfare, intelligence, surveillance, and reconnaissance (ISR) aircraft to replace its P-3 fleet, with IOC in 2013.

U S NAVY (LIZ WOLTER)
Another 2011 testing milestone: The P-8A Poseidon successfully launches the first Mk 54 exercise torpedo, verifying safe separation.

P-3C Orion: With the introduction of the P-8A in 2013, the Navy is working hard to keep its fleet of P-3s flying until the end of the decade. The first five operational P-3 Orions were equipped with modernized computer technology and delivered to the Fleet, allowing the P-3 command, control, communications, and computers for antisubmarine warfare program to reach IOC on 27 September. Upgrades to the P-3 include Link 16, which allows for enhanced situational awareness and interoperability with Navy battle groups, other military services, and NATO forces.

Other equipment installed included an international maritime-satellite capability providing encrypted broadband services for the Fleet and a full range of communica-

tions services similar to those available on personal computers: chatting, email, web access, and eventually, streaming full-motion video. Although not identical, this capability will lay the groundwork for the introduction of the P-8A and will allow the Maritime Patrol and Reconnaissance Aircraft family of systems to work together.

The aftereffects of the "Red Stripe" problems of past years continues to affect the P-3 community. Named after the diagonal red stripe on the airworthiness bulletin that grounded 39 P-3C Orions in December 2007 for structural fatigue, the program has relied on artisans at NAS Jacksonville, Florida's Fleet Readiness Center Southeast to repair the wings of affected P-3 aircraft.

EP-3E: Although the follow-on EP-X program has been canceled, work continues to keep the existing intelligence-gathering EP-3 aircraft updated until they are retired, sometime around 2020, when the mission is scheduled to be assumed by P-8A Poseidons in concert with the MQ-4C Broad Aerial Maritime Surveillance (BAMS) system and other unmanned aircraft.

L-3 Corporation began design of the Spiral 3 improvements in late 2007, delivering the prototype used for testing in 2010. In 2011 the L-3 Communications Platform Integration division was approved to begin low-rate initial production of three EP-3E Spiral 3–configured aircraft, featuring an upgraded ISR-mission avionics suite. The operational test phase is currently under way, after which a full-rate production decision will be made regarding the modifications of the remaining aircraft in the EP-3E fleet to the Spiral 3 configuration. As part of the modification, L-3 will install state-of-the-art communications-intelligence equipment, replacing older sensors and increasing the aircraft's networking capabilities.

KC-130J Harvest Hawk: The Harvest Hawk close-air support package maintains the KC-130J's basic missions, while adding the capability to conduct ISR along with air-to-ground close-air support missions.

The first KC-130J Harvest Hawk kit was deployed with Marine Aerial Refueler Transport Squadron 352 in October 2010. The Harvest Hawk system consists of a roll-on/roll-off set of surveillance displays and fire-control electronics coupled with a modular surveillance-and-targeting unit that takes up the rear portion of the inboard left external fuel tank. On the left wing, replacing the outboard aerial refueling pod, is an M299 missile rack for four AGM-114 Hellfires and/or up to 16 Defense-Advanced GPS-Receiver laser-guided 2.75-inch rockets. This leaves the left wing carrying the weapons and some fuel, while the right wing retains full aerial-refueling capabilities. Some aircraft have deployed with a ramp-mounted ten-tube "Gunslinger" launcher for gravity-dropped weapons, but that option requires the crew to depressurize the cabin and don oxygen masks. Current tactics are severely limited by the time required for the aircrew to go on oxygen, depressurize the aircraft, and lower the cargo ramp prior to releasing standoff precision-guided munitions from a ramp-mounted missile rack. The entire system also must be removed for cargo operations.

Undergoing testing in 2011 and finally fielded in February 2012, the Marine Corps took delivery of its first Harvest Hawk modified with a pressurized, standoff-precision/precision-guided munitions launcher called the Derringer Door. The modified KC-130J paratroop door provides the capability to load, launch, and reload standoff precision-guided munitions while the aircraft remains pressurized. The Derringer Door and storage rack do not interfere with the KC-130J cargo system.

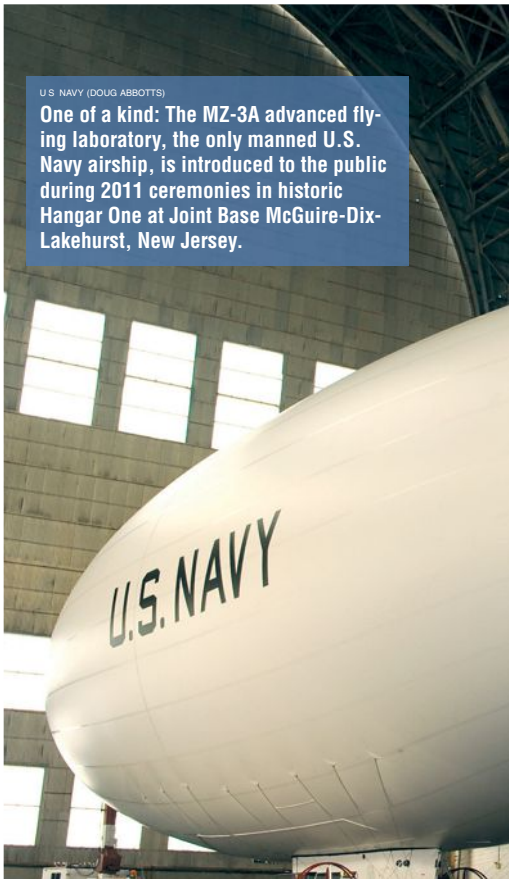
AV-8B Harrier: In November 2011, the U.K. Ministry of Defence sold its remaining 72 Harrier-IIs (63 GR.7/9/9As and nine two-seat T.12/12As), along with spare parts, to the U.S. Marine Corps for $180 million. Britain retired its Royal Air Force and Royal Navy Harrier aircraft in 2010. The aircraft will not be flying again but will be used as a source of spare parts for the Marines' AV-8B Harrier IIs. The sale is designed help the Marine Corps operate its Harriers into the mid-2020s and assisting in bridging the gap as two-seat F/A-18D Hornet strike fighters are stricken from service in the coming years.

Tilt-Rotor Aircraft

MV-22B Osprey: Production of new-build MV-22 Osprey Block C aircraft began in April 2010 in Philadelphia, with first delivery to the Marine Corps in January 2012. The MV-22 Block C upgrade incorporates weather radar, an improved environmental-control system, troop-commander situational-awareness display, upgraded standby flight-instrument and GPS repeater, and additional chaff/flare equipment.

Rotary-Wing Aircraft

CH-53K Super Stallion: Sikorsky Aircraft Corporation opened a new facility at its West Palm Beach Florida Assembly and Flight Operations (FAFO) campus in March 2011, establishing experimental assembly-line operations for the new CH-53K heavy-lift helicopter. Five System Development and Demonstration prototype aircraft will be built at the facility, with two additional airframe test articles produced at Sikorsky's main manufacturing plant in Stratford, Connecticut. Once assembled, the aircraft will be delivered to the Sikorsky Development Flight Center in West Palm Beach, Florida, for flight testing. The Marine Corps plans to procure more than 200 of the new helicopters. The CH-53K will maintain virtually the same footprint as its CH-53E predecessor, but with significantly better performance in all areas. The program is



U.S. NAVY (DOUG ABBOTTS)

One of a kind: The MZ-3A advanced flying laboratory, the only manned U.S. Navy airship, is introduced to the public during 2011 ceremonies in historic Hangar One at Joint Base McGuire-Dix-Lakehurst, New Jersey.

expected to make the first flight in FY 14 and attain IOC in FY 18.

General Electric delivered the first GE38 engine for the CH-53K Ground Test Vehicle after two years of testing. Selected by Sikorsky in 2006, the GE38 provides significant performance increases over the T64 of the CH-53E, and has 63 percent fewer parts for lower operating and support costs.

AH-1Z Viper: The AH-1Z, which will replace the current AH-1W, achieved IOC ahead of schedule in February 2011. The AH-1Z has numerous improvements including a new four-bladed composite-rotor system, performance-matched transmissions, a four-bladed tail rotor and drive system, upgraded landing gear, pylon structural modifications, two additional wing store stations on larger stub wings, upgraded landing gear, and a fully integrated glass cockpit.

The H-1 upgrade program has resulted in an 84 percent commonality of major component parts between the AH-1Z and UH-1Y utility helicopters. Bell Helicopter is contracted to remanufacture 131 AH-1Ws into AH-1Zs and build 58 new AH-1Zs for the Marine Corps.

The first deployment of the AH-1Z and its sister aircraft, the UH-1Y, occurred (with four of the former and three of the latter) in November 2011 on board the USS *Makin Island* (LHD-8) with the 11th Marine Expeditionary Unit (MEU). While this is the first AH-1Z deployment, the UH-1Y was first deployed in 2009 with the 13th MEU and has experienced four deployments in support of Operation Enduring Freedom in Afghanistan.

Lighter-Than-Air Vehicles

Persistent Ground Surveillance System (PGSS): Developed by the Navy's Special Surveillance Program Office, PGSS is providing critical situational awareness for forward-operating bases in Afghanistan. PGSS was developed by the Naval Air Warfare Center Aircraft Division (NAWCAD) in 2009 in response to a request by U.S. Army Intelligence to provide an "eye in the sky" for surveillance around forward bases. The NAWCAD solution was PGSS, consisting of a tethered aerostat—an inflatable airship equipped with a gondola to carry electro-optical and infrared sensors—and a ground-control station. The aerostat is inflated with helium and, held in place by a tether, floats several thousand feet above the ground. By sending continuous full-motion video to the operators in ground station, they can see what is going on for several miles around a base without sending manned patrols. Small-arms fire may hit it, but a puncture won't cause it to fail, as the ground crew can detect a decrease in pressure and compensate for it, allowing the PGSS to maintain altitude. A PGSS can operate at a cost per hour of about 1 percent of that of a drone.

The first system was deployed to Afghanistan in 2010, and now at least 35 PGSS sites are operational. The PGSS deploys in-theater with a Navy Reserve officer as officer in charge and contractor personnel. *MZ-3A:* The U.S. Navy's only manned airship, the MZ-3A advanced flying laboratory, received markings and color celebrating the centennial of naval aviation in October 2011. Historic Hangar One at Joint Base McGuire-Dix-Lakehurst, New Jersey, was the setting where Navy officials rededicated the only airship currently in active Navy flying service. Lakehurst was once a site of the Navy's lighter-than air-program and operated there from 1921 to 1962. The airship is assigned to Naval Research Laboratory Military Support Division Scientific Development Squadron One (VXS-1) at NAS Patuxent River. The MZ-3A is 178 feet long, capable of flying up to 9,500 feet with a cruise speed of 45 knots. The ship is fitted with two Lycoming engines and has space for one pilot and nine passengers.

The MZ-3A is used as a testbed for ISR sensors that require a stable and vibration-free testing environment at 40 percent the cost of fixed- or rotary-wing aircraft. The Navy also used the MZ-3A in the Gulf of Mexico to assist the U.S. Coast Guard during the Deepwater Horizon oil spill recovery operation in 2010.

Unmanned Aerial Vehicles

MQ-8B Fire Scout: Two Northrop Grumman MQ-8B Fire Scouts were deployed on the USS *Halyburton* (FFG-40) in early 2011, providing ISR support to special-operations forces and U.S. Navy antipiracy actions on the unmanned helicopter's second deployment. One of them was lost to enemy fire and went down over Libya on 21 June.

NORTHROP GRUMMAN

Wave of the unmanned future: The X-47B, a fighter-sized unmanned aircraft designed for carrier-launch capability and autonomous aerial refueling, continued development in 2011. Here, X-47B AV-1 and AV-2 share the ramp at Edwards Air Force Base, California.

A team of U.S. Navy sailors and Northrop Grumman employees were deployed in May 2011 for land-based operations in Afghanistan.

Plans to arm the basic MQ-8B Fire Scout have been approved. The Advanced Precision Kill Weapons System laser-guided 70-mm rocket will allow ship commanders to identify and engage hostile targets without calling in other aircraft for support. Final delivery of an operational system is expected by March 2013.

MQ-8C Fire-X: Being assessed as a follow-on to the MQ-8B Fire Scout is an unmanned version of the commercial Bell 407 helicopter designated the Northrop Grumman/Bell Helicopter MQ-8C Fire-X. Combining the basic flight-control systems, including the existing ship-installed ground-control station, data links, and automatic recovery system of the Fire Scout, the Fire-X will provide the same capabilities as the Fire Scout, but with better stability in bad weather in addition to extended range, payload, cargo-hauling, and weapons capabilities. The Fire-X demonstrator made its first flight on 10 December 2010 at the Yuma Proving Ground in Arizona.

X-47B: The Navy awarded the Unmanned Combat Air System Aircraft Carrier Demonstration (UCAS-D) prime contract to Northrop Grumman in August 2007. The six-year contract called for the development of two X-47B fighter-sized unmanned aircraft to demonstrate carrier launches and recoveries in addition to autonomous aerial refueling in 2014 after carrier integration and at-sea trials.

On 4 February 2011, the first X-47B UCAS-D aircraft (AV-1) completed its first flight at Edwards Air Force Base, California, and made envelope expansion flights there before moving by truck to Pax River on 20 December. A second X-47B aircraft (AV-2), which first flew on 22 November, is scheduled to arrive at Pax River in early 2012. AV-2 is identical AV-1 except that it will be equipped with aerial refueling equipment. Northrop Grumman plans to use it to demonstrate unmanned air-to-air refueling using both the U.S. Air Force's boom/receptacle system and the Navy's probe and drogue.

The UCAS-D team will conduct shore-based carrier-suitability tests at Pax River in 2012 in preparation of carrier trials in 2013. Also being developed are precision-navigation computers and upgraded guidance, navigation, and control software to allow the X-47B to make precision landings on a moving carrier deck.

In addition to testing of the X-47B airframe, parallel development continues on the integration of the system into the carrier environment and to aerial refueling of the unmanned aircraft.

In a test conducted on the USS *Dwight D. Eisenhower* (CVN-69), a VX-23 F/A-18D accomplished the first carrier touchdown of a surrogate aircraft on 2 July 2011, emulating an unmanned vehicle. Along with the F/A-18, the test team has employed a Beech King Air surrogate aircraft, giving the team a low-cost test bed to evaluate the ability of the UCAS-D avionics and ship systems to execute carrier-operations procedures. The King Air is used to test system functionality that does not require actually landing on a ship.

Also being developed is the aerial-refueling system for the X-47B. The technologies to refuel unmanned aircraft in flight are being developed to enable the AV-2 to test refueling procedures for both Navy- and Air Force–style techniques in 2014.

RQ-4 BAMS Unmanned Aircraft System (UAS): The Navy took delivery of three retired USAF RQ-4A Block 10 Global Hawks in September 2011 to act as spare parts for the Navy's two Broad Area Maritime Surveillance Demonstration (BAMS-D) unmanned aircraft. In August, the Navy awarded Northrop Grumman a contract for continued operations and maintenance for the BAMS-D aircraft.

Marking significant advancement in its maritime-surveillance program, the Navy began test flights in December with a Gulfstream testbed aircraft equipped with the Multi-Function Active Sensor (MFAS) radar system, the primary sensor on the MQ-4C BAMS UAS.

The MQ-4C BAMS program is on track for IOC in FY 15. BAMS will operate as an adjunct to the P-8A Poseidon and is a key piece of the overall replacement strategy for the P-3C Orion.

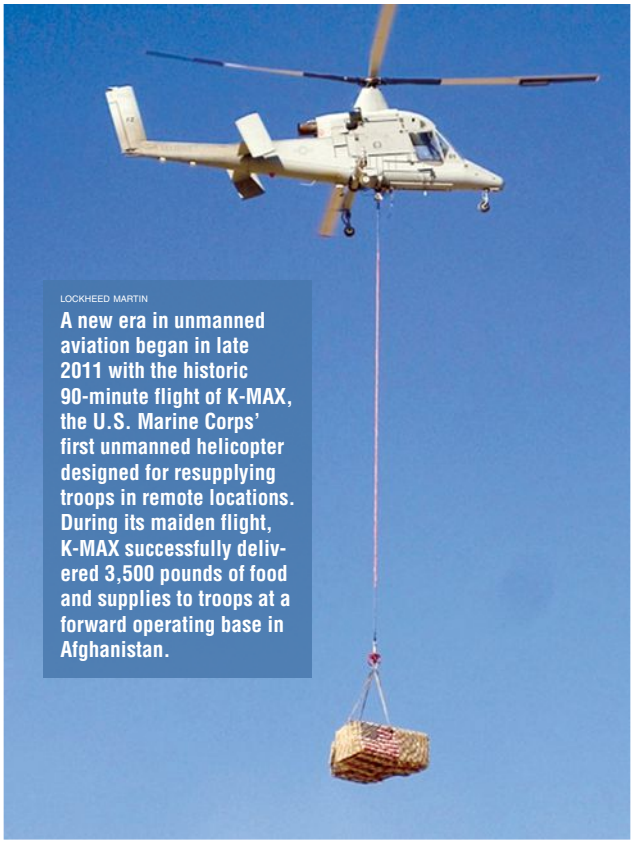
Cargo Resupply UAS: The Cargo Resupply UAS was created as a result of the Marine Corps' requirements to "get trucks off the roads" in combat zones and minimize the threat of improvised explosive devices

to logistics convoys. The system provides the capability for dispersed forces on the battlefield to receive supplies without using manned ground vehicles.

In December 2010, the Navy awarded contracts to two suppliers, Lockheed Martin/Kaman for the K-MAX and Boeing/Frontier Aviation for the A-160 Hummingbird, to compete for a deployment in support of troops in Afghanistan. After completing testing at Pax River, the K-MAX and A-160 were sent to Yuma Proving Ground for an August 2011 test. Under the guidance of Commander Operational Test and Evaluation Force, Marines from Unmanned Aerial Vehicle Squadron 1 acted as operational commanders and forward-operating base controllers for a seven-day period with temperatures, flight profile, and terrain almost identical to those planned for deployment.

Results from the test confirmed that K-MAX exceeded the Navy and Marines' requirement to carry 6,000 pounds of cargo per day over a five-day period. The A-160T encountered technical problems, prompting a 60-day stop-work order in December, with no plans to send the Hummingbird to Afghanistan. The A-160T is also under a separate development contract with the Army for ISR missions.

The helicopters were shipped to Afghanistan in November and a VMU-1 detachment completed its first unmanned aerial system cargo delivery in a combat zone using a helicopter in Afghanistan on 17 December 2011.



LOCKHEED MARTIN

A new era in unmanned aviation began in late 2011 with the historic 90-minute flight of K-MAX, the U.S. Marine Corps' first unmanned helicopter designed for resupplying troops in remote locations. During its maiden flight, K-MAX successfully delivered 3,500 pounds of food and supplies to troops at a forward operating base in Afghanistan.

Aircraft Carriers

The USS Gerald R. Ford *(CVN-78):* Construction continued on the new class of aircraft carrier at the Newport News Shipbuilding (a division of Huntington Ingalls Industries) facility. Improvements over the older *Nimitz*-class ships include a redesigned flight deck and island structure, increased power-generation capability, electromagnetic aircraft-launch and -recovery equipment, and decreased manpower requirements, along with improved radar and electronic systems. The *Ford*'s keel was laid on 14 November 2009 with a projected delivery to the Navy in 2015.

The USS John F. Kennedy *(CVN-79):* Preparations for construction of the second *Ford*-class aircraft carrier began in December 2010. On 25 February 2011, the Navy conducted the "First Cut of Steel" ceremony at Newport News. The Department of Defense announced that the ship would be named the *John F. Kennedy* on 29 May 2011, the 94th birthday of her namesake. She will be the second aircraft carrier named after the 35th President of the United States; the first, CV-67, served from 1967 to 2007.

The USS Abraham Lincoln *(CVN-72):* The *Lincoln* departed her homeport of Naval Station Everett, Washington, on 7 December 2011 for an around-the-world deployment that will take her to the Persian Gulf, the Mediterranean Sea, and finally to Newport News to begin her refueling and complex overhaul (RCOH). Planned upgrades include the new advanced arresting gear (AAG) that uses electromagnetic force instead of hydraulics to recover fixed-wing aircraft. The *Lincoln* will be the first *Nimitz*-class carrier to receive the AAG.

Electromagnetic Aircraft Launch System (EMALS): The revolutionary EMALS is being installed in all *Ford*-class aircraft carriers, beginning with the first ship in the class. Instead of launching aircraft with 1950s-technology steam catapults, EMALS will use stored energy and solid-state electrical-power conversion, permitting computer control, monitoring, and automation.

In early 2012, the San Diego–based General Atomics Electromagnetic Systems Group marked the delivery of the 12th and final EMALS energy-storage system motor-generator set to Newport News Shipbuilding for installation in the *Ford*.

Advanced Arresting Gear: AAG replaces the current Mk 7 arresting gear's hydraulic machinery with an electric motor-based system. Designed by General Atomics, the AAG allows for carrier recovery of a broader range of aircraft, reduces ship manning and maintenance, and provides a higher reliability and safety margin. The current hydraulic-ram and rotary-engine design is replaced by simple energy-absorbing water turbines coupled to a large induction motor, providing better control of arresting forces. AAG is currently being built into the *Ford* and subsequent ships of the class. In addition, the system will be retrofitted into the *Lincoln* when she enters RCOH in 2013, as well as newer *Nimitz*-class carriers as they too are brought to the Newport News Shipbuilding facility for refueling and overhaul.

Weapons

Next-Generation Jammer (NGJ): Originally planned as the successor to the ALQ-99 active-jamming system currently used by the EA-6B and EA-18G and proposed for use on the Marine Corps' F-35B, the NGJ is now a program in flux. Although it seems to have adequate funding, budget cuts on the airframes it will serve have driven the direction of the NGJ's usage and design. Early problems with the F-35B

resulted in money budgeted for electronic integration of the NGJ into the aircraft's avionics being moved to other areas. The latest focus now appears to be on the EA-18G and not so much the F-35 as a primary airframe for the NGJ. The use of unmanned aircraft as carrier-based assets has been gaining traction in the Navy's shipboard complement, and now there are ongoing studies as how to best incorporate NGJ into this platform. An unmanned airframe to carry the active jammer package into the "dragon's teeth" of an enemy's air defense and neutralizing it without putting humans at risk is very attractive to warfare planners. With a proposed IOC in the 2018–20 range, PMA-234 is gathering all the information it can from industry and will end the Technology Maturation phase in early 2012 and begin the Technology Demonstration phase, which will end with the four competing teams being reduced to one in 2013. Currently BAE, Raytheon, ITT-Exelis, and Northrop Grumman are the participating contractors. Boeing, which had been teamed with ITT, withdrew from direct NGJ development to focus on EA-18G integration.

Advanced Anti-Radiation Guided Missile (AARGM): The AGM-88E AARGM, produced by Alliant Techsystems, is an upgrade of the AGM-88 high-speed anti-radiation missile. The addition of a digital homing receiver, an active terminal radar, improved countermeasures and inertial navigation, and a GPS system gives the AARGM a greatly improved capability to destroy enemy air-defense radars. IOC is scheduled for FY 12.

Joint Air-to-Ground Missile (JAGM): The precision-guided JAGM is a versatile weapon to replace the AGM-119 Hellfire and AGM-65 Maverick missiles in the sea-service inventory. It is an all-weather, direct-attack, 100-pound-class missile using a tri-mode seeker (semi-active laser, millimeter-wave radar, and imaging infrared) and a multipurpose warhead designed to destroy both stationary and moving targets. With the Army as the lead service, the program received formal approval for development in January 2008. Two industry teams, Raytheon-Boeing and Lockheed Martin, were finishing the technology-development phase, and a contract was scheduled to be awarded in 2012. However, with the impending federal budget cuts, the program is on life support, with only $10 million given to run the program for 2012, leaving its final production status in limbo.

WGU-54/B Advanced Precision Kill Weapon System II (APKWS II): The APKWS II is a program to incorporate a precision-guidance system to the existing Hydra 70, 2.75-inch (70-mm) rocket motor and warhead by placing a laser-guided seeker on existing rockets in the Navy's inventory to provide a low-cost, mid-range weapon that lends itself to urban warfare. Conversion of existing weapons is attractive because of cost, their carriage by both helicopters and fighters, more precision weapons per platform, low collateral damage, and the employment of large weapon stockpiles that couldn't previously be used because of strict rules of engagement. Accurate to within six feet of an aim point, an APKWS can destroy targets at ranges of one to three miles including personnel, vehicles up to and including armored personnel carriers, and structures. IOC is expected in 2012.

AGM-154 JSOW: Raytheon's Joint Standoff Weapon (AGM-154C-1 JSOW) is the Navy's first networked air-launched, antiship weapon. JSOW is a family of low-cost, air-to-ground weapons that employs an integrated GPS-inertial navigation system and terminal imaging infrared seeker, guiding the weapon to the target. JSOW C-1 adds moving-maritime-target capability and a two-way Link-16 datalink with a range of more than 60 nautical miles. The JSOW C-1's IOC is scheduled for 2013

Raytheon is using company funding to develop a powered version of the JSOW with the potential to fly more than 300 nautical miles. Testing of a tactically configured JSOW-ER in scheduled for 2012. The JSOW-ER will have the same shape and weight of the glide JSOW.

AGM-65E2/L Laser Maverik: The Navy completed developmental and operational testing of the newest variant of the Raytheon laser-guided AGM-65 Maverick missile, which provides the capability to attack rapidly moving targets in urban environments. The AGM-65E2/L has an enhanced laser seeker and new software that reduces the risk of collateral damage. The missile can be guided by laser designators from the carrying aircraft, by another aircraft or by ground-based designators.

Low-Cost Guided Imaging Rocket (LOGIR): The LOGIR is a weapons system under development for the Navy in a joint program with South Korea. The program aims to provide a precision-guided 2.75-inch (70-mm) rocket for use with existing Hydra 70 systems in service, as such it has many similarities with the APKWS program. The principal difference between the systems is that while APKWS uses terminal laser homing requiring the target to be "painted" until impact, LOGIR homes in on an image supplied by the launching aircraft, making it a true fire-and-forget weapon.

GBU-44/B Viper Strike: Northrop Grumman was awarded a contract for additional GBU-44/BViper Strike munitions to equip the Marine Corps KC-130J Harvest Hawk aircraft. Viper Strike is a glide munition capable of stand-off precision attack using GPS guidance and a semi-active laser seeker. Its small size, precision guidance, and agility make for a low-collateral-damage weapon. All the Viper Strike munitions on Harvest Hawk now carry the latest software load that greatly enhances the weapon's effectiveness against moving targets. During flight testing at China Lake, California, Viper Strike proved this new capability by scoring multiple hits against moving vehicles.

In late 2011 MBDA Inc., the wholly owned U.S. subsidiary of European missile manufacturer MBDA, purchased Northrop Grumman's Viper Strike munitions business.

AIM-9X Block II Sidewinder: The Navy completed live-fire test missions with the AIM-9X Block II Sidewinder in August 2011. The tests demonstrated the Block II's ability to deliver expanded air-to-air warfare capabilities including improved lock-on-after-launch, extended range lofting fly-out profile, two-way data link, and improved all-weather laser fusing against small targets. AIM-9X Block II is scheduled to enter operational test in spring 2012.

Commander Jacobs retired in April 2012 after 22 years as managing editor of *The Hook*, the quarterly journal of the Tailhook Association. He is a former Radar Intercept Officer and 1973 Top Gun graduate with 1,800 flight hours in F-4s and F-14s.

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U.S. Marine Corps in Review

By Lieutenant Colonel John C. Berry Jr., U.S. Marine Corps (Retired)

During 2011, U.S. Marines continued the fight in Afghanistan, conducting aggressive and decentralized operations that allowed them to retain the initiative in Helmand Province, generally considered one of that country's most challenging areas. After more than a decade of continuous conflict, the post-9/11 generation of Leathernecks—which has served as courageously and faithfully as any—finally witnessed the nation's highest award for valor presented to a *living* Marine recipient. While operations in Afghanistan continued unabated, the operational tempo of amphibious forces likewise remained high. Throughout the year the Navy–Marine Corps team continued to apply its amphibious capabilities in a variety of operations, even as a naval renaissance gathered increasing momentum.

U.S. MARINE CORPS (JASON C. MORRISON)

Marine Lance Corporal Timothy Williams uses his light-machine-gun-mounted optic to scan a patrol area in the Sangin District of Helmand Province in May 2011. Williams and Marines from Charlie Company, 1st Battalion, 5th Marine Regiment, Regimental Combat Team 8, were part of a cordon-and-search mission focusing on several compounds in the area.

Combat Operations in Afghanistan

The Marine Corps continued to commit approximately 20,000 Marines to **Operation Enduring Freedom** in Afghanistan, with the majority assigned to Regional Command–Southwest [RC (SW)]. General James F. Amos, the Commandant of the Marine Corps (CMC), reported to Congress, "We are seeing measurable progress along all lines of operation in the Helmand Province: security, reintegration, rule of law, governance, development, education and health. Over the past year, violence and the level of collateral damage have decreased significantly."[1]

That progress was not obvious at the beginning of the year, as combat intensity spiked when Marines pushed into the previously uncontested areas of Helmand's Sangin District. That offensive was initiated in late 2010 by then–Major General Richard Mills, the RC (SW) commander. It reflected his assessment that the purely "population-centric approach" to counterinsurgency (COIN), wherein coalition forces focused exclusively on providing a "protective bubble" over the more heavily populated areas to promote governance and economic development, had ceded the tactical initiative to the enemy. The general observed that the enemy "was able to dictate where and when the fighting would take place. . . . We decided to change that. We consolidated some bases, freed up some forces, and we went on the attack. We felt there should be no place within the province that the enemy was free to train, refit, plan and just take some time off."[2] He empowered subordinate commanders with the guidance to employ a combination of offensive combat and population-centric actions—as they deemed appropriate—within their respective areas of operation.

The 3d Battalion, 5th Marines (3/5), under the command of Lieutenant Colonel Jason Morris, drew the task of applying this approach in Sangin, where the change caught the enemy off-guard. The Taliban were accustomed to employing improvised explosive devices and ambushes by relatively small units. After inflicting casualties, they would seek to break contact and avoid becoming decisively engaged. When the Marines began aggressive and relentless patrolling into the enemy's rural sanctuaries, the Taliban shifted to using larger formations in direct attacks. This shift played to the Marines' strengths—especially their ability to maneuver through rugged terrain and to apply accurate and discriminate combined-arms firepower. As a result, the Marines decimated the ranks of the local insurgency.

An indicator of how badly his Marines had mauled those Taliban units was provided by General Mills in April 2011: "When we got there, it was estimated the average regimental or battalion commander—whatever you want to call him—in the insurgency was about 35 years old. When we left, he was 23. Why? Because the rest of them are dead."[3]

With the local insurgency nearly wiped out, the Taliban leadership sought to regain the initiative by committing additional units from Pakistan. Unlike the locals, who avoided fighting in locations where their families, friends, and property would be at risk, the foreign fighters did not display the same restraint. Thus, the tribal chieftains began to

view the Taliban not only as the enemy, but as a losing enemy, and increasingly reconciled with the Afghan government.

The upsurge in combat intensity also resulted in increased casualties among friendly forces, at least in the short term. During their initial weeks in Sangin, 3/5 and attached units incurred a casualty rate nearly double that of battalions in other areas. This caused some senior officials to recommend that 3/5 be withdrawn. However, "The Marines of 3/5 said that they wanted to finish what they had started, and Mills and Morris thought that pulling them out in the middle of the struggle would be the most demoralizing action possible."[4] Marines are ever mindful of their unit's history; no Marine serving in a battalion whose colors carry battle streamers for Belleau Wood, Peleliu, Chosin Reservoir, and Fallujah was going to shy from a fight. During their seven months in Sangin, 3/5 and attached units suffered 29 killed and approximately 200 wounded. The bulk of those casualties came prior to February 2011. In subsequent months casualties were considerably lighter, and that trend fortunately continued when, at the conclusion of its tour of duty in April, 3/5 relinquished responsibility for Sangin to 1st Battalion, 5th Marines.

Population-Centric Practices Pay

The offensive combat actions described above were complemented by revised population-centric practices. Rather than dispensing development aid widely in hopes of encouraging the population's loyalty, the Marines provided it only to those who had demonstrated their allegiance to the Afghan government. Once aid was dispensed, project sites were routinely visited to ensure that allocated resources were being used as intended. Similarly, casualty and property damage compensation claims were not paid without first verifying the facts. In essence, the measures reduced the ability of unscrupulous actors to fraudulently enrich themselves or the Taliban. The Marines also focused on strengthening partnerships with local officials, who are crucial to arbitrating tribal disputes and establishing local policies. Likewise, Marine commanders assigned advisers from their own units to Afghan forces in order to strengthen military partnerships and improve operational effectiveness.[5]

Collectively, the integrated application of enemy-centric and population-centric measures yielded the desired results, as increasing stability led to improved governance, economic opportunity, and societal development. General Mills reported that independent polling recorded a significant shift in public opinion: "Nearly 80 percent of the Afghan population in Helmand province [was] asked, 'What's your number-one concern?' Last year, overwhelmingly, [the response was] security. This year, education. . . . That is success."[6]

In July 2011 historian Dr. Mark Moyar published an assessment of the operations in Sangin in which he noted that, "Small-unit leaders received great latitude in selecting and implementing the mix of enemy-centric and population-centric methods, and success depended heavily on their leadership capabilities, earning this hybrid approach the moniker of leader-centric COIN. With roughly the same number of troops as the forces they had replaced, the Marines gained control over the entire operational area in a period of three months and largely suppressed the insurgency by the time their seven-month tour ended. During this time, they also captured or killed a substantial number of high-value individuals who had eluded special operations forces."[7]

The Marine Corps' ability to conduct such decentralized operations is a testament to the maneuver-warfare philosophy it developed in the 1980s and codified in the 1990s. That philosophy has shaped Marine Corps training and education, so Marine leaders have become accustomed to giving subordinates "mission-type orders"—tasks and the overarching intent (or purpose) of what they are expected to accomplish without specifying how it is to be done. In his study, Moyar posited that this approach—which he calls "leader-centric"—has wider applicability across Afghanistan. Recent changes to U.S. Army doctrine appear to be promoting the same approach.[8]

A Medal of Honor

At the White House on 15 September 2011 former Sergeant Dakota Meyer was presented the Medal of Honor, becoming the first living member of the post-9/11 generation of Marines so recognized. Sergeant Meyer received the award for his actions on 8 September 2009 when he was a corporal assigned to a combined unit of U.S. Army and Marine Corps advisers and Afghan troops under the operational control of 1st Battalion, 32nd Infantry Regiment (1/32) of the Army's 10th Mountain Division. On that day, lead elements of the unit were ambushed and pinned down while en route to a meeting with village elders in Ganjgal near the Pakistan border. Realizing that they were in a desperate situation and in danger of being overrun, they radioed the 1/32 command post requesting

U.S. MARINE CORPS (TIMOTHY P. CHESNAVAGE)

Regional Command–Southwest commander Marine Major General Richard P. Mills confers with an Afghan business owner in Now Zad in February 2011. Mills said integrating enemy-centric and population-centric measures yielded significant success in just a year.

fire support. According to the official investigation into the incident, an Army artillery NCO and Air Force liaison within the command post "took action to provide immediate support," but both "were overruled."[9] Two Army officers eventually were reprimanded for negligent leadership, including failing to provide timely air and artillery support, during the battle.

At the time the ambush was initiated Corporal Meyer was situated in a supporting position. Recognizing the plight of those in the kill zone, he and two other Marines, then–First Lieutenant Ademola Fabayo and Staff Sergeant Juan Rodriguez-Chavez, left the relative safety of their position and made numerous trips into the kill zone to help their comrades. They rescued several dozen members of the unit, but three Marines and a Navy corpsman remained missing. It was on his fifth trip into the kill zone that Meyer, who was wounded, located and retrieved the remains of First Lieutenant Michael Johnson, Gunnery Sergeant Edwin Johnson, Staff Sergeant Aaron Kenefick, and Hospital Corpsman Third Class James Layton. A month later a fifth American, Army Sergeant First Class Kenneth Westbrook, died of wounds received at Ganjgal.

Captain Fabayo and Staff Sergeant Rodriguez-Chavez were awarded Navy Crosses in a ceremony at Quantico, Virginia, on 10 June 2011. Additionally, Gunnery Sergeant Chad Miller, who had manned an overwatch position for six hours spotting targets and directing fire—once air support finally arrived—was presented the Bronze Star with Combat "V" in a ceremony at Camp Lejeune, North Carolina, on 29 June 2011.

U.S. MARINE CORPS (AUSTIN HAZARD)

Sergeant Dakota Meyer seen, here at his Medal of Honor flag presentation ceremony at Marine Barracks, Washington, D.C., on 16 September 2011. He is the first living Marine of the post-9/11 generation to receive the award. The medal was officially bestowed at a White House ceremony the previous day.

Flexible Responsiveness . . . from the Sea

As in previous years, the geographic combatant commanders' demand for amphibious forces far exceeded capacity. The USS *Kearsarge* (LHD-3) Amphibious Ready Group (ARG)/26th Marine Expeditionary Unit (MEU) once again demonstrated flexibility and utility across the range of military operations. On 27 August 2010 it had deployed a month early to reinforce the *Peleliu* (LHA-5) ARG/15th MEU conducting flood-relief operations in Pakistan. As the new year dawned, events started to accelerate dramatically. On 6 January, in response to a request by the commander of U.S. Forces Afghanistan, U.S. Central Command ordered the MEU's ground combat element ashore in support of **Operation Enduring Freedom**. The mission for the battalion landing team (BLT) built around 3d Battalion, 8th Marines (3/8) was to establish and maintain security in portions of Helmand province not previously occupied on a persistent basis by the International Security Assistance Force.

Shortly thereafter the tumultuous events of the "Arab Spring" began to unfold in North Africa. The *Kearsarge* and USS *Ponce* (LPD-15), with the remaining embarked elements of 26th MEU, were directed into the Mediterranean Sea in order to provide 6th Fleet the capability to conduct noncombatant evacuations and humanitarian assistance. Initially postured off of Ismailia, Egypt, to support U.S. interests during unrest there, the increasing chaos in Libya generated a new priority. The two ships were sent to Souda Bay, Crete, on 4 March to embark 400 Marines from 1st Battalion, 2d Marines, who had been flown in from Camp Lejeune to reconstitute some of the MEUs ground-combat element in the absence of BLT 3/8. From there they headed toward Libya for what then was an undetermined role in the clash between Libyan dictator Moammar Gadhafi and the rebels attempting his overthrow.

That role was clarified on 20 March when the MEU's AV-8B Harriers began conduct-

U.S. NAVY (NATHANAEL MILLER)

Sailors of the USS *Ponce* (LPD-15) stand by to join an underway replenishment with the USNS *Kanawha* (T-AO-196) and (at far left) the USS *Kearsarge* (LHD-3) during Operation Odyssey Dawn off Libya in March 2011. A few days later Marines on board the *Kearsarge* participated in the rescue of a downed U.S. Air Force crew in Libya.

ing air strikes in support of **Operation Odyssey Dawn**, the purpose of which was to enforce U.N. Security Council Resolution 1973, calling for the establishment of a no-fly zone, an arms embargo, and the protection of Libyan citizens from the Gadhafi regime. Eventually, Odyssey Dawn became part of the North Atlantic Treaty Organization–led **Operation Unified Protector**.

At approximately 2330 on 21 March, a U.S. Air Force F-15E operating out of Aviano, Italy, crashed in Libya about 25 miles from Benghazi. Both the pilot and weapons officer successfully ejected. *Kearsarge* ARG/26th MEU launched a tactical recovery of aircraft and personnel (TRAP) package consisting of two MV-22 Ospreys carrying a recovery team, two CH-53E Super Stallions with a quick reaction force, and two AV-8B Harriers to provide close-air support. A Marine KC-130J Hercules operating out of Sigonella, Sicily, provided tanker support. The TRAP force picked up the downed pilot, Major Kenneth Harney of the 494th Fighter Squadron, at 0238 on the 22nd and delivered him aboard the *Kearsarge* less than 3½ hours after he had ejected. His weapons officer, Captain Tyler Stark, made contact with Libyan rebels who assisted in his safe return.

Meanwhile, on the other side of the globe a different sort of crisis was emerging. On 11 March Honshu, Japan, was rocked by the fourth-largest earthquake in history and the largest in that country since instrument recordings began in 1900. The magnitude 9.0 quake generated a tsunami observed throughout the Pacific and caused a nuclear power-plant accident and leaks in three reactors. Japanese officials recently estimated the toll at more than $200 billion in damage, 15,854 known dead and another 3,203 Japanese citizens missing.[10] When the earthquake occurred, the *Essex* (LHD-2) ARG/31st MEU was disaggregated. The *Essex* had just begun a port visit in Malaysia following an exercise in Cambodia. The *Germantown* (LSD-42) and *Harpers Ferry* (LSD-49) were both in Indonesia. All three ships immediately sortied for Japan to support **Operation Tomodachi** (Friends).

As the ARG/MEU was en route, eight Marine KC-130Js from Marine Aerial Refueler Transport Squadron 152 (VMGR-152) and eight CH-46E Sea Knights from Marine Medium Helicopter Squadron 265 (HMS-265) deployed from Okinawa to the Japanese mainland to begin relief operations. The *Essex* ARG/31st MEU arrived off the coast of Akita, Japan, on 17 March and began flying aerial surveys along 200 miles of affected coastline. In the weeks that followed, it provided disaster relief in Hachinohe and Miyako as well as on Oshima Island, removing debris and delivering critical supplies to isolated areas. The evacuation of almost 8,000 American citizens was facilitated at the same time. To accomplish those tasks, Marine aircrews often flew through a radioactive environment.

As Tomodachi unfolded, back in the United States the *Bataan* (LHD-5) ARG/22d MEU was getting ready to deploy in support of operations off Libya. It set sail on 23 March—three months ahead of schedule—and relieved the *Kearsarge* ARG/26th MEU in the Mediterranean on 27 April. By the time the latter arrived home on 16 May, it had compiled 262 days at sea, including a four-month stretch without a port call. In the 8½-month deployment the *Kearsarge* ARG/26th MEU participated in historic events in both the 5th and 6th Fleet areas of operations (AOs). Unbeknownst to them at the time, the sailors and Marines of the *Bataan* ARG/22d MEU would exceed that deployment duration by a considerable margin.

DEPARTMENT OF DEFENSE (GREG JOHNSON)

Marine Lance Corporal Gordon Rogers moves supplies on the flight deck of the USS *Essex* (LHD-2) during a vertical replenishment off Japan in April 2011. The *Essex* and her embarked 31st Marine Expeditionary Unit were among U.S. naval forces providing relief in the aftermath of a tsunami and nuclear power-plant accident that devastated the island nation.

While on station with the 6th Fleet, *Bataan* ARG/22d MEU spent several months supporting **Operation Unified Protector** and conducting bilateral exercises and military engagement with forces from Italy, Spain, Greece, France, and Romania. Eventually it sailed into the 5th Fleet AO, and on 13 August relieved the *Boxer* (LHD-4) ARG/13th MEU. The latter had been engaged in a variety of operations during its seven-month deployment, including contingencies off the Horn of Africa, maritime-security operations, major exercises in Oman, Saudi Arabia, Jordan, and Kuwait, and numerous smaller security-cooperation events with regional partners. *Bataan* ARG/22d MEU assumed similar duties until relieved by the *Makin Island* (LHD-8) ARG/11th MEU on 6 January 2012. The *Bataan* ARG delivered its shipmates from the 26th MEU to Morehead City, North Carolina, on 5 February and arrived home in the Norfolk, Virginia, area two days later, having spent nearly 11 months at sea conducting operations in support of U.S. European, African, and Central Commands. The 322-day deployment was the second-longest since the end of World War II, exceeded only by a 327-day deployment by the *Midway* (CVA-41) in 1973.

The ARG/MEU flexibility evident in the events described above did not go unnoticed. During an April breakfast meeting with reporters, Secretary of the Navy

Ray Mabus "highlighted the role amphibious ships play in enforcing the no-fly-zone over Libya, an operation with air support from Marine AV-8B Harriers and helicopters but not a single flight from a carrier."[11] Some independent observers concurred with that praise but expressed concern about the paucity of amphibious ships. Naval blogger Raymond Pritchett pointed out that the amphibious fleet "is in high demand because they are the most flexible ships in the U.S. arsenal, but is seen as and is given a low priority."[12] He observed that the "*Bataan* ARG represents a visible data point regarding the need for more. . . . When amphibious ship deployments start breaking modern deployment length records . . . that means the Navy has not built enough."[13] In an op-ed published in *The San Francisco Examiner*, national security expert James Carafano put it more colorfully with an anecdote that likened amphibious ships and Marines to mules: "They get fed last, even though they do all the work." He cautioned that "if we don't maintain a robust amphibious force, the barn could be empty when the next crisis comes."[14]

U.S. MARINE CORPS (JOSH COX)

An MV-22 Osprey from Marine Tiltrotor Squadron 263 (VMM-263) lands aboard the USS *Bataan* (LHD-5) during training in the Atlantic en route to the Mediterranean Sea in March 2011. The *Bataan* Amphibious Ready Group/22d Marine Expeditionary Unit was at sea 322 days—the second-longest U.S. Navy deployment since the end of World War II.

Title 10 Matters

The year began with a programmatic decision that some pundits had predicted—perhaps hoped—would sound the death knell for the Marine Corps. On 6 January then–Secretary of Defense Robert Gates announced, "Today, I am also announcing my agreement with the recommendation of the Secretary of the Navy and the Commandant of the Marine Corps to cancel the Expeditionary Fighting Vehicle." He explained that "recent analysis by the Navy and Marine Corps suggests that the most plausible scenarios requiring power projection from the sea could be handled through a mix of existing air and sea systems employed in new ways along with new vehicles." To ensure that the prophets of doom fully understood his message, he added, "Let me be clear. This decision does not call into question the Marines' amphibious assault mission." Mr. Gates then went on to explain that funds would be budgeted to develop a more affordable amphibious tractor while providing interim upgrades to the existing vehicles.[15]

In light of the foregoing, during 2011 the Marine Corps conducted a comprehensive systems-engineering review of amphibious-vehicle operational requirements, such as water and overland mobility, lethality, and protection. Having identified the essential requirements in an effort to drive down costs, the Marine Corps began conducting an analysis of six amphibious combat vehicle (ACV) options. The ACV analysis effort is taking place within the larger context of a Ground Combat Tactical Vehicle Strategy that also includes the Joint Light Tactical Vehicle being developed in conjunction with the Army and a wheeled Marine Personnel Carrier.

To provide even broader context for capability development, General Amos chartered an Amphibious Capability Working Group (ACWG), composed of sailors and Marines, to assess the challenges and opportunities for amphibious operations in the 21st century. Although the ACWG report has not yet been made public, one of the key insights was discussed extensively at the Marine Corps' most recent Title 10 war game. Noting that the maritime domain includes the landward portion of the littoral—and understanding that the increase in modern land-based threats to maritime access generates even greater emphasis on the historic interplay between sea control and power projection—the ACWG advocated closer integration in the application of Navy and Marine Corps capabilities, both at sea and ashore. The group refers to this as fighting a "single naval battle."

While the ACWG was formed as a temporary body, the Marine Corps has initiated the establishment of a more permanent organization to explore naval issues. Called the "Ellis Group," it is named in honor of Lieutenant Colonel Earl H. "Pete" Ellis, whose prescient 1921 study, *Advanced Base Operations in Micronesia*, anticipated the Central Pacific Campaign in World War II and guided subsequent capability development. The Ellis Group will work in partnership with a similar body being established by the Navy.

There were several additional indicators of increasing naval unity last year. In March 2011 Admiral John C. Harvey, Commander, U.S. Fleet Forces Command, published a "personal for" message to all commanders and command master chiefs titled "Amphibious and Expeditionary Op-

U.S. MARINE CORPS (BRYCE PIPER)

Marine Sergeant Erik Rasmussen (right) of Company I, Battalion Landing Team 3/8, 26th Marine Expeditionary Unit, and an interpreter offer assistance to an Afghan man in Helmand Province in February 2011. Aggressive, decentralized operations in Helmand—one of the country's most challenging areas—marked the Marines' performance there.

erations Reading Program." Harvey noted that large-scale amphibious operations are both a core competency and unique capability provided by the Navy–Marine Corps team. In an effort to reinvigorate the ability to conduct such operations after a ten-year focus on Iraq and Afghanistan, he designated **Bold Alligator 2012** (BA 12) as a major effort for the entire Fleet. "I want to emphasize that BA 12 will be a major fleet exercise. . . . Ask yourself how your unit, command or specialty fits into the framework of an amphibious operation. . . . How would an amphibious task force tie into a carrier strike group and execute composite warfare? . . . Over the coming year, I encourage you to read, to think about what you read, and then to apply what you've learned."

On 22 May General Amos and then–Chief of Naval Operations (CNO) Admiral Gary Roughead signed a charter establishing a Naval Board to provide a regular forum for senior leaders to consider naval policy and guidance affecting warfighting issues. They tasked the board to examine issues selected by the CNO and CMC as well as those raised by the commanders of the unified combatant commands, Navy and Marine Corps component commanders, and their respective Fleet and Marine Expeditionary Force commanders. The board will assess operational requirements and develop integrated guidance to drive concept development, experimentation, and coordinated capability development.

In November, Australian Prime Minister Julia Gillard announced that U.S. Marines would start deploying to the Northern Territory on a rotational basis. The new CNO, Admiral Jonathan Greenert, later explained that he was working with General Amos "to determine the support and the lift needed for Marines to effectively operate forward in Darwin, Australia, in the future."[16] These naval developments foreshadowed the U.S. strategic shift toward the Pacific unveiled in early 2012. The first Marine detachment—about 200 strong—landed in Darwin on 3 April, 2012. The U.S. presence will grow to a full Marine air-ground task force of 2,500 within six years.

In 2011 Marines added new luster to their operational record but were not content to rest on their laurels. A reinvigorated Navy–Marine Corps team appears eager to take on the challenges of an era that, by all indications, will place a premium of the creative application of American seapower.

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A former enlisted Marine and infantry officer, Lieutenant Colonel Berry retired from the Marine Corps in 2002. He is an avid student of U.S. naval history.

U.S. Coast Guard in Review

By Joe DiRenzo and Chris Doane

In 2011 the U.S. Coast Guard continued its mission by responding to devastating hurricanes, floods, and droughts; interdicting maritime threats to our nation; supporting defense operations around the world; and seeking solutions to its expanding responsibilities in the Arctic.

Recapitalizing the Fleet

This year the service decommissioned two of its *Hamilton*-class high-endurance cutters and accepted its third national security cutter (NSC), the USCGC *Stratton* (WMSL-752), into in commission, special. With their improved all-weather capability and sophisticated command-and-control systems, these 418-foot NSCs bring significant new capabilities to the Coast Guard. The *Stratton* was commissioned on 31 March 2012.

The Coast Guard's first three fast-response cutters (FRCs) were launched in 2011. Designed to replace the service's aging fleet of 110-foot patrol boats, the first of this class of 154-foot patrol boats, the USCGC *Bernard C. Webber* (WPC-1101) got under way in November for builder trials; initial reviews have been very positive. Capable of 28-plus knots and multi-day endurance and armed with stabilized remotely operated 25-mm chain guns, the FRCs will significantly improve the service's littoral response and security capabilities. The service plans to build 58 FRCs. The first six will be homeported in Miami.

While the NSCs and FRCs represent two poles of the Coast Guard's offshore fleet requirements, the middle is under development. Well over half of the service's medium-endurance cutters have been in operation for more than 40 years and also must be replaced. Their successor, the maritime security cutter, medium, also known as the offshore patrol cutter, is moving toward a request for proposals. Having the right mix of high-, medium-, and low-endurance cutters allows the Coast Guard to operate as economically as possible, applying the right capability to the right mission without losing effectiveness.

U.S. COAST GUARD (PATRICK KELLY)

In 2011 the Coast Guard decommissioned two high-endurance cutters and in March 2012 commissioned its third national security cutter, the USCGC *Stratton*, which brings even more sophisticated capabilities to the fleet. As sponser of the *Stratton*, First Lady Michelle Obama and her daughters toured the ship before the commissioning ceremony.

The Arctic

The discussion of fleet recapitalization comes in the context of the Coast Guard's ever-increasing mission demands, most notably in the Arctic. With the receding icecap increasing maritime activity there, the service continues to expand its collective presence and operations. Operation Arctic Shield, a series of exercises intended to test the capabilities of Coast Guard ships, boats, and aircraft in the region, led the list of activities conducted by the service's units with federal, state, and local partners. More than 250 Coast Guard members deployed to support the operation from April through September.

The USCGC *Healy* (WAGB-20), one of the nation's three polar icebreakers, completed a seven-month western Alaska patrol performing continental-shelf surveys with the Canadian coast guard ship *Louis S. St. Laurent*. The event that drew the most attention during her deployment was the rescue mission the *Healy* and the Russian ice-capable tanker *Renda* completed, delivering 1.5 million gallons of fuel to Nome, Alaska. The city was forecast to run dangerously low on fuel oil as severe winter conditions had halted normal supply-chain systems. By the time the *Healy* returned to her homeport of Seattle, she had been on patrol for 254 days.

The *Healy*'s unusually long patrol was necessary because the only other two polar-capable icebreakers, the *Polar Star* and *Polar Sea*, remain nonoperational. The *Polar Star* is undergoing a major overhaul and is scheduled to have her first patrol in January 2014. The *Polar Sea* is set to be decommissioned in Fiscal Year 2012.

U.S.COAST GUARD (CHARLY HENGEN)

U.S. COAST GUARD (ERIC J. CHANDLER)

Operation Arctic Shield exercises tested the capabilities of numerous Coast Guard assets in 2011, including 250 personnel. Some ships remained on patrols extending into early 2012. Above, the USCG *Healy* leads the Russian tanker *Renda*, filled with 1.5 million gallons of fuel, to Nome, Alaska, where severe weather threatened to cut the supply chain. Right, a Coast Guard MH-65 Dolphin helicopter conducts a rare landing on ice near the *Healy* off Nome.

An analysis of high-latitude missions by the Coast Guard found that the service requires three heavy and three medium icebreakers.

Disaster Response

In the Midwest, record-level rainfall from two major storms combined with snowmelt to create some of the worst flooding along the Mississippi River in 100 years. The flooding required the Coast Guard to control river traffic and rescue citizens. Working with the Army Corps of Engineers, Coast Guard District Eight in New Orleans and its many sectors along the western rivers orchestrated a delicate balance between safety and sustaining the flow of vital commerce through a series of waterway closures. At the same time, disaster-area response teams, along with other Coast Guard units and state and local responders, worked around the clock to save those caught by the flooding rivers. By early May 2011 the teams had rescued 22 people.

In August Hurricane Irene made landfall in North Carolina, ravaging more than 1,000 miles of U.S. coastline all the way to New England. Coast Guard Atlantic Area, along with District Five co-located in Portsmouth, Virginia, and District One in Boston, not only felt the force of the storm, they coordinated the maritime response across a ten-state region. A key task was to lead the federal search-and-rescue response under the National Response Framework (Emergency Support Function–9). The service also conducted damage-assessment flights and restored aids to navigation to re-open the many vital commercial and military ports along the East Coast.

In October, the nearly 1,500 people of Tokelau, a territory of New Zealand located in the South Pacific, were in desperate need of drinking water because of a severe drought. The New Zealand government requested U.S. assistance. The Coast Guard's 225-foot buoy tender *Walnut* averted a potential disaster by transiting 350 miles from American Samoa to bring 36,000 gallons of water to Tokelau with a seven-person New Zealand assessment team.

Search and Rescue

Search-and-rescue operations have been the cornerstone of the service, which saved 3,804 lives in FY11 alone. The first case in 2011 drew the public praise of Bahamian Prime Minister Hubert Alexander Ingraham, who thanked the Coast Guard for a successful nighttime rescue of the nine crewmembers and nine passengers, including one child, from the 150-foot mail boat *Legacy*, which had run aground in rough seas. A Coast Guard helicopter from Operation Bahamas, Turks and Caicos, located on Andros Island, led the rescue.

In the Pacific, the case that received perhaps the most press attention in the United States was the rescue of the pilot of a private aircraft forced to ditch off Ha-

waii. The twin-engine Cessna was traveling from California to Hawaii when it ran out of fuel 13 miles from the Hawaiian coast. Coast Guard Air Station Barbers Point launched two helicopters to assist. The first aircrew instructed the pilot on how to make an emergency water landing and guided him in. The second helicopter positioned itself near the projected landing site to speed the recovery of the pilot, who survived with only minor injuries.

The Great Lakes region is not often considered when it comes to Coast Guard search and rescue. But it is served by the Coast Guard's Ninth District and has one of the nation's largest recreational boating populations and thriving maritime commercial activities. The apex of the district's search-and-rescue season is the Fourth of July weekend. During that weekend in 2011, multiple service assets and members of the Coast Guard Auxiliary saved 16 lives, assisted 379 people, saved or protected $2.9 million worth of property, and conducted 591 vessel-safety boardings.

Maritime Security

Coast Guard maritime-security operations continued to occupy many of the service's resource hours. In Fiscal Year 2011, the Coast Guard conducted 10,735 small-vessel security boardings, escorted 2,515 high-capacity passenger vessels, and screened nearly 29 million crewmembers and passengers prior to their arrival in U.S. ports. From the screenings, more than 275 individuals associated with terrorism or criminal activity were identified for additional vetting. The service continued to conduct other routine security operations such as port-security patrols, escorting high-value Navy assets and vessels carrying hazardous cargo through population centers, and conducting security inspections of maritime facilities in the United States and overseas.

Counterdrug Mission

The pace of counterdrug operations continued to increase in both the eastern Pacific and the Caribbean. Coast Guard forces interdicted a total of 102.5 tons of narcotics during FY 2011.

One measure of the pace of counterdrug operations is the milestone achieved by Coast Guard Helicopter Interdiction Tactical Squadron Jacksonville, Florida (HITRON). In December, HITRON, the "force from above," passed the $10 billion mark in illegal narcotics interdictions. Marksmen from HITRON helicopters employ disabling fire to halt go-fast boats that would otherwise outrun pursuing Coast Guard surface assets. HITRON aircraft have done this 209 times in their first 13 years of operation to support the counterdrug mission, preventing more than $10 billion in illegal drugs from reaching the United States.

Another sign of the expanding drug threat was the first interdiction of a self-propelled semi-submersible (SPSS) in the Caribbean by the USCGC *Seneca* (WMEC-906). In August, a Customs and Border Protection aircraft spotted the SPSS off the coast of Honduras. A Coast Guard helicopter and pursuit boat from the *Seneca* intercepted it. The SPSS crew scuttled the craft, but not before the Coast Guard recovered a quantity of cocaine. In July an FBI dive team operating from the USCGC *Oak* (WLB-211), with support from the Honduran navy, found the sunken vessel and recovered 7.5 tons of cocaine worth more than $180 million.

The *Seneca*'s SPSS interdiction was the first of three in the Caribbean over a six-week period. The USCGC *Mohawk* (WMEC-913) accomplished the other two. The *Mohawk* seized 16 tons of cocaine with a street value of $480 million, detained eight suspects, and was the first to fire warning shots against an SPSS. On the more traditional side, the USCGC *Gallatin* (WHEC-721) interdicted four vessels and disrupted another smuggling operation, seizing more than 5.5 tons of cocaine and marijuana (with a street value of $100 million) while detaining 25 suspects during a single patrol in the Caribbean.

Counterdrug operations were equally busy in the eastern Pacific. In November the service interdicted more than a ton of cocaine and arrested 12 suspects during three separate missions. The USCGC *Bertholf* (WMSL-750) and *Boutwell* (WHEC-719) were both successful. Off the coast of Panama, the *Bertholf* intercepted a go-fast, netting two bales of cocaine and three suspects who were turned over to the National Air Service of Panama, the country's maritime service. Two days later, the *Bertholf* recovered cocaine jettisoned from a speedboat they were pursuing. Not to be outdone, the 42-year-old *Boutwell* intercepted the fishing vessel *El Soberano*, which was towing another vessel approximately 230 miles west of

Coast Guard Defense Partnerships in the Western Hemisphere

While the Coast Guard continues to provide active support to each of the combatant commanders, the service's fullest partnerships exist with U.S. Northern and Southern commands. The closeness of these partnerships is driven by a host of overlapping missions. Three of the most prominent are homeland security and defense, counterdrug and defense support to civil authorities, and theater-security cooperation. To achieve the most effective and efficient execution of these missions requires a high degree of mutual support between the Coast Guard and the two geographic combatant commanders.

U.S. Northern Command

The Coast Guard's partnership with Northern Command is founded on the concurrent missions of maritime homeland security and homeland defense. Effective execution of these missions requires synchronization to ensure effective interoperability and the most efficient employment of limited resources. To that end, the two Coast Guard area commanders also serve as Commander, Defense Forces East and West, respectively. In addition, the Northern Command

Ecuador. The *Boutwell*'s boarding team found 40 bales of cocaine weighing more than a ton and detained nine individuals on board the two vessels.

The USCGC *Waesche* (WMSL-751) was equally successful in intercepting two drug-smuggling vessels in a 48-hour period. The first interdiction occurred when the cutter's embarked helicopter spotted the fishing vessel *Miss Jacky* about 300 miles southeast of Puntarenas, Costa Rica. When the helicopter arrived, the fishing vessel crew began jettisoning bales. A boat from the *Waesche* recovered more than one-half ton of cocaine, and the five crewmembers were transferred to Costa Rican authorities. Only 24 hours earlier the *Waesche* had intercepted another vessel carrying cocaine, but the details have not been released for security reasons.

U.S.COAST GUARD

The Coast Guard increased its counterdrug activities in the Pacific and the Caribbean in 2011. In one 48-hour period, the USCG *Waesche*, above, interdicted two vessels, recovering from one a half-ton of cocaine and five suspects.

The Seattle-based USCGC *Midgett* (WHEC-726) rounded out the year intercepting an SPSS 335 miles off of Costa Rica. No movement was at first observed. A boat from the *Midgett* came alongside and tried by various means to communicate for more than three hours, without response. As night fell, a hatch on the vessel opened and a member of the crew emerged. Eventually, the boarding team was able to persuade three other crewmembers to come out as well. When the boarding team entered the vessel it found 300 bales of cocaine weighing more than 6.5 tons.

Migrant Interdiction

The service also continued to prevent immigrants from entering the country illegally. In FY 2011 Coast Guard crews intercepted 2,474 migrants. The mission this year was more demanding because of an increase in the number of Cubans seeking to enter the United States illegally. As the newspaper *El Nuevo Herald* reported, 1,700 Cubans attempted to reach this country in 2011, reversing a three-year downward trend. Of these, 1,000 were intercepted at sea.

In another instance, in May the medium-endurance cutter USCGC *Vigilant* (WMEC-617) intercepted two Haitian sail freighters and one motor vessel carrying 38, 114, and 37 migrants, respectively, attempting to enter the United States illegally. After stopping the vessels from proceeding toward national borders, *Vigilant* safely transferred all 189 migrants, including 20 children and 29 women, to the cut-

staff has the largest contingent of assigned Coast Guard personnel among the combatant commanders. With significant budget cuts to both the Department of Defense and the Department of Homeland Security on the horizon and new missions in the Arctic, this partnership will become even closer, requiring greater efficiencies through merging overlapping capabilities.

U.S. Southern Command

The relationship between the Coast Guard and U.S. Southern Command is symbolized by the assignment of both a Coast Guard two-star admiral as Southern Command's J3 and in Southern Command's counterdrug Joint Interagency Task Force (JIATF) South, where a Coast Guard two-star also commands. Using Coast Guard, Customs and Border Protection, and DOD assets, JIATF South detects and tracks drug smugglers originating in South America—a vital capability for initiating the interdiction of these smugglers by the United States or partner-nation law enforcement.

Theater-security cooperation is a second major area of mutual support between the Coast Guard and Southern Command. A great example of this partnership was the multinational training exercise Trade Winds 11, which involved several Caribbean nations. The USCGC *Diligence* (WMEC-616) led the afloat training while members from a variety of the service commands and 25 members of the Coast Guard auxiliary provided small-boat training. This marked the largest international deployment by the auxiliary in its history.

U.S. COAST GUARD

In May 2011 the USCG *Vigilant* intercepted three small vessels—including the one shown above overburdened with 114 Haitian illegal immigrants—and safely transferred them to the *Vigilant*.

ter, where crew members provided food, water, shelter, and medical care. Based on each of the vessels' poor seaworthiness and deteriorating weather conditions, it was doubtful the passengers would have safely completed their intended voyages. The migrants were eventually repatriated to Haiti.

Supporting Defense Missions

The Coast Guard continued to provide specialized support to each of the geographic combatant commanders. While support to U.S. Central, Africa, Pacific, and European commands are highlighted here, the most active partnerships are with U.S. Northern and Southern commands (see sidebar, page 94).

U.S. Central Command. Coast Guard Patrol Forces Southwest Asia (PATFORSWA), as Commander Task Group 55.1, is responsible to Commander, U.S. Naval Forces Central Command/Commander, 5th Fleet for maritime infrastructure protection and interception and security operations. Their principal focus is to protect two Iraqi oil platforms in the northern Persian Gulf. The Middle East training team provides recurring training for PATFORSWA members but also supports theater-security cooperation efforts, providing professional engagements with personnel from regional navies and coast guards.

Two Coast Guard deployable operations group advanced interdiction teams supported Commander Task Force 150 and 151, conducting counterpiracy operations. Another deployable operations group force in theater unattached to PATFORSWA was Port Security Unit 307 out of Tampa, Florida. The team was embedded with the Maritime Expeditionary Security Squadron of Commander Task Force 56 conducting port-security operations in Kuwait and the United Arab Emirates. The Coast Guard's redeployment assistance inspection detachment deployed forces in various locations in Kuwait, Iraq, and Afghanistan assisting DOD units with the safe redeployment of hazardous materials and customs support.

U.S. Africa Command. The USCGC *Forward* (WMEC-911) completed a three-and-a-half month deployment to West Africa to support Africa Command's maritime law-enforcement partnership program. The *Forward* conducted training and maritime operations with naval forces from Cape Verde, Senegal, Sierra Leone, Liberia, and Gambia. With teams from those countries on board, the *Forward* conducted 19 maritime law-enforcement boardings resulting in the seizure of 10 vessels and 75 tons of fish and issued 30 citations totaling $450,000. The *Forward*'s crew also provided 550 hours of community service, refurbishing schools and a hospital. Eleven Coast Guard auxiliarists visited five countries to provide linguistic and training support for Africa Partnership Station.

U.S. Pacific Command. The service's participation in joint planning and exercise engagements with Pacific Command resulted in the first Coast Guard appendix to a U.S. 7th Fleet operations plan. Coast Guard Senior Reserve Rear Admiral John Welch led an 11-member team that participated in the joint U.S. and Republic of Korea exercise, Ulchi Freedom Guardian, which simulated the deployment of Coast Guard cutters, patrol craft, and port-security units. Coast Guard Pacific Area also conducted real-time planning with Pacific Command in tracking the high-interest vessel MV *Sun Sea* as it approached the United States. Finally, the service supported Pacific Command's Joint Task Force 519 for Operation Tomodachi, the U.S. response to the earthquake and tsunami that devastated Japan.

U.S. European Command. The service provided a search-and-rescue expert to support exercise Arctic Zephyr, which explores the effects of climate change and increased activity in the Arctic and seeks to strengthen relationships with Arctic nations. Search-and-rescue provides a nonthreatening platform to explore such issues.

Marine Safety and Environmental Protection

The Coast Guard responded to the 431-foot barge *Davy Crockett*, which had been abandoned on the banks of the Columbia River in Washington state. Over a ten-month period the service worked with state and local responders to remove more than 2,000 tons of steel, 40,000 gallons of oil, and 4,850 pounds of asbestos. The effort cost more than $20 million to complete.

While public attention to the crisis has diminished, the Coast Guard continued to manage the response to the Deepwater Horizon oil spill. By late 2011 the service still had 102 men and women coor-

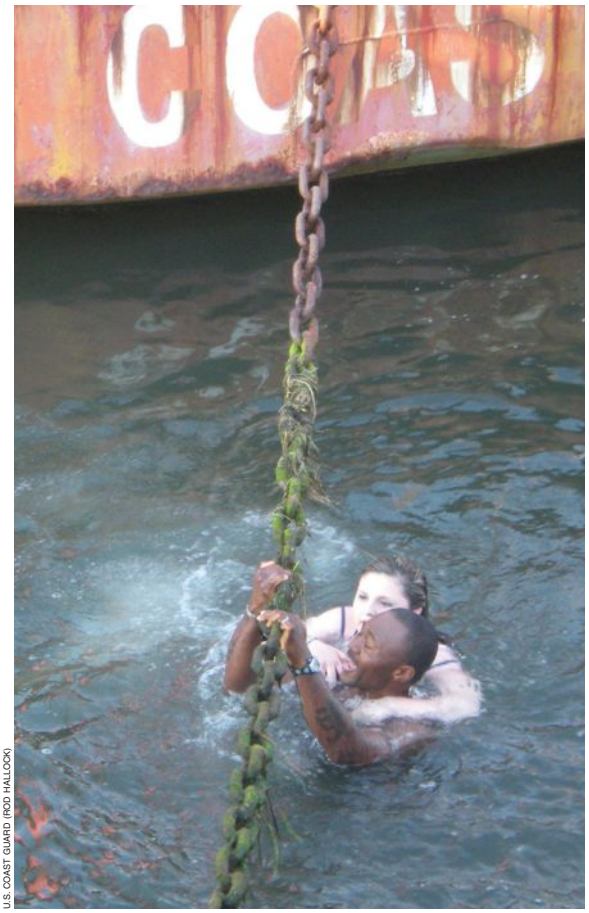
dinating the shoreline cleanup. But this highlights the problem of how to determine when a response has transitioned to remediation and when leadership should be handed over to the Environmental Protection Agency or other appropriate agency.

Deepwater Horizon also has drawn much attention to how the service would respond to a similar spill from rigs planned in the waters off Cuba. The potential threat extends well beyond the Florida coast and is gaining the consideration of federal and state leaders at all levels. It is expected that the Spanish oil company Repsol YPF, S.A., will begin drilling this year in Cuban waters.

In 2011 the Coast Guard continued its environmental mission by protecting valuable and vulnerable fisheries from illegal activity by domestic and foreign poachers. Coast Guard districts One and Five conducted a joint operation in the mid-Atlantic region with the Maritime Intelligence Fusion Center Atlantic and the National Marine Fishery Service to counter illegal scallop fishing in the Hudson Canyon Closed Area. By monitoring fishing activity, the joint team was aware that fishing vessels were realizing poor catches while scalloping inside the Elephant Trunk Access Area. Suspicions were raised when some vessels returned with large catches after allegedly fishing there. The team used a Coast Guard HC-130J to identify and compile evidence against three ships operating illegally.

This case highlights a new operational and tactical intelligence-driven enforcement system the Coast Guard and its partner agencies are using to improve identification of fishing vessels with a higher risk of engaging in unsafe or illegal operations. The system ensures a more effective use of enforcement assets that minimizes boardings on fishing vessels operating properly.

Coast Guard living marine resources operations also extend beyond our exclusive economic zone to enforce international law designed to protect migratory fish such as tuna. In FY 2011, the service conducted 102 boardings of foreign fishing vessels. In a 2011 case the Coast Guard seized the 140-foot fishing vessel *Bangun Perkasa* 2,600 miles southwest of Kodiak, Alaska, for illegal high-seas drift-net fishing. Japanese authorities had observed the vessel using drift nets and alerted the Coast Guard, which diverted the USCGC *Munro* (WHEC-724).When the *Munro* arrived on scene her crew observed the *Bangun Perkasa* using a drift net that exceeded three miles in length. After boarding the vessel they discovered more than ten miles of drift nets on board. The vessel was ultimately determined to be stateless and was seized.



U.S. COAST GUARD (ROD HALLOCK)

Petty Officer Second Class Leon Doniphan, assigned to the USCG *Alert*, prevented a young girl from being swept under a large Coast Guard navigation buoy in the Columbia River in September. He carried her to safety against a powerful current.

The use of drift nets is particularly harmful to the tuna population, which is vital to the very survival of many smaller Pacific nations. The importance of this fishery is reflected in the extensive international cooperation that has matured over the years to defend it—as the *Bangun Perkasa* case demonstrates.

Other 2011 News

- High above Earth in the International Space Station retired U.S. Coast Guard Captain Dan Burbank sent holiday greetings on YouTube. A career Coast Guard aviator, Burbank is commander of Expedition 30 and the service's second astronaut.
- The USCGC *Alder* (WLB-216) assumed duties as the service's Christmas tree ship, and delivered 1,200 trees to underprivileged families from Sault Ste. Marie, Michigan, to Chicago—a Coast Guard tradition since 1912.
- Petty Officer Second Class Leon Doniphan, assigned to the USCGC *Alert* (WMEC-630), was headed home from the ship on 10 September 2011 when he was made aware that a young girl was in danger of drowning under a navigation buoy in the Columbia River near Astoria, Oregon. While others watched from shore, Doniphan dove into the water, swam 40 feet to the young girl, placed her on his back, and successfully swam to shore against a strong current that threatened to drag them under the buoy.
- Coast Guard Sector Guam continued its tradition of support for the village of Merizo, donating more than 300 Christmas gifts as part of the Sister Village program.

For decades the Coast Guard's infrastructure has been permitted to decay while the mission demands on the service have continued to increase. Only now is it receiving some relief as new boats, cutters, and aircraft replace some of the most ancient in the fleet. Still, much infrastructure remains in disrepair. Meanwhile, those whom the service regulates or combats are outpacing it by using emerging technology, increasing the capability gap. With significant budget cuts on the horizon, senior leadership will have to make careful choices, or that gap will widen at an even faster rate.

Dr. DiRenzo and Mr. Doane are retired Coast Guard officers, lecture at the Joint Forces Staff College, and are frequent contributors to *Proceedings*. Dr. DiRenzo also teaches at American Military University in that school's graduate intelligence studies program.

U.S. Merchant Marine and World Maritime Review

By Shashi Kumar

Conventional wisdom a year ago was that the threat of a double-dip recession was passé. But then several externalities, including catastrophic weather events, came to the forefront and impacted the recovery of a fragile global economy. Even without the many natural calamities and geopolitical uncertainties that accentuated a nagging worldwide economic malaise, for shipping it was a stressful year.

Catastrophic weather in Japan, Thailand, Australia, and the United States interrupted global supply chains in unfathomable ways. The Arab Spring, though filled with hope, also brought a great sense of uncertainty, compounded by the Eurozone implosion and economic lethargy in the United States and other developed countries. No wonder the global maritime community breathed a collective sigh of relief as a new year waded in.

According to World Bank statistics, in 2011 international trade in goods and services grew 6.4 percent. However, this was only because of the strong momentum in trade growth carried over from 2010. By midyear a sharp deceleration became clearly evident. Furthermore, the modest increase experienced in 2011 tonnage-demand growth came from an unexpectedly high increase in liquefied natural gas (LNG) trade.

China's hold on the global economy strengthened last year. According to *Lloyd's List* data, the country accounts for one-fifth of world seaborne trade today. Also, one-third of all containerized trade is China-centric, and one-fourth of all containerized exports originate from that country, despite its strengthening currency, the yuan. Chinese macroeconomic conditions also accounted for huge increases in commodity imports and overall domestic consumption. The country's shipping and shipbuilding continued to grow and, along with India, Brazil, and other developing countries, provided fuel for the global maritime sector's increase, albeit lackluster.

Overall, 2011 is a year best forgotten from an international-shipping perspective, with the sole exception of the LNG sector. Still, several market conditions and other domestic and international maritime developments are noteworthy.

Market Developments

Along with the aura of discomfort that again enveloped the markets by mid-2011, the high level of new-ship deliveries exceeded trade growth, and the overall utilization level of the world shipping fleet reached barely 84 percent, per the 2012 R. S. Platou database. In the severely depressed containership market in particular, the nominal capacity of one out of every five ships remained unused.

Ship operating costs rose 3.8 percent in 2011, according to the Moore Stephens annual survey. The index of operating costs (with base year 2000) is expected to double by 2015. The cost of lubricants is the fastest-growing component, followed by crew wages at 3.1 percent. The decline in asset value of ships and shipping companies has been very telling. The price of vessels has dropped precipitously, both for new constructions and second-hand tonnage. For example, a ten-year old very large crude carrier (VLCC) dropped in price from $135 million in August 2008 to $63 million in January 2011, and by August 2011 to $36 million.

Dry Bulk Market

With a rough start, world seaborne trade in dry-bulk commodities picked up some momentum during the year's latter half. This was primarily because of increased demand in China for iron ore and coal to support economic growth. The Chinese substitution of South American sources for traditional bulk imports from India increased sailing distances and, consequently, demand for dry-bulk tonnage. Shipowners slowed down their operating speed to stem the rising fuel costs and also prop up demand. None of these measures were robust enough to collectively offset the tremendous increase in supply caused by the introduction of several new ships in 2011. In addition, the 2010 bankruptcy of Korea Line continues its prolonged domino effect on several shipowners who had chartered vessels to it.

One of every five new ships that entered this market beginning in 2000 was delivered in 2011. The giant Vale-max 400,000 deadweight-ton ships made their market entry in 2011, with the intention of transporting Brazilian iron ore to China. However, China remains steadfastly opposed to their berthing in Chinese ports, citing safety concerns. This is widely perceived as a blatantly protectionist action, but the Brazilian silence has been remarkable and a strong testimonial to growing Chinese economic might. Interestingly, perhaps as a face-saving measure, the first ship of this size built in a Chinese yard is listed at 380,000 DWT carrying capacity, even though it is no different from the other Vale-maxes.

Tanker Market

The tanker market was another victim of adverse market conditions. From the supply side, there was again a huge influx of new ships. Asian yards alone delivered 331 new tankers (36.2 million DWT) in 2011, almost one a day! There was no corresponding increase in demand for tonnage; on the contrary, trading conditions were severely adverse thanks to overall dismal economic conditions worldwide, and the temporary but critical loss of (one million barrels per day of) Libyan crude. The escalation of crude prices in spring 2011 subdued the demand for oil in traditional consumption centers (the United States and European Union). In addition, mild North American winter weather led to a general decline in the demand for oil. The U.S. demand was impacted as well by a boost in domestic production, including shale oil, and increased imports transported by pipeline from Canada. These developments negatively affected the demand for oil tankers worldwide.

Although demand for oil by countries not in the Organization for Economic Cooperation and Development grew 3 percent, driven by China and India, it was not sufficient to maintain market profitability and led owners to undercut each other to

the point of operating ships without recovering even their variable costs. At one point, the benchmark Middle-East-to-Asia VLCC route was earning $8,448 per day while encumbering $11,000 in daily operating costs. The R. S. Platou tanker index dropped to a depressingly low 44 percent.

The demand for storage tankers, historically a safe employment for large oil tankers, became insignificant because of widely available land-based storage options in major locations. Overall, VLCC rates dropped more than 50 percent to $15,000 per day, and the value of second-hand vessels plummeted, with a ten-year-old ship losing as much as 50 percent and older ones being only worth scrap iron.

The giant tanker operator Frontline reported major losses for the year, and its chief executive John Fredriksen pleaded with other tanker owners to scrap as many as 50 double-hull tankers to bring back market equilibrium. Owners and operators have resorted to traditional cost-saving strategies such as slow steaming. Studies show that a VLCC dropping average speed to 11 knots on the ballast leg from Asia back to the Middle East can save $16,000 per day. In general, according to ICAP Shipping, dropping speed by 1 knot, from the standard 14 to 13 knots, creates demand for 30 additional vessels. An additional drop of 1 knot would employ another 35 VLCCs.

Liner Market

Liner operators began the year with optimism, based on their remarkable 2010 turnaround from unprecedented losses suffered the previous year. There was a flurry of ambitious new-ship construction announcements early in the year, including the biggest-ever new order by Maersk Line for 20 Triple E mega containerships at $190 million each, discussed last year. However, with the supply of new tonnage continuing unabated, rates and utilization levels dropped, and freight rate per 20-foot-equivalent unit (TEU) fell 25 percent from 2010. In the severely affected Asia-Europe trade, rates dropped 65 percent. A mid-year raid on the offices of a dozen global carriers by EU antitrust inspectors investigating allegations of market abuse did not help morale.

Industry-wide, the emphasis was on defending market share and filling container slots at any cost. As a result, the Drewry report cites the industry as a whole losing $5.2 billion in 2011 (compared with the $20 billion profit in 2010). Industry leader Maersk Line lost $602 million in 2011, after earning a record $2.6 billion profit the previous year. CMA CGM lost $30 million after a profit of $1.6 billion in 2010. Chilean national carrier CSAV reported a loss of $1.24 billion. The list goes on. MISC Berhad, the Malaysian carrier, lost $405 million during the last nine months in 2011. Realizing it was no longer a relevant player, MISC left the market at an exit cost of $475 million.

While revenue shrank because of lower freight rates, operating costs continued to escalate, especially fuel. The average freight rate on a 40-foot container dropped from $3,064 to $2,828. Maersk lost $75 on each container it transported in 2011, whereas it had earned a profit of $384 each in 2010.

Consolidation in the liner market is at its highest level ever, with the top 20 carriers now controlling 84 percent of the market, say Alphaliner statistics. This is a 14 percent increase since 2000. There is a fragmented fringe sector outside the dominant players, but barriers to entry are becoming somewhat insurmountable. Some believe that by 2020, the number of relevant carriers will be fewer than ten.

Shipbuilding Market

A significant drop in the total order for new ships in 2011 indicates the prevailing

MAERSK LINE

Among the year's highlights, industry leader Maersk Line implemented a high-frequency, high-reliability service between key ports in Asia and Europe, including Bremerhaven (here with the *Ebba Maersk*, *Gudrun Maersk*, *Maersk Seoul*, and *Lars Maersk* all in port); launched a website for discussion of liner shipping of the future; and identified ways to improve environmental practices.

conservative market sentiment. Remarkably, despite this, new containerships and LNG ships ordered in 2011 surpassed 2010 numbers. The logic behind the latter seems rational, but increasing containership orders may be only speculative, or perhaps to erect effective (scale) barriers to market entry.

South Korean shipbuilders held off strong Chinese competition and earned close to 50 percent of all tonnages ordered, versus 30 percent for the Chinese. It is estimated that the cost of building new ships is 40 percent below what it was in 2008. There was considerable slippage in new-ship deliveries, with about one-fourth deferred for later delivery. A number of dry-bulk and tanker new orders were canceled despite financial penalties. In the containership sector alone, new-construction orders to the year 2015 amount to $57 billion, said Alphaliner. In tonnage, this represents one-third of the current containership fleet.

European shipyards continue to exit from merchant-ship construction, the latest casualty being the 92-year-old Odense Steel Shipyard, a wholly owned subsidiary of A. P. Moller Maersk. This premier shipbuilding facility, which built the *Emma Maersk* and other E-class Maersk ships, is now for sale, unable to withstand the competitive onslaught from Asian yards. VesselsValue.com reports that 39 percent of the total value of tankers, bulk carriers, and combination carriers were built in Japan, pointing to that nation's dominance in shipbuilding before the emergence of South Korea and China. South Korean–built ships constitute 30 percent in value, and Chinese-built 23 percent.

Cruise Market

The cruise sector enjoyed another banner year, increasing clientele in North America and Europe. The total fleet today consists of 350 vessels carrying upwards of 15 million passengers annually. Their innovative strategies, including amenity-rich new ships, focus on providing affordable cruises to a wide cross-section of the population. The market continues to be highly concentrated at ownership level, as well as brand level and ship level (for example, among the brands that Carnival Cruise Lines owns is Costa in Europe. Each owner also has a variety of ships).

The average number of passengers per cruise is now more than 2,500, which explains why more than 80 percent of new these ships built in the past five years are of megaships (meaning they have more than 2,000 berths). Despite the 13 January 2012 *Costa Concordia* shipwreck, to be discussed in next year's review, the sector remains robust—even though its image has worsened in the public eye.

GLOBAL UNLIMITED

Even though the 13 January 2012 *Costa Concordia* disaster has tarnished the cruise industry's image, more than 15 million vacationers annually continue to revel in affordable luxuries on megaships such as *Oasis of the Seas*.

The U.S. Merchant Marine

The somber global outlook on shipping permeated the domestic maritime ambience as well. On the optimistic side, the BG Group signed a 20-year deal to buy 3.5 million tons of LNG per year beginning in 2015. By 2020, the U.S.-Canada LNG export trade will be the fourth largest in the world, and shale gas will constitute 50 percent of the entire U.S. supply of natural gas.

Yet the whole year was rather unpleasant and somewhat discomforting for the traditional maritime sector, primarily driven by market uncertainties and adverse economic pressures. The stock market delisted eight U.S. carriers: American Commercial Lines, K-Sea Transportation Partners, Omega Navigation Enterprises, Horizon Lines, Ocean Freight, General Maritime, Trailer Bridge, and B+H Ocean Carriers. Several difficulties continued to plague key Jones Act carriers.

Jones Act Developments

In the trouble-afflicted U.S.–Puerto Rico Jones Act trade, three of the four carriers are in disarray. Horizon Lines, the biggest, has spent $32 million in litigation costs since 2008, in addition to $66 million in antitrust damage-settlement costs, and is now addressing a $750 million debt. Sea Star Lines is facing a $14.2 million criminal penalty in a price-fixing case, and Trailer Bridge is in Chapter 11 financial restructuring. This leaves Crowley Maritime as the only carrier in the Puerto Rican trade that remains unscathed. The Government Accountability Office is conducting a study on the impact of the Jones Act on Puerto Rico's economy, based on a request from the island's congressional representative.

The trans-Pacific service launched by Horizon Lines in December 2010 was terminated 11 months later, in November 2011. With that exit from the U.S.-Guam trade, Matson Navigation remains the sole operator there. Matson has split from its parent Alexander and Baldwin and plans further expansion in addition to its recent entry into the China trade. Its current assets include 17 Jones Act ships, 47,000 containers, a dedicated container terminal in Hawaii, a logistics arm, and a 35 percent stake in SSA Terminals.

The Maritime Administration sold the two Hawaiian high-speed superferries, *Huakai* and *Alakai*, to the U.S. Navy for $35 million. The agency acquired them when Hawaii Superferry defaulted on loans that MARAD had guaranteed. The two catamarans can carry 288 cars and 866 passen-

gers; it is expected that the Navy will use them to transport troops and equipment.

Maersk Line and Rickmers-Linie (America) formed a partnership called Maersk-Rickmers to carry break-bulk and project cargoes on two new U.S.-flag heavy-lift ships. The innovative marine-highways operator American Feeder Lines is seeking a waiver from the build-U.S. requirement until they can raise funds to construct ten ships in U.S. yards.

A MARAD-sponsored PriceWaterhouseCooper study found that the operating cost of U.S.-flag ships is 2.7 times more than that of foreign-flag ships, the highest difference in scale being crew costs. Wages account for 72 percent of the operating cost of a U.S.-flag containership, compared with 28 percent of a foreign-flag (68 percent versus 35 percent among ships of all types). The current top ten U.S.-flag shipowners in deadweight tons owned is shown in Figure 1.

Shipbuilding

Aker Philadelphia Shipyard signed a letter of intent for building two new Alaskan trade crude oil tankers with SeaRiver Maritime, Exxon-Mobile's domestic shipping subsidiary. The two Aframax Liberty-class tankers, 115,000 DWT with double hull, will be built in collaboration with Samsung Heavy Industries at a cost of $400 million and are due for delivery in 2014. They will transport Alaskan North Slope crude oil from Prince William Sound to the U.S. West Coast. This comes at a crucial time for Aker, given the delay and uncertainty with the American Feeder Lines' new construction plans for Jones Act coastal ships.

In December 2011, Hornbeck Offshore Service announced its $720 million plan to build 16 new-generation platform supply vessels at Gulf Coast shipyards. Earlier, Harvey Gulf International Marine ordered LNG-fueled PSVs at Trinity Offshore. Increased oil drilling in the U.S. Gulf and Alaskan regions has contributed to a major boost for the American niche market in shipbuilding.

Marine Highways Initiative

The Port of Stockton, California, has initiated a weekly container-on-barge service to the Port of Oakland. The Sacramento River franchise was of 11 corridors identified last year for its commercial potential. The port received a Transportation Investment Generating Economic Recovery grant as well as two regional ones to procure the gantry crane and two barges. The option promises to be a good alternative to the 72-mile, weight-restricted truck route to the Port of Oakland. It is estimated that four fully loaded containers on the barge will replace five weight-restricted ones transported by truck. The service will be competitive with trucking services, and no subsidies are involved.

Regulatory Developments

The U.S. Coast Guard commandant's final commentary on the 2010 Deepwater Horizon catastrophe specific to marine operations exonerated the Marshall Islands Registry and the two class societies involved: ABS and Det Norske Veritas. The joint investigation panel (Coast Guard and the Bureau of Ocean Energy Management, Regulation and Enforcement) placed most of the blame on BP. Rig owner Transocean, contractor Halliburton, and blowout-preventer designer Cameron were also found at fault. The panel emphasized the need for stronger, more comprehensive federal regulations—but no changes have been made as of yet.

In 2011, two more countries were added to the Coast Guard's list of terror-risk nations—Côte d'Ivoire and Comoros. They join the existing 13—Cambodia, Cameroon, Cuba, Equatorial Guinea, Guinea-Bissau, Indonesia, Iran, Liberia, Madagascar, Sao Tome and Principe, Syria, Timor-Leste, and Venezuela. Additional restrictions will be imposed on vessels entering the United States if they have visited any of these countries during their previous five port calls.

In June, the Merchant Marine Reserve program transitioned into the Strategic Sealift Officer Program. This supports national-defense sealift requirements and capabilities that are executed by the Military Sealift Command. It provides the Navy with officers that have expertise in sealift, maritime operations, and logistics, as well as mariner's licenses. The new initiative is expected to improve stewardship, integration, and opportunities for about 2,400 Navy Reserve officers. The program is expected to strengthen the current tradition and provide greater opportunities for service.

The Federal Maritime Commission conducted a study to examine the impact of the five-year-old European Union ban on liner conferences. The study did not provide definitive results, other than that shippers in general were not affected by the absence of conferences in European liner trades.

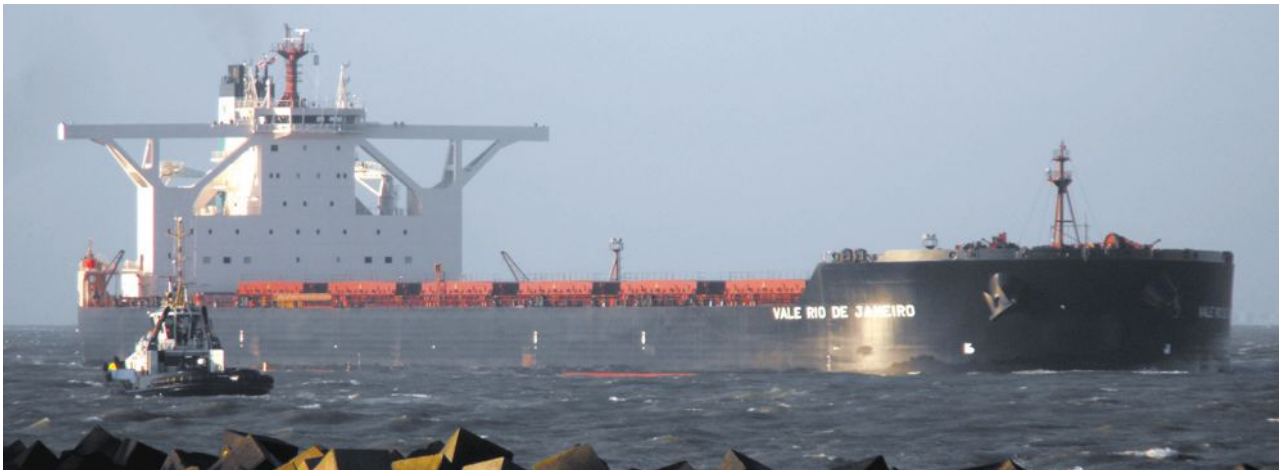
The House Transportation and Infrastructure Committee plans to review the huge surpluses in harbor-maintenance-tax collections. The estimated current surplus at the end of Fiscal Year 2012 is $6.9 billion. In 2010 alone, these funds grew by $1.3 billion, of which only $828.5 million was spent on dredging. The Association of American Port Authorities has been highly vocal about the current lethargy in port investment, in particular federal funding for dredging navigation channels.

Figure 1. Top 10 U.S. Shipowners

Rank	Owner	DWT	No. of Vessels
1	Overseas Shipholding	5,907,792	80
2	Navios Maritime Holdings	5,525,086	45
3	General Maritime Corp*	5,213,872	32
4	Genco Shipping & Trading	4,716,651	61
5	U.S. Government	3,994,763	368
6	Chevron Corp.	2,704,566	73
7	ExxonMobil Corp.	2,344,870	35
8	Eagle Bulk	2,263,375	42
9	Conoco Philips Marine	1,749,241	18
10	Foremost Maritime	1,233,229	9

*Filed for Chapter 11 Protection in November 2011.

SOURCE: LLOYD'S LIST JULY 2011



IMO (ROBERT SMITH)

World seaborne trade in dry-bulk commodities increased in 2011. New ships included giant Vale-max 400,000 DWT vessels intended to transport Brazilian iron ore to China. But even as Asian shipbuilding continues to grow, China opposes their berthing in Chinese ports. Here, the *Vale Rio de Janeiro* approaches Rotterdam in January 2012, carrying iron ore for German steelmakers.

Harbor-maintenance tax collection was also cited as a reason for container-cargo diversion to Prince Rupert, the new Canadian port 480 miles north of Vancouver, British Columbia. An eastbound trans-Pacific liner voyage is not only three to four days shorter in sailing time, but also $137 per container cheaper because Canada (and Mexico) does not levy this tax. Seven hundred and fifty thousand TEUs of U.S.-bound containers are presently transshipped through Canadian ports.

Unions and Protests

The International Longshoremen's Association and International Longshore and Warehouse Union (ILWU) are increasing ties and even reaching out to create global partnerships with foreign labor organizations, akin to the multinational orientation of carriers and shippers today. The 250-member Panama Canal Pilots Union has signed on as an ILWU affiliate. This is particularly noteworthy as it extends ILWU's reach to Panama well before the canal's scheduled expansion, and is likely to provide leverage during contract negotiations.

On 12 December 2011, protesters occupied many ports on the West Coast, in particular the Port of Oakland. This turned out to be ill-advised and poorly planned. The activities did not involve ILWU, but even if they had, shutting down ports that provide employment for thousands of blue-collar workers appears to be self-defeating. The protesters succeeded in stopping cargo-handling operations for a work shift, but otherwise the impact was minimal. The Association of American Port Authorities statistics show that West Coast ports generate $704 million in economic activity and account for "up to 260,000 person hours of employment and more than $9 million in wages" in a single day. Port services and activities generate $3 million in taxes daily.

International Developments

Iran Sanctions

Both the United States and European Union have enacted economic sanctions against Iranian oil exports. The EU's proposed ban against the third-party liability insurance of ships that carry Iranian oil will have far-reaching consequences apart from the intended outcome. Iran, second only to Saudi Arabia when it comes to oil exports, shipped close to 2.3 million barrels per day of crude in 2011. This is roughly the equivalent of one fully loaded VLCC that stands to lose gainful employment and further depress the market.

Iranian-owned tankers transported only 25 percent of their 2011 exports, for which they used 80 percent of their total carrying capacity. Ninety-five percent of oil tankers are insured on a mutual basis through the International Group of Protection and Indemnity Clubs. Without this coverage, tankers must either stop carrying Iranian oil or get the insurance elsewhere. Major owners such as Frontline, OSG, and Maersk have started canceling the carriage of Iranian oil. Intense lobbying is ongoing to convince the EU to relax its insurance ban on ships calling at Iranian ports and avoid the collateral damage from a total ban.

This measure would also impact several tankers beneficially owned by companies based in the EU. If the sanctions were extended against Iranian oil pumped into the Sumed pipeline, the effects would further extend to tankers operating in the Mediterranean market as well. Iran has threatened to close the Strait of Hormuz if punitive sanctions are enforced, which would be a direct violation of the UN Convention on the Law of the Sea.

Daily Maersk

Maersk Line identified three areas vital to meet future customer demands: unmatched reliability, ease of doing business, and best environmental performance. A website, changingthewaywethinkaboutshipping.com, was launched to discuss the future of liner shipping. In September 2011 the company announced Daily Maersk, a high-frequency, high-reliability service in its Europe-Asia trade. The ocean-borne "conveyor belt" is intended to help shorten supply chains and lower inventories.

The service connects four key ports in Asia—Ningbo, Shanghai, Yantian, and Tanjung Pelepas—with the three European gateways Felixstowe, Rotterdam, and Bremerhaven. Seventy large container ships will facilitate the seven-day-a-week premium service. If the promised delivery windows are not met, shippers will be compensated at a rate of $100 per container for one to three days of delay, and $300 for delays of four days or more except for reasons beyond the carrier's control. If successful, Maersk plans to expand Daily Maersk to other ports.

Other carriers are reacting competitively to Maersk's customer-focused initiative by consolidating their tonnage.

Examples include the two-year vessel-sharing agreement between Mediterranean Shipping and CMA CGM. The six other top carriers (APL, Hyundai Merchant Marine, Mitsui O.S.K. Lines, Hapag-Lloyd, NYK Line, and Orient Overseas Container Line) have created a new alliance of their own to collectively position themselves and enhance their overall global competitiveness.

Environmental Considerations

It has been understood for several years that ballast water may introduce potentially damaging invasive marine species. The only known way to eliminate this risk was to change the water well before reaching port, which would seriously impact ships' stability. Thus even after IMO member nations approved a Ballast Water Management Convention in 2004, no practical solution to the dilemma existed.

Several new ballast-water treatment systems have now been developed, and the convention is finally expected to get the required endorsement (30 nations with 35 percent of the combined world gross shipping tonnage) in 2012. The state of New York had intended to enforce its own version of a controversial rule that would have been 100 times more stringent than the international standard and could have effectively shut down shipping operations on the Saint Lawrence Seaway. The state's Department of Environmental Conservation recently changed its stance in favor of the more technically feasible national standard. This was enthusiastically welcomed by the maritime community.

Another environmental effort has been slow steaming, which lowers the emission of noxious fumes and saves on operating costs. A variation on this, "virtual arrival," made its mark in 2011. The idea is that virtual sailing saves money through improved efficiency, regardless of market conditions. The charterer and the shipowner enter into an agreement to slow down the ship if a delay is expected at the port of destination, without overriding the legal and monetary obligations defined in the original contract of carriage. The benefit comes in huge savings in fuel expenses, reportedly 40 percent on some trades, and is split between the charterer and the shipowner.

Currently, the International Maritime Organization (IMO) distinguishes three categories of potential emission-reduction measures: technical, operational, and market-based. The first of these includes use of more efficient engines, ship hulls, propellers, cleaner fuels, alternative fuels, and so on. Operational measures consist of speed optimization, optimized weather routing, and fleet development. Market-based measures encompass emission-trading schemes, carbon tax, and levy on fuel. The three categories are not necessarily mutually exclusive.

But the pace at which global efforts toward emission control are progressing is cause for serious concern, especially in the EU. Ten separate market-based measures have been under IMO review for two years, and analysis will not likely be ready for another two. The IMO and the UN Framework Convention on Climate Change did not reach a consensus on replacing the Kyoto Protocol at their 2011 meeting in Durban, South Africa, Platform for Enhanced Action. It is now feared that the EU will enact its own regional initiatives for shipping movements, similar to what it did with aviation in 2011. Several nations are opposed to this likely unilateral green initiative; trade organizations such as the International Chamber of Shipping and the Baltic and International Maritime Consultative Organization have also announced their opposition.

Meanwhile, on 1 January 2012, the global limit on maximum sulfur content in fuel oil used outside restricted emission-control areas was lowered to 3.5 percent. In all ECAs, maximum sulfur content will drop to 0.1 percent by 2015 (equivalent to gasoline or clean distillate) from the current level of 1 percent. This will cause huge increases in fuel costs for shipowners. By 2020 the global standard will be 0.5 percent maximum sulfur content, although this will be mitigated in part by the introduction of energy-efficiency measures.

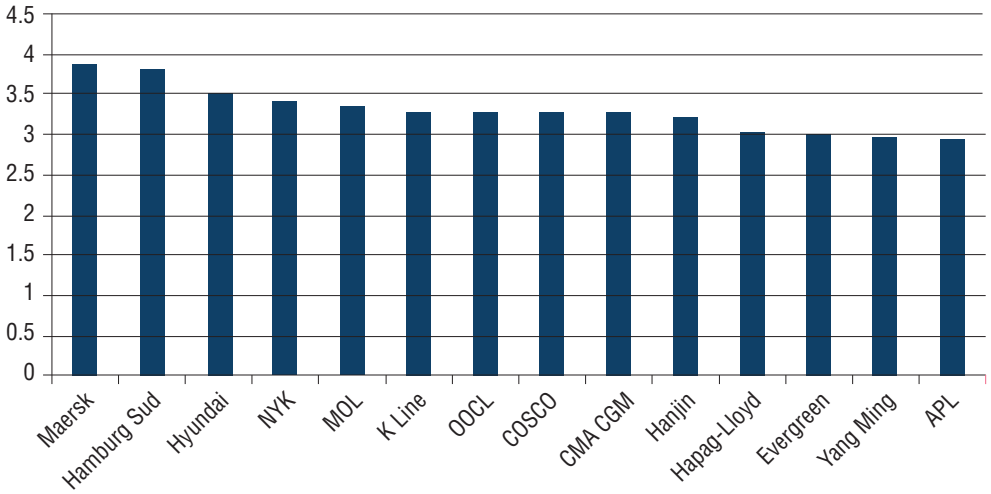
A NOAA study has determined that new clean-fuel regulations in California and voluntary slowdowns by shipping lines have lowered air pollution from coastal shipping movements by as much as 90 percent. Studies show significant drops in SO_2 levels, particulate matter, and black carbon levels. The first-ever direct comparison of the overall environmental footprints of the top 20 container carriers was released in 2011 summer (see Figure 2). It is expected that all shipping lines will lower their carbon footprints competitively.

Piracy

The most recent statistics indicate a clear swing in combating piracy at sea. Attacks dropped from 445 to 421 in 2011; hijacks from 53 to 42. Although Somali attacks increased from 210 in 2010 to 231 in 2011, many were repelled, and only 26 resulted in a hijack (versus 49 in 2010). A number of factors have contributed to the gains, notably key players' adoption of the latest best-management practices.

Figure 2. Container Carrier Environmental Benchmark

SOURCE: SEAINTEL MARITIME ANALYSIS 2011



Three naval coalitions now operate 18 warships on antipiracy duties, in addition to several other navies acting independently. Even on land, military forces and authorities from neighboring countries (and within Somalia) are making a concerted effort to root out this problem. Armed guards called vessel-protection teams are an increasing presence; UK-flagged ships are the latest to use them when sailing through piracy-prone areas. The only major maritime nations that do not allow them on board ships today are Greece, the Netherlands, and Japan. Companies offering security services have grown in both number and the scope of their activities, sometimes controversially as seen in the Februrary 2012 *Enrica Lexie* incident to be covered next year. They have formed their own trade association: Security Association for the Maritime Industry.

A study sponsored by One Earth Future Foundation found that world governments are spending about $1.3 billion to control piracy, with the shipping industry spending $5.5 billion (of which more than a billion was spent on security guards in 2011, and $2.7 billion on increasing speed). A total of $160 million was paid out in ransoms. According to Oceans Beyond Piracy, the economic cost of Somali piracy in 2011 was $6.6–6.9 billion, with the average ransom exceeding $5 million.

Mariner Issues

The Manila Amendments 2010, known as the Standardization of Training, Certification, and Watchkeeping, came into effect on 1 January 2012, with a five-year transition period until 1 January 2017. They constitute major revisions to the original version. In addition to a general tightening of educational and training requirements, the amendments include strict mandatory limits for alcohol consumption, at least ten hours of rest in any 24-hour period, and a minimum of 77 hours' rest in any seven-day period.

The minimum rest-hour requirements will be strictly enforced by the Port State Control officials. This comes in the wake of a recent report titled *Project Horizon: A Wake-Up Call*, sponsored by European maritime interests including the British Maritime and Coastguard Agency, Warsash Maritime Academy, Chalmers University in Sweden, and the seafarer union Nautilus International. So we now have empirical data for scientific assessment of seafarer fatigue, a causal factor in numerous maritime casualties. The research involved 90 volunteers over a 32-month period. Using bridge, engine-room, and cargo simulators, participants were subjected to weeklong, intense, high-pressure voyages on board a small product tanker to analyze their performance and reaction. Forty-five percent of those who worked on the midnight-to-0600 watch had at least one instance of microsleep (defined as a 30-second nap); 40 percent of those who kept the midnight-to-0400 watch were similarly affected.

Nautilus International, a union representing merchant-marine officers in the United Kingdom and Netherlands, found in a recent survey that more than 40 percent of all British and Dutch officers have experienced bullying, harassment, or discrimination at work in the past five years. This is roughly twice as high as in other sectors in those countries. The survey of 539 officers, including 8 percent women, found that the worst perpetrators were line managers, colleagues, and employers, in that order, and that the bullying was linked to nationality, racism, sexism, homophobia, and/or prejudice against older workers. Forty-one percent of female respondents had suffered sexual harassment, compared with 2 percent of males. Sixty-seven percent of all respondents did not believe their employer had appropriate workplace employee-protection policies. However, 75 percent felt their complaints had been addressed satisfactorily, and 81 percent enjoyed their seafaring careers.

Last year we reviewed the EU retraction of merchant-marine credentials issued by Georgia; in 2011 it was the turn of the Philippines, a nation that turns out 280,000 mariners every year. Unlike Georgia, the impact of a ban on Filipino mariners serving on board non-Philippine ships would have been catastrophic. Thankfully, the Philippines responded promptly to EU concerns about educational standards, and three allegedly inadequate institutions were shut down in October 2011.

Safety Issues

Current statistics from the International Union of Marine Insurance show a clear downward trend in total loss of vessels over 500 gross tons for more than 30 years. Between 1994 and 2010, total losses by number of vessels dropped from 175 to 75 per year and from 2,000,000 to 700,000 by tonnage. From 2001 to 2010, 74 lives and 135 ships of 500 gross tons or more were lost per year. Casualty statistics from Lloyd's List Intelligence Casualty Service for the first half of 2011 show an 18 percent decline from the previous year.

Even though a typical cargo-ship transit today is as predictable as a commute to the suburbs and the industry gets noticed for its failures rather than successes in facilitating global commerce, catastrophes continue to haunt us today. The containership *Rena*, operated by the Mediterranean Shipping Company, was speeding up to make the 0300 ETA at the port of Tauranga on 5 October 2011 when she hit a reef and caused New Zealand's worst environmental disaster on record. The ship's captain and navigating officer were attempting to pass 1.25 miles off the Astrolabe reef, less than half the recommended closest point of approach. The same ship had been cited for 17 serious safety violations in Australia barely ten weeks prior to the incident. Along with the ill-fated *Costa Concordia*, a state-of-the-art cruise ship sailing recklessly close to the Italian coast, it is clear we have a lot more to learn and a long way to go when it comes to maritime safety.

All indications are that 2012 will not be any easier for the global maritime industry. The World Bank has lowered its worldwide GDP growth forecast by 1.5 percent, and the International Monetary Fund predicts a significant decline in world trade. Advanced economies will continue their lackluster growth. Even the Chinese economy shows signs of cooling, which could be severely problematic as that nation has been the major driver of global commerce and shipping for almost a decade. New capacity will continue to enter all major trading markets, and ship-utilization levels will remain on the discomfort side. The tanker and liner markets in particular will be the most adversely affected, even without the geopolitical uncertainties ahead of us. Sadly, the collective sigh of relief for which the industry longs is unlikely to materialize quickly.

Dr. Kumar is a Master Mariner, Fulbright Scholar, and distinguished professor emeritus of international business and logistics. He is the founding dean of the Loeb-Sullivan School of International Business & Logistics at Maine Maritime Academy in Castine, Maine.

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COMMISSIONINGS

Date	Name (Hull No.)	Comments
1 Feb	*Resolute* (JHSV-5), *Courageous* (JHSV-7), and *Sacrifice* (JHSV-9)	Names announced by the U.S. Army.
1 Feb	*Maury* (AGS-66)	Contract for construction awarded to VT Halter Marine, Moss Point, MS.
12 Feb	*Anchorage* (LPD-23)	Launched at Huntington Ingalls Industries, Pascagoula, MS.
23 Feb	*William P. Lawrence* (DDG-110)	Delivered by Huntington Ingalls Industries, Pascagoula, MS.
17 Mar	*Montgomery* (LCS-8)	Construction contract awarded to Lockheed Martin for construction at Fincantieri Marinette Marine, Marinette, WI.
18 Mar	*Milwaukee* (LCS-5)	Named.
25 Mar	*Montgomery* (LCS-8) and *Jackson* (LCS-6)	Both named.
26 Mar	*Arlington* (LPD-24)	Christened at Huntington Ingalls Industries, Moss Point, MS.
1 Apr	*John P. Murtha* (LPD-26)	Construction contract awarded to Huntington Ingalls Industries, Moss Point, MS.
15 Apr	*Spruance* (DDG-111)	Delivered by General Dynamics, Bath Iron Works, Bath, ME.
16 Apr	*William McLaren* (T-AKE-12)	Christened and launched at General Dynamics National Steel and Shipbuilding, San Diego, CA.
21 Apr	USCGC *Bernard C. Webber* (WPB-1101)	Launched at Bollinger Marine, Lockport, LA. First of *Sentinel* class, which will replace the *Island* class.
7 May	*Michael Murphy* (DDG-112)	Christened at General Dynamics, Bath Iron Works, Bath, ME.
8 May	*Michael Murphy* (DDG-112)	Launched.
9 May	*Cesar Chavez* (T-AKE-14)	Keel laid at General Dynamics National Steel and Shipbuilding, San Diego, CA.
14 May	*Anchorage* (LPD-23)	Christened.
18 May	*Cesar Chavez* (T-AKE-14)	Named.
19 May	*William P. Lawrence* (DDG-110)	In Commission, Special at Moss Point, MS.
20 May	*Minnesota* (SSN-783)	Keel laid by Huntington Ingalls Industries, Newport News, VA.
27 May	Unnamed (AGOR-27)	Contract for construction awarded to Dakota Creek Industries Inc., Anacortes, WA.
28 May	*John F. Kennedy* (CVN-79)	Named.
4 June	*William P. Lawrence* (DDG-110)	In Commission, Full. Commissioning ceremony at Mobile, AL. Homeported at San Diego, CA.
15 June	*Finn* (DDG-113)	Construction contract awarded to Huntington Ingalls Industries, Moss Point, MS.
30 June	Unnamed (JHSV-6) and *Courageous* (JHSV-7)	Construction contract for both ships awarded to Austal USA, Mobile, AL.
15 July	*Little Rock* (LCS-9)	Named.
7 Aug	*California* (SSN-781)	Delivered by Huntington Ingalls Industries, Newport News, VA.
18 Aug	USCGC *Richard Etheridge* (WPC-1102)	Launched at Bollinger Marine, Lockport, LA.
1 Sep	*Spruance* (DDG-111)	In Commission, Special at Bath, ME.
2 Sep	USCGC *Stratton* (WMSL-752)	Ex-*Hamilton*. Delivered to the Coast Guard; In Commission, Special. Scheduled to be placed In Commission, Full on March 31, 2012 at Alameda, CA.

9 Sep	USCGC *James* (WMSL-754)	Contract for construction awarded to Huntington Ingalls Industries, Moss Point, MS.
12 Sep	*Spearhead* (JHSV-1)	Launched at Austal USA, Mobile, AL.
15 Sep	*Michael Monsoor* (DDG-1001)	Contract for construction for both ships and Unnamed (DDG-1002) awarded to General Dynamics, Bath Iron Works, Bath, ME.
22 Sep	USCGC *Kathleen Moore* (WPB-1109), USCGC *Joseph Napier* (WPB-1110), USCGC *William Trump* (WPB-1111), and USCGC *Isaac May* (WPB-1112)	Contract for construction awarded to Bollinger Marine, Lockport, LA.
26 Sep	*Ralph Johnson* (DDG-114)	Same as *Finn* (DDG-113).
26 Sep	*Rafael Peralta* (DDG-115)	Construction contract awarded to General Dynamics, Bath Iron Works, Bath, ME.
1 Oct	*Spruance* (DDG-111)	In Commission, Full at Key West, FL. Homeported at San Diego, CA.
7 Oct	*Choctaw County* (JHSV-2)	Name changed from *Vigilant*.
13 Oct	*Mississippi* (SSN-782)	Launched at General Dynamics, Electric Boat, Groton, CT.
14 Oct	*Montford Point* (MLP-1) and *John Glenn* (MLP-2)	Contract for construction awarded to General Dynamics National Steel Shipbuilding, San Diego, CA.
27 Oct	*Milwaukee* (LCS-5)	Keel laid at Fincantieri Marinette Marine, Marinette, WI.
29 Oct	*California* (SSN-781)	In Commission, Full at Norfolk, VA. Homeported at Groton, CT.
29 Oct	*Medgar Evers* (T-AKE-13)	Launched at General Dynamics National Steel Shipbuilding San Diego, CA.
8 Nov	*Choctaw County* (JHSV-2)	Keel laid at Austal USA, Mobile, AL.

U.S. NAVY (SHANNON RENFROE)

Chief of Naval Operations Admiral Jonathan Greenert exchanges greetings with an unidentified sailor on board the eighth *Virginia*-class submarine USS *California* (SSN-781) shortly after her commissioning ceremony 29 October 2011 in Norfolk, VA. The *California* is homeported in Groton, Connecticut.

12 Nov	*Medgar Evers* (T-AKE-13)	Christened.
17 Nov	*Zumwalt* (DDG-1000)	Keel laid at General Dynamics, Bath Iron Works, Bath ME.
29 Nov	USCGC *William Flores* (WPB-1103)	Same as USCGC *Bernard C. Webber (WPB-1101)*
3 Dec	*Mississippi* (SSN-782)	Christened.
15 Dec	*San Diego* (LPD-22)	Delivered to the Navy.

In Commission, Special—Date of commissioning and the ship entering the force level structure. Also the date the ship is delivered by the builder to the Navy and the ship's birthday. This status was created to legally ferry the ship from the builder's yard to the official commissioning site if it is at a location other than where the ship was built.

In Commission, Full—The date on which the commissioning ceremony was performed and the ship was fully received into the fleet.

Other than that the date has no significance. In the case of the Coast Guard, ships are placed in full commission after they reach their homeports.

RETURNED TO THE U.S. NAVY AND RECOMMISSIONED FOR FURTHER SERVICE

Date	Name (Hull No.)	Comments
30 Sep	*Zephyr* (PC-8), *Shamal* (PC-13), and *Tornado* (PC-14)	Returned from service with the U.S. Coast Guard. All three recommissioned for further U.S. Naval service; assigned to Little Creek, VA.

SHIPS DELIVERED TO THE MILITARY SEALIFT COMMAND AND PLACED IN SERVICE

Date	Name (Hull No.)	Comments
23 Feb	*Washington Chambers* (T-AKE-11)	Delivered to the Military Sealift Command and placed in service. Assigned to MSC Pacific Fleet and homeported at San Diego, CA.

NEW CONSTRUCTION SHIPS REJECTED BY THE NAVY AND RETURNED FOR REPAIRS

Date	Name (Hull No.)	Comments
26 May	*Howard O. Lorenzen* (AGM-25)	Ship conducted sea trials on 9 May, but was "reported as unsatisfactory" by the Board of Inspection and Survey (INSURV) for three discrepancies: 1) thrust bearing temperature; 2) steering; and 3) anchor. The ship's electric system, damage control, and aviation capabilities also were deemed unsatisfactory. Contract with VT Halter canceled; ship transferred to Kiewit Offshore Services, Corpus Christi, TX, for repairs and replacement of radar system. After a rerun of sea trials, she ship was accepted on 10 Jan 2012.

SHIPS ACQUIRED BY THE MILITARY SEALIFT COMMAND FOR OPERATION

Date	Name (Hull No.)	Comments
10 Dec	M/T *Maersk Peary* (T-AOT-5246)	Acquired by the MSC for hauling fuel for the DLA.
22 Dec	Sea-Based X-Band Radar (SBX-1)	Owned by the Defense Department Missile Defense Agency. The SBX-1 is a floating, self-propelled mobile radar station, designed to operate in heavy seas to detect incoming ballistic missiles. Nominally based at Adak, AK.
23 Dec	M/T *Dove*	Serves as tender to the to Sea-Based X-Band Radar system (above). Officially rated as an Anchor Handling Towing Vessel. Closely resembles the *Powhattan*-class ATFs.

U.S. NAVAL SHIP DEPLOYMENTS/RETURNS

Date	Name (Hull No.)	Comments
4 Jan	*Halyburton* (FFG-40)	Departed Mayport, FL, for the 6th Fleet.
5 Jan	*Bainbridge* (DDG-96)	Departed Norfolk, VA, for the 5th and 6th Fleets.
12 Jan	*Gunston Hall* (LSD-44)	Departed Little Creek, VA, for the 4th Fleet.
13 Jan	*Enterprise* (CVN-65)	Deployed from Norfolk, VA, for the 5th Fleet. Carried CVW-1 and was accompanied by USS *Leyte Gulf* (CG-55), USS *Barry* (DDG-52), USS *Bulkeley* (DDG-84), USS *Mason* (DDG-87), USNS *Arctic* (T-AOE-8), and an SSN.
14 Jan	*Robert G. Bradley* (FFG-49) *Steven W. Groves* (FFG-29)	Both departed Mayport, FL, for the 6th Fleet.

20 Jan	*Higgins* (DDG-76)	Departed San Diego, CA, for the 5th Fleet.
27 Jan	*La Jolla* (SSN-701)	Departed Pearl Harbor, HI, for deployment in the western Pacific.
1 Feb	*Reuben James* (FFG-57)	Departed on an independent western Pacific deployment.
2 Feb	*Ronald Reagan* (CVN-76)	Departed on deployment to the 7th Fleet from San Diego, CA. Carried CVW-14. Accompanied by USS *Chancellorsville* (CG-62), USNS *Henry J. Kaiser* (T-AO-187), and an SSN. The USS *Preble* (DDG-88) departed 9 Feb to join the Task Group.
7 Feb	*Gary* (FFG-54)	Deployed for a 4th Fleet counterdrug deployment.
22 Feb	*Boxer* (LHD-4) *Green Bay* (LPD-20) *Comstock* (LSD-45)	All departed San Diego, CA, for deployments to the 5th Fleet.
23 Feb	*Michigan* (SSGN-727)	Returned from a three month deployment.
23 Mar	*Bataan* (LHD-5) ARG	Deployed (early) from Norfolk, VA, to relieve USS *Kearsarge* (LHD-3) ARG off Libya. Carried the 2d Marine Expeditionary Unit; was accompanied by USS *Mesa Verde* (LPD-19) and USS *Whidbey Island* (LSD-41).
9 Mar	*Monterey* (CG-61)	Departed Norfolk, VA, for the 6th Fleet.
21 Mar	*Forest Sherman* (DDG-98)	Departed Norfolk, VA, for the 6th Fleet.
21 Mar	*Cleveland* (LPD-7)	Departed San Diego, CA for the 7th Fleet.
23 Mar	*Bataan* (LHD-5)	Departed Norfolk, VA, for deployment to the 5th and 6th Fleets.
23 Mar	*Mesa Verde* (LPD-19)	Departed Norfolk, VA, for deployment to the 6th Fleet.
23 Mar	*Whidbey Island* (LSD-41)	Departed Little Creek, VA, for deployment to the 5th and 6th Fleets.
24 Mar	*Abraham Lincoln* (CVN-72)	Returned to Everett, WA, from deployment with Task Group.
30 Mar	*Roosevelt* (DDG-80)	Departed Mayport, FL, for the 6th Fleet.
1 Apr	*Thach* (FFG-43)	Departed San Diego, CA, for the 4th Fleet.
1 Apr	*Boone* (FFG-28)	Departed Mayport, FL, for the 4th Fleet.
1 Apr	*Nitze* (DDG-94)	Departed Norfolk, VA, for the 4th Fleet.
14 Apr	*Howard* (DDG-83)	Departed San Diego, CA, for the 5th and 7th Fleets.
15 Apr	*Hopper* (DDG-70)	Departed Pearl Harbor, HI, for the 5th Fleet.
9 May	*Ford* (FFG-57)	Departed Everett, WA, for the 7th Fleet.
9 May	*Rentz* (FFG-46)	Departed San Diego, CA, for the 4th Fleet.
11 May	*George H. W. Bush* (CVN-77)	Commenced first deployment as part of Carrier Strike Group Two. Carried CVW-8; accompanied by USS *Gettysburg* (CG-64), USS *Anzio* (CG-68), USS *Truxtun* (DDG-103), and USS *Mitscher* (DDG-57).
13 May	*Philippine Sea* (CG-58)	Departed Mayport, FL, for the 5th Fleet.
16 May	*Kearsarge* (LHD-3) ARG	Returned to Norfolk, VA, from deployment. Carried the 26th MEU.
20 May	*Ramage* (DDG-61)	Departed Norfolk, VA, for the 6th Fleet.
1 June	*Chung-Hoon* (DDG-93)	Deployed from Pearl Harbor, HI, for the 7th Fleet.
12 June	*George Washington* (CVN-73)	Forward deployed. Departed Yokosuka, Japan, for summer deployment. Carried CVW-5. Accompanied by USS *Cowpens* (CG-63), USS *Curtis Wilbur* (DDG-54), USS *Fitzgerald* (DDG-62), and USS *McCampell* (DDG-85).
14 June	*Carr* (FFG-52) *Samuel B. Roberts* (FFG-58)	Both deployed from Mayport, FL, for the 6th Fleet.
20 June	*Reuben James* (FFG-57)	Returned to Pearl Harbor, HI.
24 June	*Port Royal* (CG-73)	Deployed from Pearl Harbor, HI, for the 5th Fleet.

8 July	*Vella Gulf* (CG-72)	Departed Norfolk, VA, for the 6th Fleet.
9 July	*O'Kane* (DDG-77)	Deployed from Pearl Harbor, HI, for the 5th Fleet.
25 July	*John C. Stennis* (CVN-74)	Deployed from San Diego, CA. Carried CVW-9. Accompanied by USS *Mobile Bay* (CG-53), USS *Pinckney* (DDG-91), USS *Kidd* (DDG-100), USS *Dewey* (DDG-105), USS *Wayne E. Meyer* (DDG-108), USNS *Yukon* (T-AO-202), and an SSN.
1 Aug	*Carney* (DDG-64)	Departed Mayport, FL, for the 5th Fleet.
10 Aug	*De Wert* (FFG-45)	Departed Mayport, FL, for the 5th Fleet.
18 Aug	*Gary* (FFG-54)	Returned to San Diego, CA.
31 Aug	*Ross* (DDG-71) and *Ramage* (DDG-61)	Returned to Norfolk, VA.
1 Sep	*Russell* (DDG-59)	Departed Pearl Harbor, HI, for 5th Fleet.
9 Sep	*Ronald Reagan* (CVN-76)	Returned to San Diego, CA.
16 Sep	*Thach* (FFG-43)	Returned to San Diego, CA.
19 Sep	*Donald Cook* (DDG-75)	Departed from Norfolk, VA, for the 5th Fleet.
26 Sep	*Ingraham* (FFG-61)	Deployed from Everett, WA, for the 4th Fleet.
1 Oct	*Oak Hill* (LSD-51)	Departed Little Creek, VA, for the 4th Fleet.
7 Oct	*The Sullivans* (DDG-68)	Departed Mayport, FL, for the 6th Fleet.
14 Nov	*Makin Island* (LHD-8) ARG	Deployed from San Diego, CA. Carried 11th MEU. Accompanied by USS *New Orleans* (LPD-18) and USS *Pearl Harbor* (LSD-52).
29 Nov	*Chafee* (DDG-90)	Departed Pearl Harbor, HI, for 7th Fleet.
29 Nov	*John Paul Jones* (DDG-53)	Departed San Diego, CA, for 5th Fleet.
30 Nov	*Carl Vinson* (CVN-70) *Halsey* (DDG-97)	Departed San Diego, CA, for the 5th Fleet.
1 Dec	*Bunker Hill* (CG-52)	Departed San Diego, CA, for the 5th Fleet.
5 Dec	*Momsen* (DDG-92)	Departed Everett, WA, for the 5th Fleet.
6 Dec	*Cape St. George* (CG-71)	Departed Pearl Harbor, HI, for the 5th Fleet.
6 Dec	*Sterret* (DDG-104)	Departed San Diego, CA, for the 5th Fleet.
8 Dec	*Abraham Lincoln* (CVN-72)	Departed from Everett, WA, for deployment ending at Norfolk, VA, prior to starting her RF/COH at Newport News, VA. Carried CVW-2. Accompanied by USS *Vicksburg* (CG-69), USS *Porter* (DDG-78), USS *Nitze* (DDG-94), USS *James E. Williams* (DDG-95), and USNS *Supply* (T-AOE-6).
10 Dec	*George H. W. Bush* (CVN-77)	Returned to Norfolk,VA, from the 5th and 6th Fleets.

CHANGE OF HOMEPORTS OR ASSIGNMENT OF U.S. NAVAL SHIPS

Date Officially Assigned	Name (Hull No.)	Comments
1 Jan	*West Virginia* (SSBN-736)	Assigned to homeport of Portsmouth Naval Shipyard, Portsmouth, NH, for overhaul.
1 Feb	*Memphis* (SSN-691)	Assigned to homeport of Portsmouth Naval Shipyard, Portsmouth, NH, for defueling and deactivation.
9 Feb	*Washington Chambers* (T-AKE-11)	Assigned to homeport of San Diego, CA.
1 Mar	*City of Corpus Christi* (SSN-705)	Assigned to homeport of Pearl Harbor, HI.
3 Mar	*Oklahoma City* (SSN-723)	Arrived at new homeport of Guam to replace the *City of Corpus Christi* (SSN-705) as a forward deployed submarine.
15 Mar	*Harpers Ferry* (LSD-49)	Assigned to homeport of San Diego, CA.
15 Mar	*Germantown* (LSD-42)	Assigned to homeport of Sasebo, Japan, relieving *Harpers Ferry* (LSD-49) as the forward deployed LSD.

U.S. NAVY (CASEY H. KYHL)

The amphibious dock landing ship USS *Germantown* (LSD-42) returns to Fleet Activities Sasebo, Japan, on 25 August 2011 after her summer patrol in the western Pacific. The *Germantown* was homeported in Sasebo as the forward-deployed relief for the USS *Harpers Ferry* (LSD-49) in March.

1 Apr	*Tennessee* (SSBN-734)	Assigned to homeport of Kings Bay, GA, upon completion of her overhaul at Portsmouth Naval Shipyard, Portsmouth, VA.
15 Apr	*Michael Murphy* (DDG-112)	Assigned to homeport of Pearl Harbor, Hawaii.
1 June	*Helena* (SSN-725)	Assigned to homeport of Norfolk, VA, after completion of overhaul.
18 July	*Wally Schirra* (T-AKE-8)	Homeported at Norfolk, VA.
11 Aug	*Pasadena* (SSN-752)	Assigned to homeport of Portsmouth Naval Shipyard, Portsmouth, NH, for overhaul.
15 Aug	*San Diego* (LPD-22)	Assigned to homeport of San Diego, CA.
1 Oct	Riverine Squadron Four	Assigned to homeport of Little Creek, VA.
18 Oct	*Zephyr* (PC-8), *Shamal* (PC-13), and *Tornado* (PC-14)	Assigned to homeport of Little Creek, VA, having been returned from service with the Coast Guard.
29 Oct	*California* (SSN-781)	Assigned to homeport of Groton, CT.
1 Dec	*Virginia* (SSN-774)	Same as *California* (SSN-781).
27 Dec	*Pittsburgh* (SSN-720)	Same as *California* (SSN-774).
30 Dec	*Arlington* (LPD-24)	Assigned to homeport of Norfolk, VA.

ADMINISTRATIVE SURFACE COMMAND CHANGES

Date	Command Name	Comments
14 Mar	Military Sealift Command	The following commands changed: a) Commander Sea Logistics Command, Atlantic, to Commander, Military Sealift Command Atlantic. b) Commander, Sea Logistics, Pacific, to Commander, Military Sealift Command, Pacific. c) Commander, Sea Logistics, Central, to Commander, Military Sealift Command, Central. d) Commander, Sea Logistics, Europe, to Commander, Military Sealift Command, Europe. e) Commander, Sea Logistics, Far East, to Commander, Military Sealift, Command, Far East.
1 Aug	Mine Countermeasures Squadron Two	Renamed Mine Countermeasures Squadron Three.
30 Sep	United States 2nd Fleet	Disestablished. Roles and responsibilities realigned and merged with Commander, U.S. Fleet Forces Command.

U.S. NAVY

The U.S. 2nd Fleet's 65-year history came to a close on 30 September 2011 in disestablishment ceremonies at Norfolk, Virginia. Many of the fleet's assets, personnel, and responsibilities were merged into the new Fleet and Joint Operations organization of Commander, U.S. Fleet Forces.

1 Oct	Riverine Squadron Four (Composite)	Established and homeported at Little Creek, VA. (Disestablished in February 2012.)
14 Dec	Carrier Strike Group Nine	Permanent duty station changed from Everett, WA, to San Diego, CA, and reassigned from USS *Abraham Lincoln* (CVN-72) to USS *Ronald Reagan* (CVN-76).
30 Dec	Carrier Strike Group Seven	Deactivated.

DECOMMISSIONINGS

Date	Name (Hull No.)	Comments
4 Feb	*Los Angeles* (SSN-688)	Placed out of commission upon completion of recycling at Puget Sound, WA.
28 Mar	USCGC *Hamilton* (WHEC-715)	Decommissioned at Alameda, CA. Sold to Philippines.
29 Mar	USCGC *Chase* (WHEC-718)	Decommissioned at Alameda, CA. Sold to Nigeria.
31 Mar	*Nassau* (LHA-4)	Decommissioned at Norfolk, VA. To be stricken.
1 Apr	*Memphis* (SSN-691)	Inactivation ceremony at New London, CT. Placed In Commission, Special on 7 Apr for inactivation.
21 Apr	*Jarrett* (FFG-33)	Decommissioning ceremony at San Diego, CA. Formally decommissioned 26 May and stricken.
29 June	*Philadelphia* (SSN-690)	Decommissioned at Groton, CT. To be stricken and recycled.
29 June	*Dubuque* (LPD-8)	Decommissioned at San Diego, CA. Placed in reserve at the Bremerton, WA, inactive ships maintenance facility.
29 July	*Doyle* (FFG-39)	Decommissioned at Mayport, FL.
30 Sep	*Cleveland* (LPD-7)	Same as *Dubuque* (LPD-8).

SHIPS/CRAFT PLACED OUT OF SERVICE

Date	Name (Hull No.)	Comments
13 Jan	*Kiska* (T-AE-35)	Stricken for disposal.
7 Apr	*Shasta* (T-AE-33)	Same as *Kiska* (T-AE-35).
29 Mar	*Richard G. Matthiesen* (T-AOT-1124)	Placed out of service and transferred. to the Maritime Administration for layup.
27 Sep	*Massapequa* (YTB-807)	Based in Japan. Placed out of service. To be stricken and disposed of.
27 Sep	*Wenatchee* (YTB-808)	Placed out of service. To be stricken and disposed of.
27 Sep	*Catahecassa* (YTB-828)	Same as *Wenatchee* (YTB-808).
27 Sep	YC-1407	Placed out of service. To be stricken and disposed of.
27 Nov	YON-280	Placed out of service. To be stricken and disposed of.
15 Dec	IX-514	Ex-YFU-79. Unofficially known as "*Baylander*" and used as a helicopter training craft. Placed out of service. To be disposed of.
15 Dec	YC-1068	Same as YC-1407.

SHIPS/CRAFT REACQUIRED BY THE U.S. NAVY

Date	Name (Hull No.)	Comments
14 May	*Oriole* (MHC-55)	Reacquired by the Navy for transfer to VSE Corp. for modernization and refit prior to transfer to Taiwan in 2012.
2 June	*Falcon* (MHC-59)	Same as *Oriole* (MHC-55).

SHIPS/CRAFT TRANSFERRED TO OTHER GOVERNMENT/ NON-GOVERNMENT AGENCIES

Date	Name (Hull No.)	Comments
10 Aug	*Arthur W. Radford* (DD-968)	Transferred to the State of Delaware in 2010 for use as an artificial fishing reef, scuttled 26 miles in 70 feet of water off Indian River Inlet, DE. Damaged by Hurricane Irene three weeks after vessel scuttled.

SHIPS/CRAFT TRANSFERRED TO THE MARITIME ADMINISTRATION (MARAD)

Date	Name (Hull No.)	Comments
28 Apr	*Nassau* (LHA-4)	Transferred to the Maritime Administration Reserve Fleet at James River, VA.
14 July	*Richard G. Matthiesen* (T-AOT-1124)	Transferred to the Maritime Administration Reserve Fleet at Beaumont, TX, for layup. Rated "militarily useful."

SHIPS/CRAFT STRICKEN FROM THE NAVAL VESSEL REGISTER (NVR)

Date	Name (Hull No.)	Comments
4 Feb	*Los Angeles* (SSN-688)	Stricken upon completion of recycling.
13 Apr	YON-98	Stricken and disposed of.
29 Apr	YOGN-115	Same as YON-98.
29 Apr	YON-287	Same as YON-98.
26 May	*Jarrett* (FFG-33)	Stricken. Available for Foreign Military Sales (FMS).
29 July	*Doyle* (FFG-39)	Same as *Jarrett* (FFG-33).
27 Sep	IX-545	Ex-*Waxahachie* (YTB-814). Fitted with experimental propulsion system. Stricken and disposed of.
27 Sep	YP-696	Stricken and disposed of.

NUCLEAR-POWERED SURFACE SHIPS AND SUBMARINES IN THE NAVY RECYCLING PROGRAM

Ship Name (Hull No.)	Recycling Start	Completion
Long Beach (CGN-9)	13 Oct 2013[1]	—
Narwhal (SSN-671)	1 Oct 2014[1]	—
Drum (SSN-677)	1 Oct 2009	30 Nov 2011[1]
Los Angeles (SSN-688)	4 Feb 2011[1]	In Progress
Philadelphia (SSN-690)	1 Oct 2018[1]	—
Memphis (SSN-691)	1 Oct 2017[1]	—
Omaha (SSN-692)	30 Sep 2010[1]	In Progress
Cincinnati (SSN-693)	1 Oct 2010[1]	In Progress
Groton (SSN-694)	1 Oct 2012[1]	—
Birmingham (SSN-695)	1 Oct 2012[1]	—
New York City(SSN-696)	1 Oct 2011[1]	In Progress[1]
Indianapolis (SSN-697)	1 Oct 2013[1]	—
Bremerton (SSN-698)	17 May 2017[1]	—
Jacksonville (SSN-699)	20 Feb 2017[1]	—
Dallas (SSN-700)	1 Oct 2017[1]	—
LaJolla (SSN-701)[2]	1 Dec 2014[1]	—
Phoenix (SSN-702)	1 Oct 2013[1]	—
Baltimore (SSN-704)	1 Oct 2012[1]	—
City of Corpus Christi (SSN-705)	30 Sep 2015[1]	—
Albuquerque (SSN-706)	21 Oct 2015[1]	—
Portsmouth (SSN-707)	1 Oct 2015	—
Minneapolis-St. Paul (SSN-708)	1 Oct 2016	—
Hyman G. Rickover (SSN-709)	1 Oct 2016	—
Augusta (SSN-710)	1 Oct 2019[1]	—
San Francisco (SSN-711)[2]	1 Mar 2017[1]	—
Atlanta (SSN-712)	1 Oct 2014	—
Houston (SSN-713)	5 Jan 2016[1]	—
Norfolk (SSN-714)	1 Oct 2018[1]	—
Buffalo (SSN-715)	5 May 2017[1]	—
Salt Lake City (SSN-716)	1 Oct 2016[1]	—
Providence (SSN-719)	1 Mar 2018[1]	—
Pittsburgh (SSN-720)	14 Nov 2019[1]	—

NOTES
1. Revised data.
2. USS *La Jolla* (SSN-701) and USS *San Francisco* (SSN-711), will be converted to Moored Nuclear Training Ships, replacing ex-*Daniel Webster* (SSBN-626) and ex-*Sam Rayburn* (SSBN-635), at Charleston, SC.

The nuclear-powered ship and submarine recycling program is responsible for the dismantling and disposal of decommissioned nuclear-powered submarines (SSN/SSBN) and cruisers (CGN). All nuclear-powered ship/submarine dismantling is done at the Puget Sound Naval Shipyard, Bremerton, Washington. Before beginning inactivation availability, the vessel is placed in a "stand down" status. That allows for defueling the nuclear reactor(s), de-energizing and draining ship systems and removing any equipment needed for reuse in the Fleet.

Decommissioning and striking from the Naval Vessel Register takes place after defueling is completed. The removed nuclear fuel is sent to Arco, Idaho, for reprocessing.

Inactivation is usually performed at Puget Sound, but can be done at any nuclear capable shipyard, such as Portsmouth Naval Shipyard at New Hampshire. Several "boats have been inactivated there because of the work backlog at Puget Sound. When that is done the hull must be prepared for open tow to Bremerton. In some cases hulls have to be prepared for long-term storage because of the backlog. An example of this is the hulk of ex-*Long Beach* (CGN-9). For ships/submarines inactivated at Puget Sound the dismantling usually takes place concurrently with the inactivation availability. Hull recycling is accomplished by removing all remaining equipment, cutting the hull into manageable pieces, removing and disposing of hazardous materials, and the declassification and demilitarization of material/ equipment to be scrapped. The HY-80 steel and other scrap metals are sold for recycling. The reactor compartments are "packaged" and shipped to Hanford, Washington, where they will be buried.

The average cost in Fiscal Year 2012 dollars to decommission and recycle each CGN is $101.3 million, and for each SSN it is $61.4 million.

All future "Recycling Start Dates" are projected, as of April 2012.

SHIPS/CRAFT TRANSFERRED TO FOREIGN COUNTRIES

Date	Recipient	U.S. Navy Name (Hull No.)	Foreign Name (Hull No.)	Method of Transfer
13 May	Philippines (WHEC-715)	USCGC *Hamilton* (PF-15)	*Gregorio De Pilar*	Sale

(Replaces RPS *Rajah Humabon* (PF-11) (ex-USS *Atherton* [DE-169]) as flagship of the navy. USCGC *Dallas* (WHEC 716) of this class to be transferred in May 2012).

13 May	Nigeria	USCGC *Chase* (WHEC-718)	*Aradu* (F-90)	Sale

(Replaces the old MEKO Classs frigate Aradu (F-89).)

READY RESERVE FORCE (RRF) SHIPS

Date	Name (Hull Type)	Comments
Additions (since 1 January 2012)		
NONE.		
Deletions (since 1 January 2012)		
28 Feb	M/V *Cape Jacob* (T-AK-5029)	Transferred to the RRF from the Military Sealift Command. Berthed at the Maritime Reserve Fleet at Suisun Bay, CA. Previously employed for several years with the Maritime Prepositioning Force (MPF) at Diego Garcia. Subsequently reduced to regular Maritime Reserve (NDRF).

SHIPS DONATED FOR USE AS MUSEUMS

Date	Name (Hull No.)	Comments
6 Sep	*Iowa* (BB-61)	Transferred to the Pacific Battleship Center, Los Angeles, CA, for permanent berthing and display as a museum and memorial. Departed Maritime Reserve Fleet on 27 Oct under tow at Suisun Bay, CA, for San Pedro, CA. Scheduled to be open to the public on 4 July 2012. With the transfer of this ship all *Iowa*-class battleships are now museums.

FORMER NAVAL SHIPS DISPOSED OF BY THE NAVY/ MARITIME ADMINISTRATION

Date	Name (Hull No.)	Comments
24 Mar	*Taluga* (AO-62)	Dismantlement completed.
13 Apr	*Clamp* (ARS-33) and *Bolster* (ARS-38)	Both sold to Marine Metal Inc., Brownsville, TX, for $462,223.31 Both departed under tow for Brownsville on 23 May.
12 July	*Benjamin Isherwood* (AO-191)	Never completed. Sold by original U.K. purchaser to International Shipbreaking Ltd., Brownsville, TX. Departed under tow from the Maritime Administration Reserve Fleet at James River, VA.
19 July	*Henry Eckford* (AO-192)	Same as *Benjamin Isherwood* (AO-191).

28 July	*Point Defiance* (LSD-31)	Originally sold 29 Sep 1995 to Pegasus Inc. for scrapping. Repossessed by the Navy on 1 July 1997 when the company defaulted on the scrapping contract. Laid up at the Maritime Reserve Fleet at Suisun Bay, CA. Sold for $578,539 to All Star Metals, Brownsville, TX, for scrapping. Departed under tow on 7 September for the Allied Recycling Co. at the former Mare Island Naval Shipyard for the cleaning of marine growth and loose paint before departing for Brownsville, TX. Departed in early October under tow for Brownsville.
9 Aug	*Sperry* (AS-12)	Sold by the Maritime Administration for $1,526.726 to Esco Marine, Brownsville, TX, for scrapping. Towed from Suisun Bay, CA, reserve fleet on 28 September for Allied Defense Recycling at the former Mare Island Naval Shipyard for cleaning of marine growth and loose paint before departing for Esco Marine. Departed Mare Island on 17 October under the tow of the tug *Rachel* for Brownsville, TX.
17 Aug	*Sanctuary* (AH-17)	Originally sold in the mid-1990s to Project Life Foundation, Baltimore, MD, for resale as scrap. Laid up at the Locust Point Marine Terminal, Baltimore, MD. When pier fees and other fees for the pier mooring were not paid, she was sold on 21 August 2007 at public auction for $50,000. Resold in mid-2011 to Esco Marine, Brownsville, TX, for scrapping.
18 Aug	*Thomaston* (LSD-28)	Sold on 28 July to All Star Metals, Brownsville, TX. for $894,708. Departed Maritime Administration Bay Reserve Fleet at Suisun Bay, CA, under tow.
24 Aug	*H.H. Hess* (AGS-38)	Scrapping completed.
14 Oct	*Reclaimer* (ARS-42)	Scrapping completed.
7 Nov	YON-280	Sold for $384,000.
17 Nov	*Bolster* (ARS-38)	Scrapping completed.
23 Nov	*Tulare* (LKA-112)	Sold for $1,138,000 to International Shipbreaking Ltd., Brownsville, TX. Departed the Maritime Reserve Fleet at Suisun Bay, CA, on 14 December for Allied Defense Recycling at the former Mare Island Naval Shipyard for cleaning of marine growth and loose paint before departing under tow for Brownsville, TX, on 30 December.

U.S. NAVY (SEAN FUREY)

Filipino sailors embarked on the USS *Reuben James* (FFG-57) check out their navy's newest ship, the *Gregorio del Pilar*, ex-USCG *Hamilton* (WHEC-715) as the ships operate in the Pacific Ocean in July 2011, about two months after the vessel was sold to the Philippines.

2010 ERRATA

Date	Name (Hull No.)	Comments
2 Feb 2010	IX-515 (*"Sea Flyer")*	Ex-USN SES-110BH, ex-USCGC *Dorado* (WSES-1), ex-USN SES-200). Name unofficial. Empty hull sold 31 August 2010 for $20,000.
4 Feb 2010	*Los Angeles* (SSN-688)	Decommissioning ceremony held on 23 January 2010 at San Pedro, CA. Placed In Commission, Special on 4 February 2010 at Puget Sound Naval Shipyard.

10 Mar 2010	YON-90	Stricken. Disposed of.
2 July 2010	YON-329	Stricken. Reclassified 8 July 2010 as plant equipment and retained as a breasting barge at Inactive Ship Facility, Pearl Harbor, HI.
2 July 2010	YP-702	Formally a training ship at the U.S. Naval Academy, Annapolis, MD. Stricken and to be disposed of.
6 July 2010	YON-262	Stricken. Sold on 26 July 2010.
19 July 2010	YRDH-7	Stricken and to be disposed of.
18 Aug 2010	YON-308	Stricken. Sold on 5 May 2010 for $234.000.
15 Dec 2010	M/T *Evergreen State* AOT-5205)	Acquired for hauling fuel for the Defense Logistics Agency (DLA). Sister ship to M/T *Empire State.*

AIRCRAFT CARRIER AIR-WING ASSIGNMENTS AND COMPOSITION AS OF 2 APRIL 2012

Air Wing/Fleet/Ship Assignment

CVW-1 Atlantic *Enterprise* (CVN-65)
VFA-211[1] "Fighting Checkmates" (11 F/A-18F)
VMFA-251 "Thunderbolts" (10 F/A-18C)
VFA-136 "Knighthawks" (12 F/A-18E)
VFA-11 "Red Rippers" (11 F/A-18E)
VAW-123 "Screwtops" (4 E-2C)
VAQ-137 "Rooks" (2 EA-6B [ICAP-II, Block 89] 1 EA-6B [ICAP-III, Block 2])
VRC-40 (Det. 1) "Rawhides" (2 C-2A)
HS-11 "Dragonslayers" (7 HH-60H/SH-60F)

CVW-2 Pacific *Abraham Lincoln* (CVN-72)
VFA-2 "Bounty Hunters" (12 F/A-18F)
VFA-151 "Vigilantes) (10 F/A-18C)
VFA-137 "Kestrels" (12 F/A-18E)
VFA-34 "Blue Blasters (12 F/A-18C)
VAW-116 "Sun Kings" (4 E-2C)
VAQ-131 "Lancers" (3 EA-6B [Block 89A] 2 EA-6B [ICAP II, Block 3D])
VRC-30 (Det. B) "Providers" (2 C-2A)
HSC-12 "Golden Falcons" (7 SH-60F/HH-60H)
HSM-77 (Det. 4) "Saberhawks" (8 SH-60B)

CVW-3 Atlantic *Harry S. Truman* (CVN-75)
VFA-32 "Swordsmen" (12 F/A-18F)
VFA- 37 "Bulls" (11 F/A-18C)
VMFA-312 "Checkerboard" (10 F/A-18C)
VFA-105 "Gunslingers" (12 F/A- 8E)
VAW-126 (Group II) "Seahawks" (3 E-2C)
VAQ-130 "Zappers" (1 EA-6B [CAP II, Block 4], 2 EA-6B [ICAP II, Block 3D] 1 EA-6B [Block 89A])
VRC-40 (Det. 4) "Rawhides" (2 C-2A)
HSC-7 "Dusty Dogs" (7 MH-60S)
HSM-74 "Swamp Foxes" (8 MH-60R)

CVW-5 Pacific *George Washington* (CVN-73)
VFA-102 "Diamondbacks" (12 F/A-18F)
VFA-115 "Eagles" (12 F/A-18E)
VFA-195 "Dam Busters" (10 F/A-18E)
VFA-27 "Royal Maces" (12 F/A-18E)
VAW-115 "Liberty Bells" (4 E-2C)
VAQ-141 "Shadowhawks" (5 EA-18G)
VRC-30 (Det. E) "Providers" (2 C-2A)
HS-14 "Chargers" (12 HH-60F/SH-60F)

CVW-7 Atlantic *Dwight D. Eisenhower* (CVN-69)
VFA-143 "Pukin' Dogs" (12 F/A-18E
VFA-103 "Jolly Rogrs" (12 F/A-18F)
VFA-131 "Wildcats" (10 F/A-18C)
VFA-83 "Rampagers" (10 F/A-18C)
VAW-121 "Bluetails" (4 E-2C)
VAQ-140 "Patriots" (4 EA-6B [ICAP-III, Block 2])
VRC-40 (Det.3) "Rawhides" (2 C-2A)
HS-5 "Nightdippers" (7 HH-60F/SH–60F)

CVW-8 Atlantic *George H. W. Bush* (CVN-77)
VFA-213 "Black Lions" (12 F/A-18F)
VFA-31 "Tomcatters" (12 F/A-18E)
VFA-15 "Valions" 10 F/A-18C)
VFA-87 "Golden Warriors" (10 F/A-18A)
VAW-124 "Bear Aces" (4 E-2C)
VAQ-141[2] "Shadowhawks" (4-6 EA-18G)
VRC-40 (Det. 2) "Rawhides" (2 C-2A)
HSC-9 "Tridents" (7 MH-60S)
HSM-70 (Det.) "Spartans" (11 MH-60R)

CVW-9 Pacific *John C. Stennis* (CVN-74)
VFA-41 "Black Aces"(12 F/A-18F)
VFA-14 "Tophatters" (12 F/A-18E)
VFA-97 "Warhawks" (10 F/A-18C
VFA-192 "Golden Dragons (10 F/A-18C)
VAW-112 "Golden Hawks" (4 E-2C)
VAQ-133 "Providers" (4 EA-6B [ICAP-III, Block 2])
VRC-30 (Det. E) "Providers" (2 C-2A)
HSC-8 "Eightballers" (12 MH-60S)
HSM-71 "Raptors"(11 MH-60R)

CVW-11 Pacific *Nimitz* (CVN-68)
VFA-154 "Black Knights" (12 F/A-18F)
VFA-146 "Blue Diamonds" (10 F/A-18C)
VFA-147 "Argonauts" (12 F/A-18E)
VMFA-323 "Death Rattlers" (10 F/A-18C)
VAQ-138 "Yellow Jackets" (5 EA-18G)
VRC-30 (Det. C) "Rawhides" (2 C-2A)

HSC-6 “Indians” (7 HH-60F/SH-60F)
HSM-75 (Det.) “Spartans” (11 MH-60R)

CVW-14[3] Pacific *Ronald Reagan* (CVN-76)
VFA-113 “Stingers” (10 F/A-18C)
VFA-22 “Fighting Redcocks” (12 F/A-18/F)
VFA-115 “Eagles” (12 F/A-18E)
VFA-25 “Fist of the Fleet”(12 F/A-18C)
VAW-113 “Black Eagles” (4 E-2C)
VAQ-139 “Cougars” (5 EA-18G)
VRC-30 (Det. C) “Providers” (2 C-2A)

CVW-17 Pacific *Carl Vinson* (CVN-70)
VFA-81 “Sunliners” (12 F/A-18E)
VFA-22 “Fighting Redcocks” (12 F/A-18F)
VFA-113 “Stingers” (10 F/A-18C)
VFA-25 “Fist of the Fleet” (10 F/A-18C)
VAW-125 “Tiger Tails” (4 E-2C)
VAQ-134 “Garudas” (4 EA-6B [ICAP-III, Block 2])
VRC-40 (Det. 5) “Rawhides” (2 C-2A)
HS-15 “Red Lions” (7 HH-60F/SH–60F)

NOTES
General:
VFA-94 (“Mighty Shrikes”) and VFA-97 (War Hawks”) flying F/A-18C (Night) and F/A-18C aircraft, respectively, are attached to the Marine Corps under the Unit Deployment Program (UDP). The UDP was designed by the Commandant of the Marine Corps to reduce the number of unaccompanied tours and improve unit continuity and provide for the deployment of units to the western Pacific for approximately six months—eliminating the 12-month permanent change of station assignments for personnel assigned to these.

The contract for the RF/COH of *Theodore Roosevelt* (CVN-71) was awarded on Aug. 26, 2009 and she arrived at Northrop Grumman Newport News Shipyard on 29 August 2009 to begin her RF/COH.
With the plan to place *Enterprise* (CVN-65) In commission, Special, in December 2012 for inactivation, three years before her replacement, *Gerald R. Ford* (CVN-79), is completed in FY 2015, the carrier force level will drop to nine. Ideally, as repeated by various administrations, 15 active carriers are needed to meet all U.S. security obligations and other contingencies.
All active air wings have a fleet logistics support squadron (VRC) detachment assigned when deployed. These detachments are not permanently assigned to the air wing and do not operate with air wings when not deployed.
Specific:
1. VFA-211 in CVW-1 has never been officially classified as a VFA by an OPNAVNOTICE 3111. Officially still is a VF squadron, technically she is a VFA squadron, as she flies Super Hornet (F/A-18F) aircraft and is employed as such.
2. Transferred to CVW-5 in FY 2012 after transitioning to the Growler (EA-18G). Replacement not known at this time.
3. See entry on next page about CVW-14 and her disestablishment and reactivation.

NAVY AND MARINE CORPS AVIATION CHANGES

Date	Designation (Nickname)	Comments
17 Dec 2010	VT-4 “War Bucks”	Deactivated.Was based at Pensacola, FL.
31 Jan	VFA-125 “Flying Eagles”	Disestablished as the F/A-18C Fleet Replacement Squadron (FRS). All duties and personnel transferred to VFA-122, now the FRS for the F/A-18E and F.

U.S. NAVY (JAMES R. EVANS)

Air Crewman Second Class Cory Merritt of Helicopter Antisubmarine Squadron 15 (HS-15) guides the pilots of an HH-60F Sea Hawk helicopter retrieving cargo from the deck of the fast combat support ship USNS *Bridge* (T-AOE-10) during a replenishment at sea with the carrier USS *Carl Vinson* (CVN-70). The "Red Lions" of HS-15 are part of the *Vinson*'s air wing.

1 Feb	HSL-43 "Battle Cats"	Reclassified as Helicopter Maritime Strike Squadron (HSM) 43.
15 Feb	HSL-44 "Swamp Foxes"	Reclassified as HSM-44.
1 Mar	HMM-165 "White Knights"	Reclassified Marine Medium Tiltrotor Squadron 165 (VMM-165), flying MV-22Bs. Based at MCAS Miramar, CA.
1 Mar	HSM-78 "Blue Hawks"	Established as HSM-78. Homeported at San Diego, CA.
1 Mar	HSL-42 "Proud Warriors"	Reclassified as HSM-42. Permanent duty station changed to Jacksonville, FL.
1 Apr	CVW-14	Deactivated, effective 30 November. Decision overruled by Secretary of Defense; air wing ordered restored to full operational duty on 20 March 2012. At time of deactivation the air wing comprised the squadrons listed on previous page.
15 Apr	HS-7 "Shamrocks"	Reclassified Helicopter Sea Combat Squadron 7 (HSC-7). Permanent duty station was changed from Jacksonville, FL, to Norfolk, VA.
17 May	VFA-195 "Dambusters"	Squadron transitioned from the Hornet (F/A-18C) to the Super Hornet (F/A-18E) this date.
1 June	HSL-45 "Wolfpack"	Reclassified as HSM-45.
1 June	VFA-86 "Sidewinders"	Duty station changed from Beaufort, NC, to LeMoore, CA.
1 June	HS-6 "Screamin' Indians"	Reclassified HSC-6.
15 Sep	Naval Air Station/ Joint Reserve Base Willow Grove, PA.	Disestablished as a result of Base Realignment and Closure 2005.
1 Oct	Officer-in-Charge, Air Test and Evaluation Squadron Nine, Detachment Edwards Air Force Base, CA	Established this date to conduct operational Testing of the Navy's Lightning II (F-35C)

NOTE
VAQ-132 "Scorpions," VAQ-135 "Black avens," and VAQ-142 "Gray Wolves" provide electronic warfare support to the U.S. Air Force in land-based expeditionary operations.

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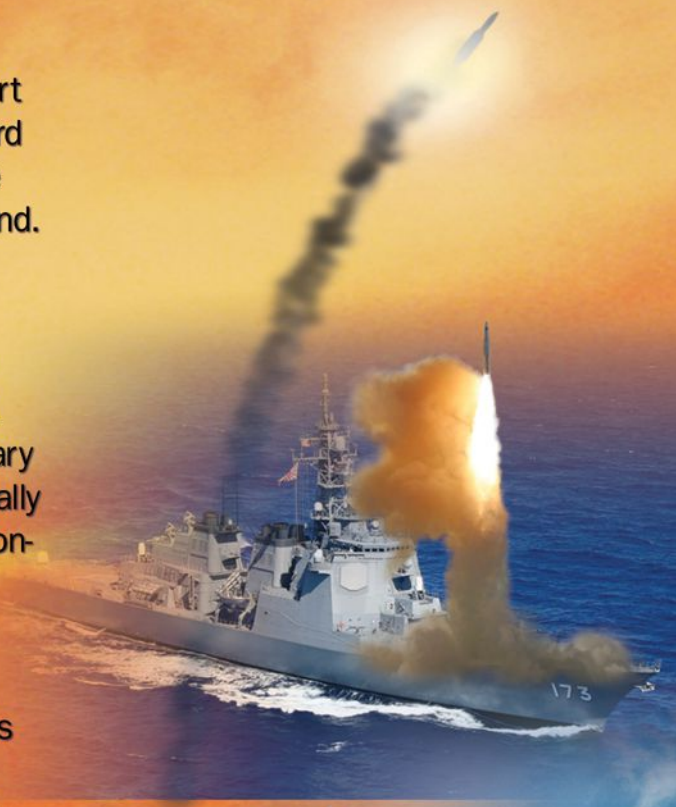
Aegis Ballistic Missile Defense

… An Integral Element of BMDS:

Aegis BMD is an integral part of the Ballistic Missile Defense System (BMDS), with the ability to engage short to intermediate range ballistic missiles with the Standard Missile-3 (SM-3) and providing Long Range Surveillance and Track (LRS&T) for long-range threats to our Homeland.

… Demonstrated Mission Assurance:

Aegis BMD has repeatedly demonstrated the ability to provide effective ballistic missile defense from the sea. SM-3 has demonstrated hit-to-kill accuracy against unitary and separating ballistic missile targets under operationally realistic conditions. The LRS&T function has been demonstrated in numerous tracking exercises.



… Deployed and Operational:

Aegis BMD provides Navy Aegis Cruisers and Destroyers the ability to defend our nation, forward-deployed U.S. forces, friends, and allies around the world. Aegis BMD has been delivered and deployed to the fleet and is prepared for action.

… Global Missile Defense:

The inherent mobility of Aegis BMD provides a truly global missile defense capability. Japan is the first international navy to deploy Aegis BMD and SM-3, and other nations may soon follow to counter the growing ballistic missile threat.

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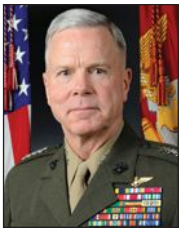
U.S. Navy
Vice Chairman

Admiral Jonathan W. Greenert
U.S. Navy

General Norton A. Schwartz
U.S. Air Force



General James F. Amos
U.S. Marine Corps

General Raymond T. Odierno
U.S. Army

Flag Officers and Senior Enlisted Leaders of the Naval Services

Depicted here are (a) officers of flag rank, general officers, and senior enlisted leaders of the U.S. Navy on active duty as of 1 March 2012 (unless advance information was available); (b) officers of flag rank of NOAA and at Maritime Academies as of 1 March 2012; and (c) inactive-duty Reserve flag officers of the same services. Numbers following titles indicate: Navy (month/year assuming billet) lineal number.
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James G. Stavridis
Supreme Allied Commander, Europe/Commander, U.S. European Command
(6/09)
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William H. McRaven
Commander, U.S. Special Operations Command
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Mark E. Ferguson III
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Kirkland H. Donald
Director, Naval Nuclear Propulsion Program, NAVSEA-08
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John C. Harvey Jr.
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Samuel J. Locklear III
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Cecil E. Haney
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Nom'd As: U.S. Naval Forces
Southern Command/Com-
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Program Executive Officer,
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Jerry K. Burroughs
Program Executive Officer for
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Douglass T. Biesel
Commander Navy Region Northwest
(6/10)
208

Dennis E. Fitzpatrick
Commander, Strike Force Training Atlantic
(7/10)
209

Michael J. Yurina
Director, Strategic Planning and Communication, Submarine Warfare Division
(7/10)
210

Robert P. Wright
Reserve Deputy Commander, Fleet and Joint Operations, U.S. Fleet Forces Command
(3/10)
212

Samuel Perez Jr.
Special Assistant to Deputy Chief of Naval Operations for Integration of Capabilities and Resources, N8, OPNAV
(12/11)
Ord'd As: Director, Navy Irregular Warfare Office, N3/N5IW, OPNAV
219

Terry B. Kraft
Commander, Navy Warfare Development Command
(10/11)
220

Thomas A. Cropper
Commander, Strike Force Training Pacific
(5/10)
221

Patrick J. Lorge
Commandant, Naval District Washington
(7/08)
224

James J. Shannon
Commander, Naval Surface Warfare Center
(8/08)
ADDU: Deputy Commander for Surface Warfare, SEA-21, Naval Sea Systems Command
228

Clifford S. Sharpe
Chief Operating Officer, N7, Naval Education and Training Command
(10/11)
235

William K. Lescher
Deputy Director for Resources and Acquisition, J8, Joint Staff
(7/10)
248

John R. Haley
Commander, Task Force Seven Zero/Commander, Carrier Strike Group Five
(4/11)
249

James A. Murdoch
Program Executive Officer for Littoral Combat Ships
6/20/2011)
250

Robert Hennegan
Commander, Submarine Group Nine
(10/10)
251

William G. Sizemore II
Chief of Naval Air Training
(9/09)
252

Michael C. Manazir
Commander, Carrier Strike Group Eight
(10/11)
253

Herman A. Shelanski
Commander, Carrier Strike Group Ten
(3/11)
254

Thomas K. Shannon
Commander, Carrier Strike Group One
(11/11)
255

Walter E. Carter Jr.
Commander, Carrier Strike Group Twelve
(10/11)
257

Gerard P. Hueber
Commander, Expeditionary Strike Group Three/Commander, Amphibious Group Three
(7/11)
262

Peter A. Gumataotao
Commander, Carrier Strike Group Eleven
(10/11)
264

Scott T. Craig
Deputy Chief of Staff Fleet Capabilities, Requirements, Concepts, and Experimentation, N5/N8/N9, U.S. Fleet Forces Command (9/09)
Nom'd As: Commander, Strike Force Training Atlantic, Norfolk, VA (EDA: 6/12)
265

Jeffery S. Jones
Commander, Expeditionary Strike Group Seven/Commander, Amphibious Force U.S. Seventh Fleet
(2/11)
266

David B. Woods
Commander, Joint Task Force Guantanamo, U.S. Southern Command (8/11)
Nom'd As: Commander, Strike Force Training Pacific
268

James G. Foggo III
Deputy Commander, Sixth Fleet/Director of Operations, Intelligence (N3), U.S. Naval Forces Europe-Africa/Commander, Submarine Group Eight/Commander Submarines, Allied Naval Forces South
(9/10)
269

Gregory M. Nosal
Commander, Carrier Strike Group Two
(11/11)
271

Robert J. Kamensky
Deputy/Reserve Deputy Commander, Submarine Force Atlantic
(2/10)
273

Anatolio B. Cruz III
Deputy Commander, Navy Region Southwest Command/ Deputy Commander, Fourth Fleet
(2/10)
274

Charles K. Carodine
Deputy Commander, Naval Warfare Development Command
(2/10)
275

Douglas J. Asbjornsen
Reserve Deputy Commander, Navy Region Northwest
(10/11)
276

Thomas F. Carney Jr.
Commander, Logistics Group, Western Pacific/ Commander, Task Force 73/Commander, Navy Region Singapore
(4/11)
277

Jeffrey Harbeson
Deputy Director, Politico-Military Affairs Europe, J5, Joint Staff
(2/12)
279

Kevin D. Scott
Deputy Commander, U.S. Naval Forces,
U.S. Central Command
(3/12)
283

Richard P. Breckenridge
Commander, Submarine Group Two
(8/11)
284

Craig S. Faller
Commander, Carrier Strike Group Three (5/11)
Ord'd As: Director for Operations, J3, U.S. Central Command
(EDA: 5/12)
286

Michael W. Hewitt
Commander, Patrol and Reconnaissance Group
(8/10)
Ord'd as: Director, Special Programs Cross Functional Team, Joint Staff, Washington, D.C.
(EDA: 4/12)
287

Thomas L. Brown II
Commander, Special Operations Command, U.S. Southern Command
(9/10)
292

Ann C. Phillips
Commander, Expeditionary Strike Group Two
(3/12)
293

Anthony E. Gaiani
Commander, Navy Region Europe, Africa. Southwest Asia/Commander, Maritime Air Forces, Naples
(8/10)
294

Joseph W. Rixey
Director, Navy International Programs Office, Office of the Secretary of the Navy
(11/10)
295

Martha E. G. Herb
Director, Personal Readiness and Community Support Branch, N135, OPNAV
(6/11)
296

John C. Sadler
Deputy Commander, Naval Air Forces/Deputy Commander, Naval Air Forces, U.S. Pacific Fleet
(12/09)
297

Kelvin N. Dixon
Director, International Transition and Advisory Mission-Navy, Umm Qasr, Iraq
(9/10)
298

Frank A. Morneau
Deputy Director, Expeditionary Warfare, N85B, OPNAV
(8/10)
301

Thomas G. Wears
Commander, Naval Undersea Warfare Center
(11/09)
302

Randall M. Hendrickson
Deputy Director, Missile Defense Agency
(10/09)
303

Brian L. Laroche
Deputy Commander, Military Sealift Command
(10/10)
311

Frederick J. Roegge
Deputy Commander, Joint Functional Component Command for Global Strike, U.S. Strategic Command
(9/10)
316

Tilghman D. Payne
Commander, Navy Region Midwest
(7/10)
317

Kenneth J. Norton
Deputy Chief of Staff for Strategy, Resources, and Plans, N5/N8, U.S. Naval Forces Europe/U.S. Naval Forces Africa/ Commander, Sixth Fleet
(3/11)
322

Charles M. Gaouette
Deputy Commander, U.S. Naval Forces, U.S. Central Command, Bahrain
(5/10)
Ord'd As: Commander, Carrier Strike Group Three, Bremerton, WA
(EDA: 4/12)
323

Peter J. Fanta
Commander, Expeditionary Strike Group Five/Commander, Task Force 51/59
(8/11)
326

Patrick D. Hall
Deputy Director for Operations, J3, Joint Staff
Nom'd As: Carrier Strike Group Nine
(2/10)
327

Kevin M. Sweeney
Commander, Carrier Strike Group Ten
(8/10)
328

Luke M. McCollum
Reserve Deputy Commander, Navy Expeditionary Combat Command
(10/11)
332

Joseph E. Tofalo
Commander, Submarine Group Ten
(7/11)
333

Jeffrey R. Penfield
Commander, Fleet Readiness Centers
(EDA: 1/11)
334

John W. Smith Jr.
Deputy Commander, Joint Interagency Task Force, U.S. Southern Command
(8/10)
335

John C. Aquilino
Deputy Director, J31, Joint Staff
(9/10)
336

Sandra E. Adams
Reserve Deputy Commander, Navy Region Midwest
(10/11)
340

Kevin J. Kovacich
Associate Director, Assessment Division, N81D, OPNAV
(9/11)
341

David F. Steindl
Commander, Naval Service Training Command
(8/10)
342

John F. Weigold
Deputy Commander, Seventh Fleet
(6/11)
343

Jon G. Matheson
Reserve Deputy Commander for Fleet Management, U.S. Fleet Forces Command
(10/11)
(6/07)
344

Mark L. Leavitt
Reserve Chief of Staff, Naval Air Forces/Naval Air Force, U.S. Pacific Fleet
(10/11)
345

Kerry M. Metz
Deputy Commander, Special Operations Command
(9/11)
347

Phillip G. Sawyer
Commander, Submarine Group Seven/Commander, Task Force Seven Four/Commander, Task Force 54
(6/11)
348

Jeffrey A. Harley
Deputy Director, Plans and Policy, J5B, U.S. Central Command
(11/10)
349

David M. Duryea
Deputy Commander for Undersea Warfare, SEA-07, NAVSEASYSCOM
(7/10)
350

Michael S. White
Assistant Commander for Career Management, PERS-4, NAVPERSCOM
(5/11)
351

Sean S. Buck
Commander, Patrol and Reconnaissance Fifth Fleet/Seventh Fleet/Commander, Fleet Air Reconnaissance Western Pacific (7/10)
Ord'd As: Commander, Patrol and Reconnaissance Group, Norfolk, VA
(EDA: 4/12)
352

Dietrich H. Kuhlmann III
Director, Operations Division, Office of Budget, Office of the Assistant SECNAV for Financial Management and Comptroller/Director, Operations Division, Fiscal Management Division, N821, OPNAV
(7/10)
353

David J. Gale
Commander, Regional Maintenance Center, Norfolk, VA
(6/11)
354

Scott P. Moore
Chief, Operations, Office of Defense Representative-Pakistan, U.S. Central Command, Islamabad, Pakistan
(EDA: 8/11)
355

Mark C. Montgomery
Deputy Director for Plans and Policy, ECJ-5, U.S. European Command
(7/10)
356

Michael M. Gilday
Director of Operations, Joint Forces Command Lisbon
(8/10)
357

Philip G. Howe
Deputy Commander, Joint Special Operations Command, U.S. Special Operations Command
(9/10)
358

Christopher W. Grady
Deputy Chief of Staff for Operations, Training and Readiness, N3/N7, U.S. Pacific Fleet
(10/11)

Rear Admiral (LH) Selectees

DeWolfe H. Miller
Director, ISR Capabilities, N2/N6F2, OPNAV
(6/11)

Joseph W. Kuzmick
Director, Operations and Plans, N31, OPNAV
(8/11)

Kenneth M. Perry
Vice Commander, Naval Mine and Anti-Submarine Warfare Command
(9/11)

Victorino G. Mercado
Deputy Director, Surface Warfare Division, N86B, OPNAV
(10/11)

Mark W. Darrah
F-35 Weapons System Program Manager
(8/11)

Scott A. Stearney
Commander, Joint Enabling Capabilities Command, U.S. Transportation Command
(8/11)

John C. Scorby Jr.
Commander, Navy Region Southeast
(8/11)

Richard P. Snyder
Deputy Director for Partnership Strategy, J5, Joint Staff
(2/12)

Michael E. Smith
Director, Strategy and Policy Division, N51, OPNAV
(8/11)

Fernandez L. Ponds
Commander, Navy Region Hawaii/Commander, Naval Surface Group, MIDPAC
(11/11)

Richard W. Butler
Head, Naval Aviation Programs, N880, OPNAV
(9/11)

William C. McQuilkin
Commander, Navy Region Korea/Commander, U.S. Naval Forces Korea/Commander, Naval Component, U.S. Forces Korea, United Nations Command, Korea
(8/11)

David M. Kriete
Deputy Director Force Employment, U.S. Fleet Forces Command
(6/11)

Hugh D. Wetherald
Deputy and Chief of Staff for Plans, Policies, and Requirements, N5/N8, U.S. Pacific Fleet (5/11)

Dwight D. Shepherd
Senior Military Assistant to the Secretary of the Navy
(4/11)

Stuart B. Munsch
Deputy Director, Submarine Warfare Division, N87B, OPNAV
(7/11)

Lawrence E. Creevy
Fleet Maintenance Officer, U.S. Fleet Forces Command
(6/11)

Michael E. Jabaley Jr.
Major Program Manager for *Virginia* Class Submarines (PMS 450), Program Executive Officer for Submarines (1/06)
Ord'd as: Vice Commander, Naval Sea Systems Command
(EDA: 6/12)

Colin J. Kilrain
United States Defense Official/Defense Attaché Mexico
(2/12)

Matthew J. Carter
Commander, Patrol and Reconnaissance Fifth/Seventh Fleet
(3/12)

Robert L. Greene
Senior Advisor for Anti-Terrorism/Force Protection, NR U.S. Fleet Forces Command

Michael J. Dumont
Deputy Chief of Staff for Stability Operations

Lawrence B. Jackson
Commander, Military Sealift Fleet Support Command

Scott B. J. Jerabek
Deputy Commander, Maritime Expeditionary Security Group One

Rear Admiral (Human Resources) (Selectee)

Eric C. Young
Deputy Director for Training, Transformation and Technology, Office of the Assistant Secretary of Defense for Reserve Affairs
(4/11)

Cynthia A. Covell
Commander, Navy Personnel Command
(1/12)
213

Rear Admiral (LH) (Human Resources)

Robin L. Graf
Deputy Commander, Navy Recruiting Command
(4/11)
256

Annie B. Andrews
Director, Total Force Programming and Manpower Management Division, N12, OPNAV
(10/11)
361

Rear Admiral (LH) (Human Resources) (Selectee)

Barbara W. Sweredoski
Executive Officer, NR NATO Allied Command Transformation

Vice Admirals (Engineering)

Kevin M. McCoy
Commander, Naval Sea Systems Command
(8/08)
27

Rear Admirals (Engineering)

John C. Orzalli
Vice Commander, Naval Sea Systems Command
(9/10)
87

Joseph F. Campbell
Deputy Commander. Logistics Maintenance and Industrial Operations, SEA-04, NAVSEASYSCOM
(6/09)
106

Thomas J. Eccles
Deputy Commander, Ship Design, Integration and Engineering, SEA-05, NAVSEASYSCOM
(8/08)
131

Terry J. Benedict
Director for Strategic Systems Programs
(5/10)
164

Rear Admirals (Engineering) Selectee

David C. Johnson
Program Executive Officer for Submarines
(10/10)
222

Rear Admirals (LH) (Engineering)

Thomas J. Moore
Program Executive Officer for Aircraft Carriers
(8/11)
217

David H. Lewis
Program Executive Officer for Ships
(8/10)
233

Richard D. Berkey
Deputy Chief of Staff for Fleet Maintenance, U.S. Pacific Fleet
(7/09)
259

James H. Rodman Jr.
Chief Engineer Directorate, Code 05, Space and Naval Warfare Systems Command
(10/10)
315

James D. Syring
Program Executive Officer for Integrated Warfare Systems
(8/10)
33

Rear Admirals (LH) (Engineering) Selectees

Gregory R. Thomas
Special Assistant to the Commander, Regional Maintenance Center
(9/10)
306

Mark R. Whitney
Commander, Puget Navy Shipyard and Intermediate Maintenance Facility
(5/08)

Vice Admirals (Aerospace Engineering)

David J. Venlet
Director, Joint Strike Fighter Program, Office of the Secretary of Defense
(5/10)
18

Rear Admirals (Aerospace Engineering)

Steven R. Eastburg
Vice Commander, Naval Air Systems Command
(10/11)
107

David A. Dunaway
Commander, Operational Test and Evaluation Force
(1/09)
129

RAdm (LH) (Aerospace Engineering) (Selectee)

Donald E. Gaddis
Program Executive Officer for Tactical Aircraft Programs
(10/08)
214

RAdm (LH) (Aerospace Engineering)

Charles A. Rainey
Deputy Commander, Fleet Readiness Directorate
(2/11)
261

Randolph L. Mahr
Commander, Naval Air Warfare Center, Aircraft Division/ Assistant Commander for Research and Engineering, Naval Air Systems Command (AIR-4.0)
(4/05)
285

Timothy S. Matthews
Director, Fleet Readiness Division, N43, OPNAV
(7/11)
300

Mathias W. Winter
Commander, Naval Air Warfare Center, Weapons Division Division/Assistant Commander for Research and Engineering, Naval Air Systems Command (AIR-4.0)
(4/10)
330

Rear Admiral (LH) Sel (Aerospace Engineering)

Cindy L. Jaynes
Assistant Commander for Logistics & Industrial Operations (AIR-6.0) Naval Air Systems Command
(6/11)
260

Kirby D. Miller
Chief of Staff, Naval Air System Command Reserve Strategic Analysis Unit
260

Rear Admirals (LH) (Public Affairs)

Harold E. Pittman
Deputy Chief of Staff for Communication, HQ USFOR-A/ HQ ISAF
(2/11)
238

Dennis J. Moynihan
Chief of Information
(8/09)
239

Victor M. Beck
Vice, Chief of Information
(6/11)
314

Rear Admirals (Public Affairs) (Foreign Area) Sel

Douglas J. Venlet
Defense Attache, Russia/ Defense Intelligence Agency
(7/10)
Ord'd As: Director for International Engagement, N52, OPNAV
(EDA: 8/12)
242

RAdm (Oceanography)

David W. Titley
Director, Oceanography, Space, and MDA Division (OPNAV N2/N6E)/Oceanographer of the Navy
(10/09)
108

Rear Admirals (LH) (Oceanography)

Jonathan W. White
Commander, Naval Meteorology and Oceanography Command
(10/09)
260

Vice Admiral (Information Warfare)

Michael S. Rogers
Commander, Fleet Cyber Command/Commander, Tenth Fleet
(9/11)
56

Rear Admiral (Information Warfare)

William E. Leigher
Director, Warfare Integration Directorate, N2/N6F, OPNAV
(7/11)
168

Rear Admirals (LH) (Information Warfare)

Sean R. Filipowski
Deputy Director of Operations, J3, U.S. Cyber Command
(7/11)
281

Gerald W. Clusen
Reserve Deputy Commander, U.S. Tenth Fleet
(10/10)
309

Jan E. Tighe
Director, Decision Superiority, N2/N6F4, OPNAV
(7/11)
312

RAdm (Information Professional)

Willie L. Metts
Deputy Chief, Tailored Access Operations, S32, National Security Agency
(8/11)
325

Janice M. Hamby
Military Deputy to the DoD Chief of Information Officer, Office of the Assistant Secretary of Defense for Networks and Information Integration, DoD Chief Information Officer
(6/11)
105

David G. Simpson
Vice Director, Defense Information System Agency
(6/11)
153

RAdm (LH) (Information Professional)

Diane E. H. Webber
Director, Communications and Networks, N2/N6F1, OPNAV
(9/11)
270

Gretchen S. Herbert
Commander, Navy Cyber Forces
(6/11)
304

Thomas H. Bond Jr.
Director for Command Control Systems, J6, Headquarters North American Aerospace Defense Command and Director, Architectures and Integration, J6, Headquarters U.S Northern Command
(1/12)
338

Rear Admirals (Intelligence)

Thomas P. Meek
Military Executive, National Geospatial-Intelligence Agency
(6/11)
95

Michael W. Broadway
Assistant to the Deputy, Chief of Naval Operations, N2/N6, OPNAV
(10/11)
99

Samuel J. Cox
Director of Intelligence, J2, U.S. Cyber Command
(7/11)
136

Rear Admiral Sel (Information Warfare)

David G. Russell
Reserve Component Deputy Commander, Navy Cyber Forces
(10/10)
258

Rear Admirals (LH) (Intelligence)

Norman R. Hayes
Director of Intelligence, J2, U.S. European Command
(1/10)
205

Elizabeth L. Train
Director for Intelligence, J2, U.S. Pacific Command
(8/09)
240

Paul B. Becker
Director for Intelligence, J2, U.S. Pacific Command
(6/11)
263

Matthew J. Kohler
Deputy Commander, Fleet Cyber Command/ Deputy Commander, Tenth Fleet
(7/11)
313

Brett C. Heimbigner
Director of Intelligence, J2, U.S. Northern Command
(8/10)
324

Rear Admirals (LH) (Intelligence) Selectee

Robert V. Hoppa
Director, National Maritime Intelligence Center
(8/11)
336

VAdm (Senior Health Care Executive)

John M. Mateczun
Commander, Joint Task Force National Capital Region Medical
(9/07)
31

Matthew L. Nathan
Surgeon General of the Navy, N093/Chief, Bureau of Medicine and Surgery
(11/11)
58

RAdm (Senior Health Care Executive)

David J. Smith
Director, Medical Resources, Plans, and Policy Division, N931, OPNAV
(12/11)
81

Michael H. Mittelman
Deputy Chief, Bureau of Medicine and Surgery
(11/11)
124

Donald R. Gintzig
Deputy Chief, Medical Operations, M3/5, BUMED
(9/10)
130

Alton L. Stocks
Commander, Navy Medicine National Capital Area/ Commander, Walter Reed National Military Medical Center, Bethesda
(9/11)
142

William M. Roberts
Fleet Surgeon, U.S. Fleet Forces Command
(4/10)
167

RAdm (Senior Health Care Executive) Selectee

Bruce A. Doll
Medical Advisor to Supreme Allied Commander Transformation
(9/10)
211

RAdm (LH) (Senior Health Care Executive)

William R. Kiser
Commandant of the Medical Education Training Campus, Fort Sam Houston, TX
(5/10)
207

Michael H. Anderson
Medical Officer to the Marine Corps/Director, Health Services, Headquarters U.S. Marine Corps
(1/11)
311241

Eleanor V. Valentin
Commander, Navy Medicine Support Command/Director of the Medical Service Corps
(9/09)
246

Clinton F. Faison III
Commander, Navy Medicine West/Commander, Naval Medical Center, San Diego, CA
(8/10)
290

Charles D. Harr
Deputy to the Medical Officer to the Marine Corps/Deputy Director, Medical Corps, Reserve Component, Washington, D.C.
(10/10)
307

Margaret A. Rykowski
Deputy Fleet Surgeon, U.S. Fleet Forces Command/Deputy Director, Nurse Corps, Reserve Component, Norfolk, VA
(10/10)
308

Elaine C. Wagner
Commander, Navy Medicine East/Commander, Naval Medical Center, Portsmouth/Chief, Navy Dental Corps
(9/11)
319

Colin G. Chinn
Director, Medical Resources, Plans, and Policy Division, N931, OPNAV
(2/12)
320

Thomas E. Beeman
Deputy Director, National Intrepid Center of Excellence/Deputy Director, Medical Service Corps, Reserve Component, National Naval Medical Center, Bethesda, MD
(5/10)
321

Rear Admiral (Medical Service Corps)

Raquel C. Bono
Fleet Surgeon, U.S. Pacific Fleet/Command Surgeon, U.S. Pacific Command
(11/11)
359

Brian P. Monahan
Attending Physician to Congress
(2/09)
84

Rear Admiral (Medical Service Corps) Selectee

Timothy W. Dorsey
Navy Reserve Inspector General Detachment 106
(5/09)
104

Rear Admiral (Nurse Corps)

Elizabeth S. Niemyer
Deputy Chief, Wounded, Ill, and Injured, Bureau of Medicine and Surgery/Director of the Nurse Corps
(3/11)
126

Rear Admiral LH (Nurse Corps) Selectee

Rebecca J. McCormick-Boyle
Chief of Staff, Bureau of Medicine and Surgery
(1/12)
199

Vice Admirals (JAG Corps)

James W. Houck
Judge Advocate General of the Navy
(8/09)
36

Rear Admirals (JAG Corps)

Nanette M. DeRenzi
Deputy Judge Advocate General of the Navy/Commander, Naval Legal Service Command
(8/09)
91

Steven M. Talson
Deputy Judge Advocate General for Reserve Affairs and Operations/Deputy Commander Naval Legal Service Command
(2/09)
140

Rear Admirals (LH) (JAG Corps)

James W. Crawford III
Commander, Rule of Law Field Force-Afghanistan
(9/11)
318

Rear Admirals (LH) (JAG Corps) Selectee

Janet R. Donovan
Force Judge Advocate General, Commander Navy Reserve Forces Command
(4/09)
144

Vice Admiral (Supply Corps)

Mark D. Harnitchek
Director, Defense Logistics Agency
(11/11)
33

Rear Admirals (Supply Corps)

Mark F. Heinrich
Commander, Naval Supply Systems Command/Chief of Supply Corps
(7/11)
98

Sean F. Crean
Director, Small Business Programs
(1/10)
100

Kathleen M. Dussault
Director, Supply Ordinance and Logistics Operations Division, N41, OPNAV
(3/09)
104

Patricia E. Wolfe
Director, Joint Reserve Forces (J-9), Defense Logistics Agency, Fort Belvoir, VA
(10/11)
135

William A. Brown
Director, Logistics and Security Assistance, J4, U.S. European Command
(6/09)
245

Mark J. Belton
Commander, Navy Expeditionary Logistics Support Group
(9/11)
159

Rear Admirals Selectee Supply Corps

Thomas C. Traaen
Commander, Defense Distribution Center, Defense Logisitc Agency
(6/10)
202

Rear Admirals (LH) Supply Corps

Nicholas T. Kalathas
Commander, Joint Theater Support Contracting Command, United States Central Command, Kabul, Afghanistan
(2/11)
216

David F. Baucom
Commander, Defense Logistics Agency Troop Support
(7/11)
226

Vincent L. Griffith
Deputy Chief of Staff for Fleet Readiness/Fleet Supply Officer, N41, U.S. Fleet Forces Command
(9/011)
231

Ron J. Maclaren
Director, Joint Contingency Acquisition Support Office, Defense Logistics Agency
(3/10)
247

Jonathan A. Yuen
Commander, NAVSUP Global Logistics Support
(8/11)
291

Glenn C. Robillard
Deputy Chief of Staff for Logistics, Fleet Supply and Ordnance, N4, COMPACFLT
(8/11)
329

Robert J. A. Gilbeau
Commander, Defense Contract Management Agency-International
(8/10)
337

Valerie K. Huegel
Deputy Commander, Global Logistics Support Command
(10/11)
339

Althea H. Coetzee
Executive Director, Deputy Assistant Secretary of the Navy (Acquisition and Procurement), Office of the Assistant Secretary of the Navy (Research, Development and Acquisition)
(6/11)
346

John G. King
Commander, NAVSUP Weapon Systems Support
(7/11)
360

RAdms (LH) (Supply Corps) Selectee

Deborah P. Haven
Commanding Officer, NR Commander U.S. Fleet Forces, Logistics Support Unit
(10/11)

Rear Admiral (Chaplain Corps)

Mark L. Tidd
Chief of Chaplains/Director of Religious Ministries, N097, OPNAV
(8/10)
127

Rear Admiral (LH) (Chaplain Corps)

Margaret G. Kibben
Chaplain of the Marine Corps/Deputy Chief of Chaplains/Deputy Director of Religious Ministries, N097B, OPNAV
(7/10)
289

Gregory C. Horn
Deputy Chief of Navy Chaplains for Reserve Matters and Director of Religious Matters, Marine Forces Reserve
(10/10)
306

Rear Admirals (Civil Engineer Corps)

Christopher J. Mossey
Commander, Naval Facilities Engineering Command/Chief of Civil Engineers
(5/10)
111

Mark A. Handley
Commander, First Naval Construction Division/Commander, Naval Construction Forces Command
(10/09)
118

Scott A.Weikert
Deputy Commander, Naval Facilities Engineering Command
10/1/2010
139

Rear Admirals LH (Civil Engineer Corps)

Kevin R. Slates
Commander, Naval Facilities Engineering Command Atlantic
(8/09)
267

Katherine L. Gregory
Commander, Naval Facilities Engineering Command Pacific
(7/10)
282

David M. Boone
Director, Ashore Readiness Division, N46, OPNAV/ Vice Commander, Navy Installations Command
(5/10)
288

Paula C. Brown
Deputy Commander, First Naval Construction Division
(10/10)
307

National Oceanic & Atmospheric Administration

Rear Admiral

Jonathan W. Bailey
Director, NOAA Commissioned Officers Corps/Director, Marine and Aviation Operations

Rear Admiral (LH)

Philip M. Kenul
Director, Marine and Aviation Operations Centers

Maritime Academies

Vice Admiral (U.S. Navy, Retired)

Wendy B. Carpenter
President, State University of New York Maritime College

William W. Pickavance (U.S. Navy, Retired)
Superintendent, Texas Maritime Academy

Dr. Shashi Kumar
Interim Superintendent, U.S. Merchant Marine Academy

Commodore

Richard Gurnon
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Timothy J. Nelson
Superintendent, Great Lakes Maritime Academy

Rear Admirals (U.S. Maritime Service)

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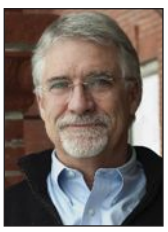

William J. Brennan
President, Maine Maritime Academy

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Mike Stevens
Fleet Master Chief, U.S. Fleet Forces Command

John Minyard
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Farris Foresman
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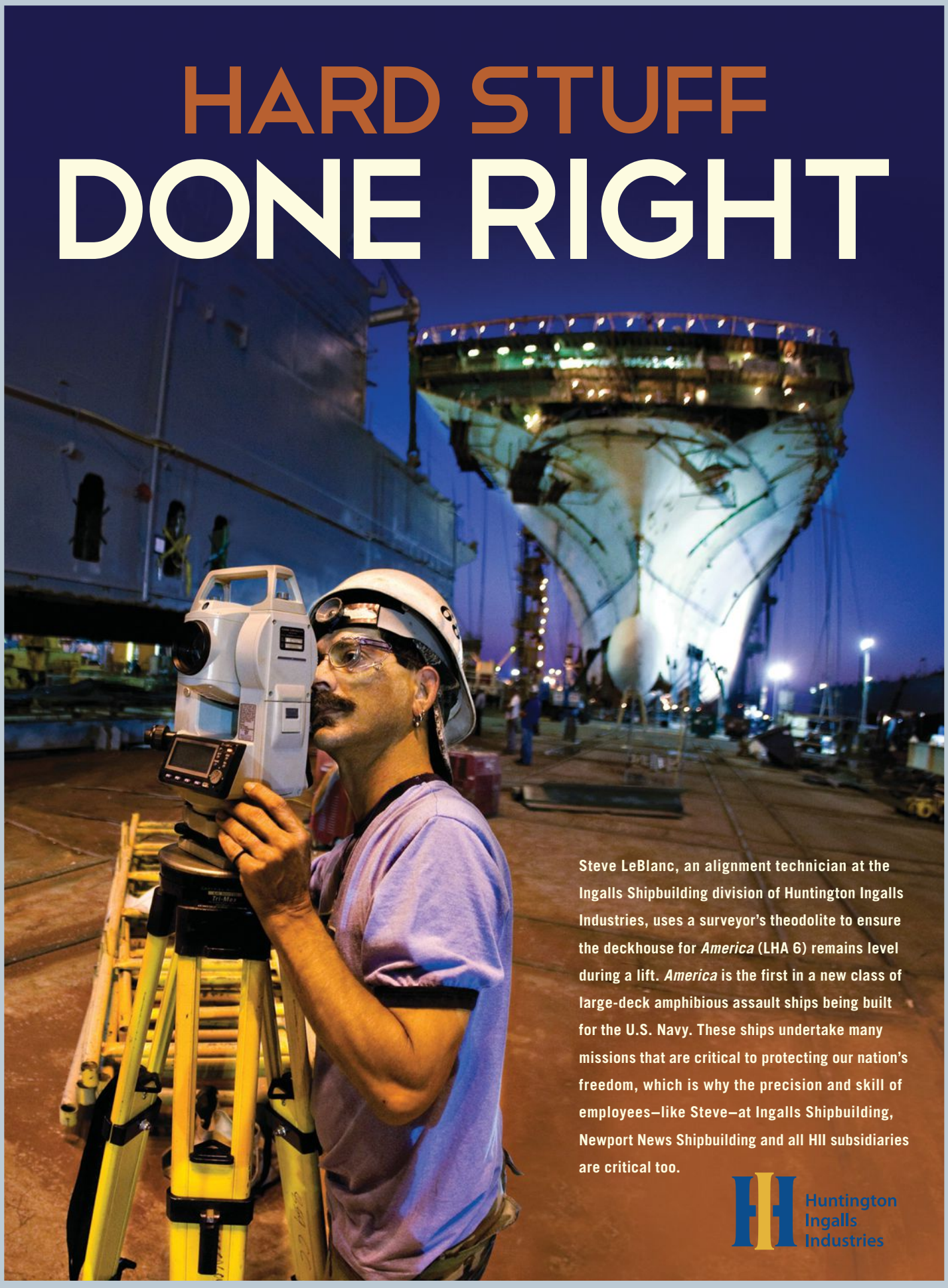

Steve LeBlanc, an alignment technician at the Ingalls Shipbuilding division of Huntington Ingalls Industries, uses a surveyor's theodolite to ensure the deckhouse for *America* (LHA 6) remains level during a lift. *America* is the first in a new class of large-deck amphibious assault ships being built for the U.S. Navy. These ships undertake many missions that are critical to protecting our nation's freedom, which is why the precision and skill of employees–like Steve–at Ingalls Shipbuilding, Newport News Shipbuilding and all HII subsidiaries are critical too.

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National Security Council

Secretary of Defense

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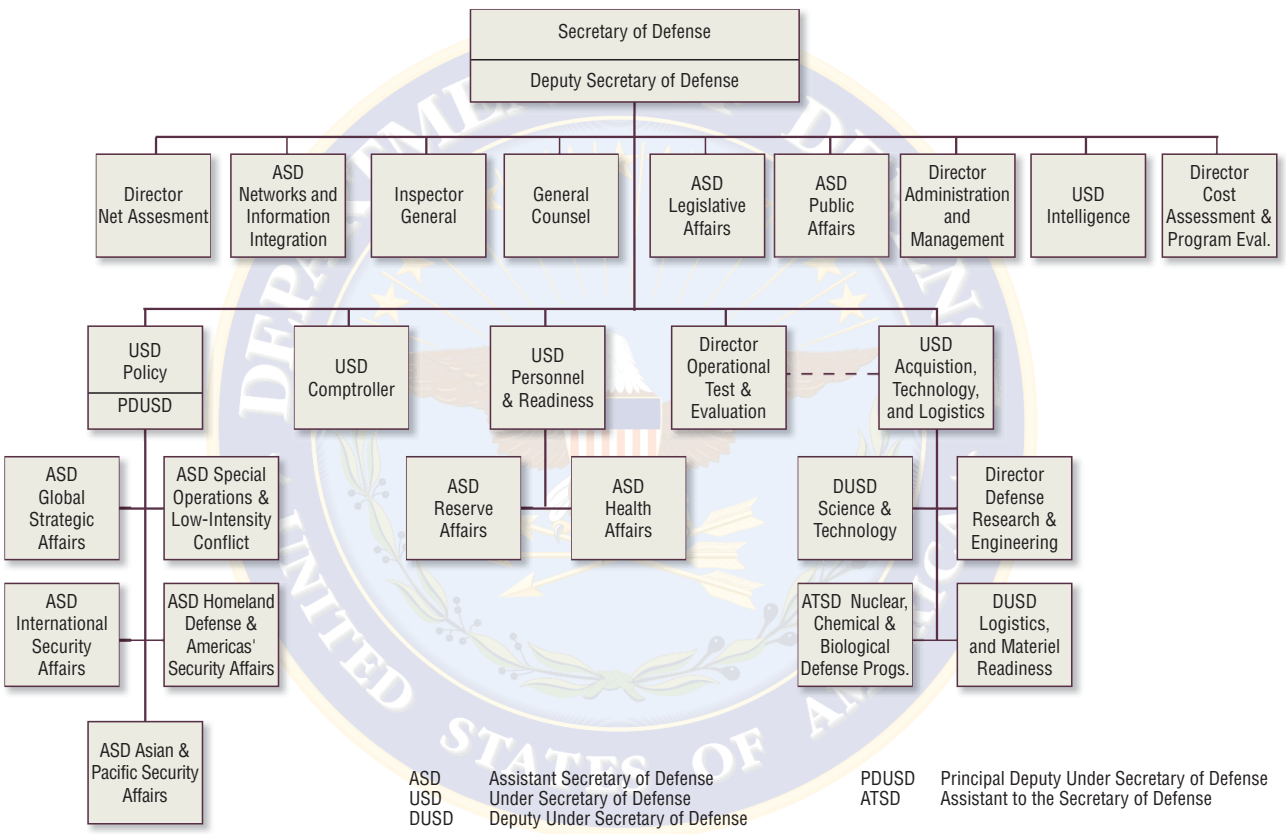
Office of the Secretary of Defense

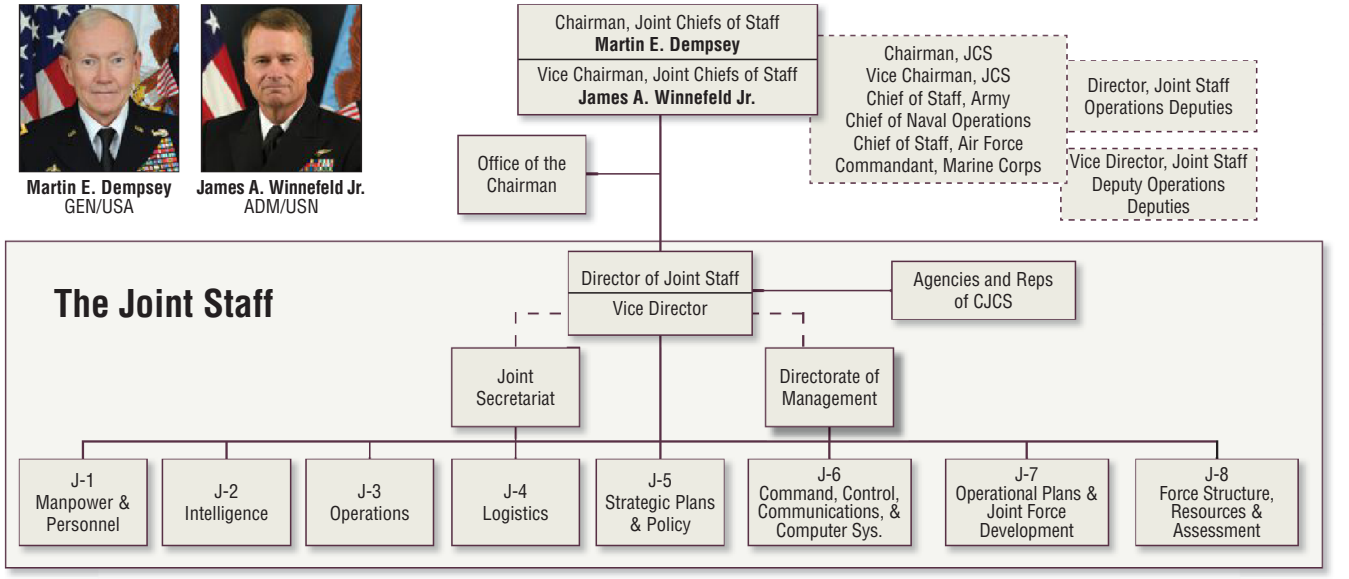


ASD Assistant Secretary of Defense
USD Under Secretary of Defense
DUSD Deputy Under Secretary of Defense

PDUSD Principal Deputy Under Secretary of Defense
ATSD Assistant to the Secretary of Defense

Martin E. Dempsey
GEN/USA

James A. Winnefeld Jr.
ADM/USN



Chief of Naval Operations

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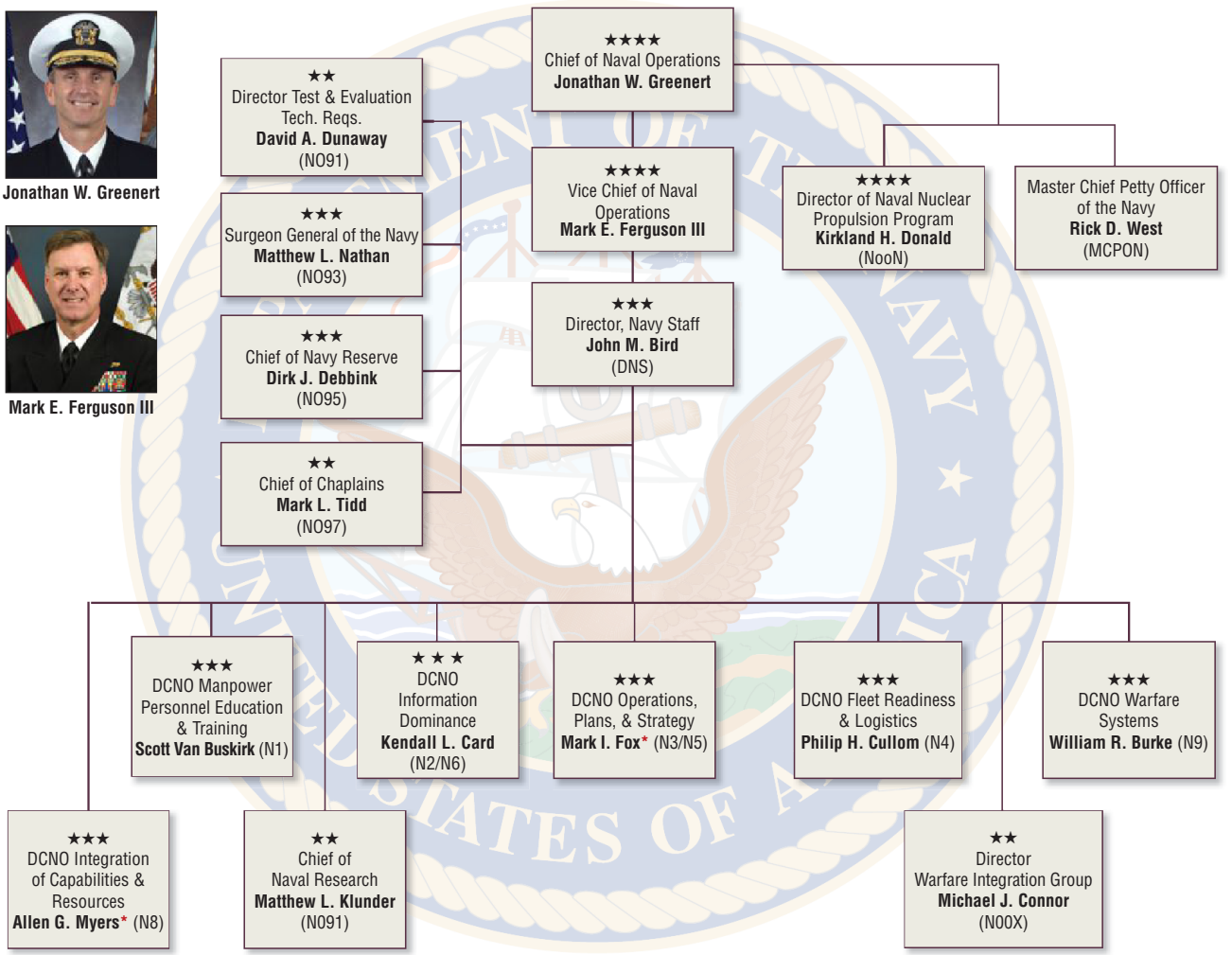
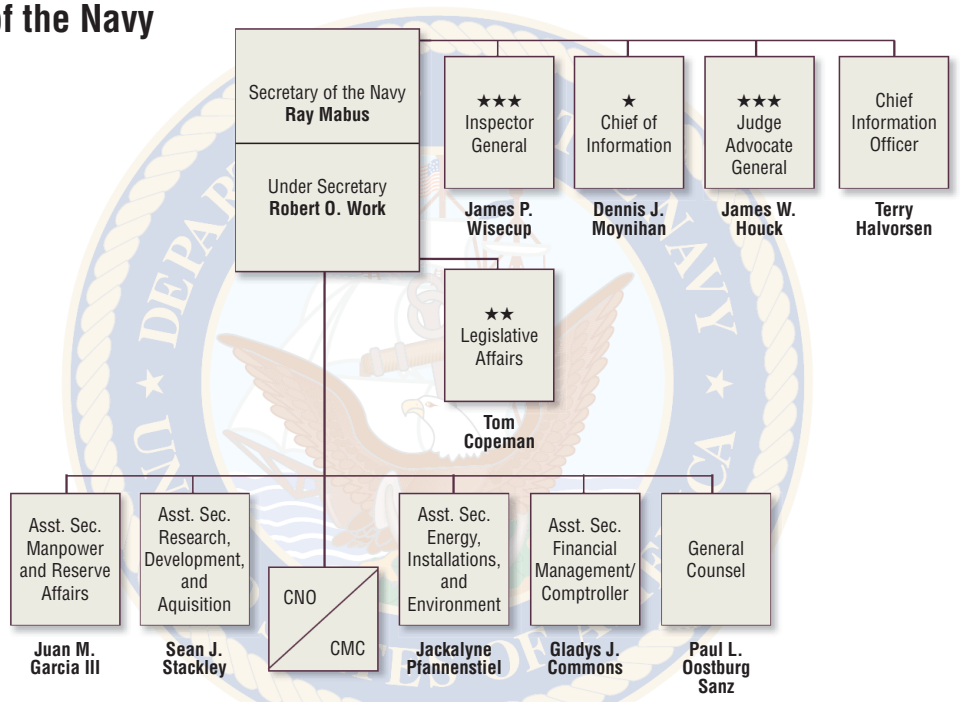
Mark E. Ferguson III



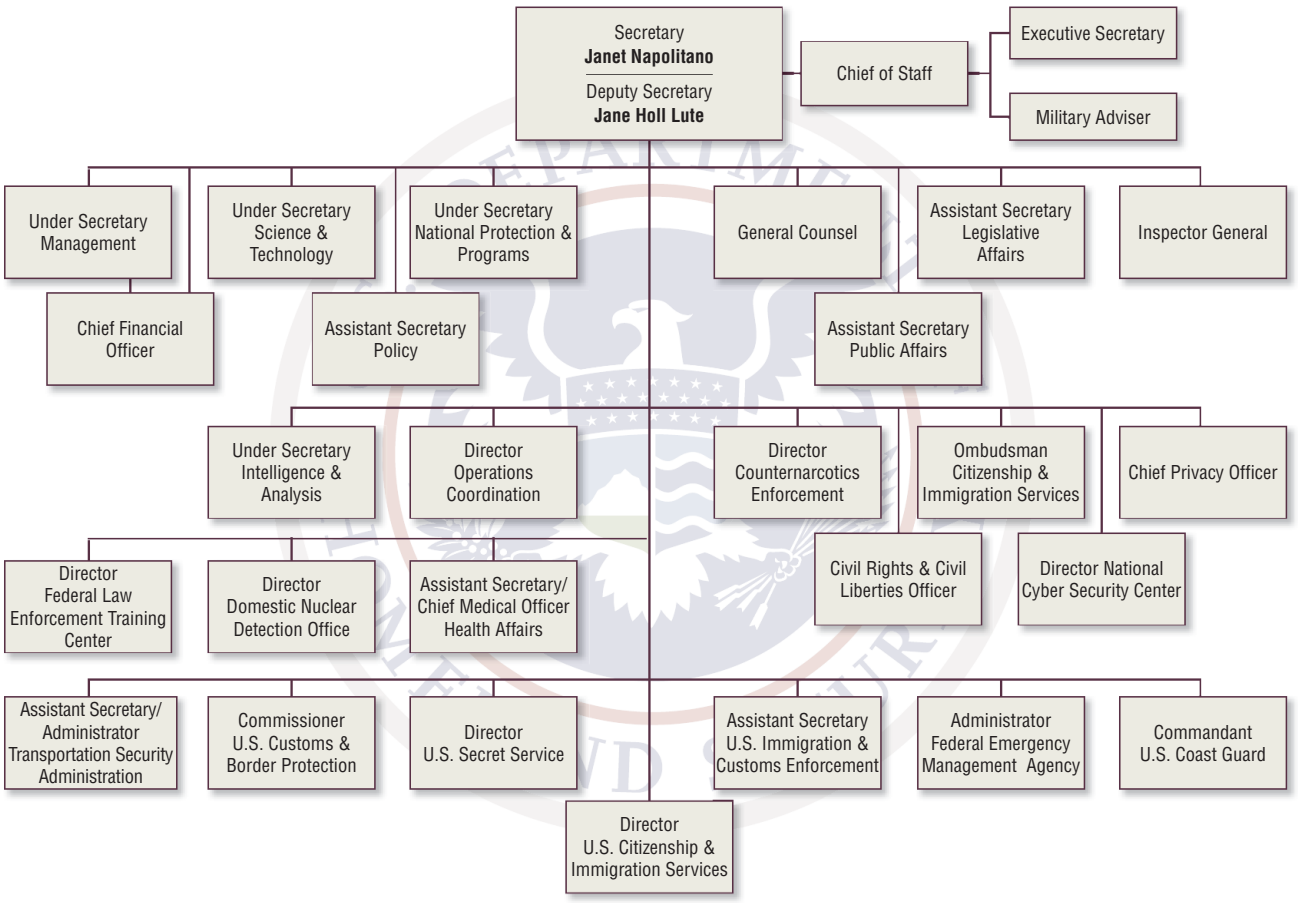
***Nominated 4/16/12**

Department of the Navy

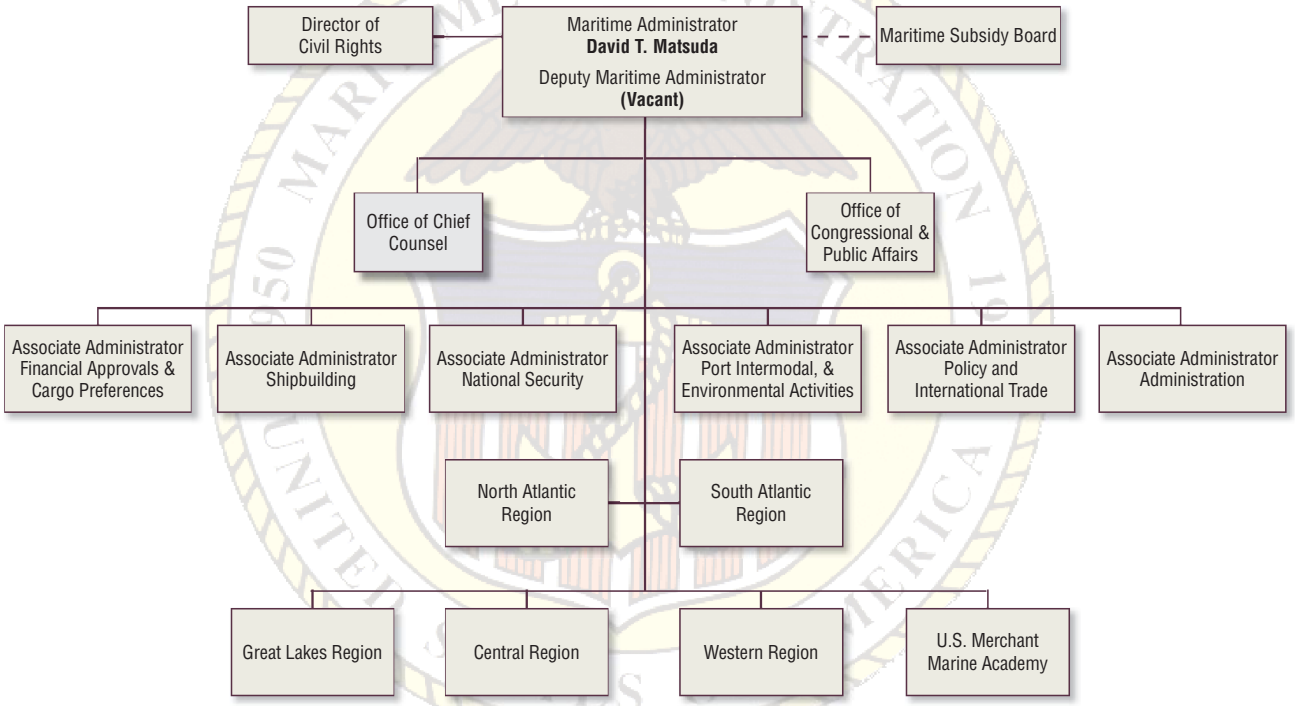
Ray Mabus



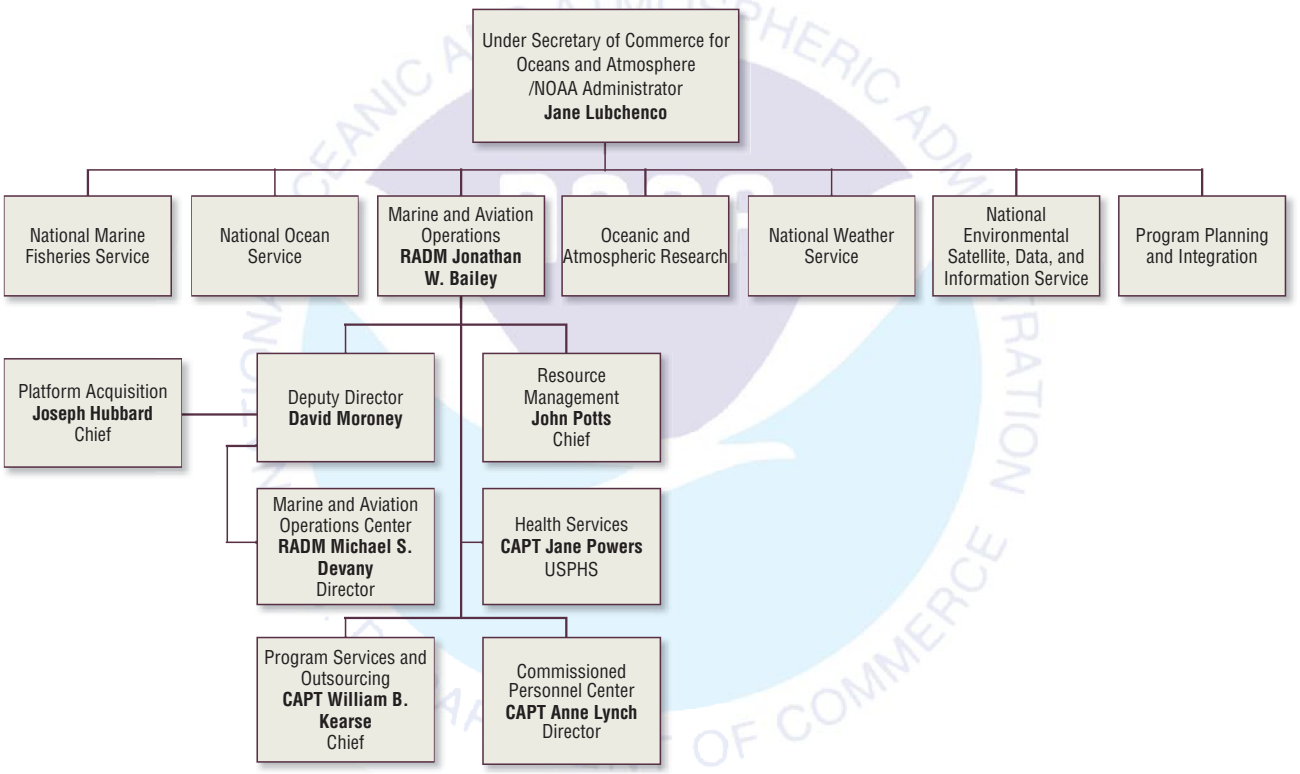
Department of Homeland Security



Maritime Administration



National Oceanic and Atmospheric Administration



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Timothy J. Walz, *MN*
Heath Shuler, *NC*
Steve Cohen, *TN*
Laura A. Richardson, *CA*
Albio Sires, *NJ*
Donna F. Edwards, *MD*

* Serves on Coast Guard and Maritime Transportation Subcommittee / † Subcommittee Chairman

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U.S. House of Representatives home page: www.house.gov

U.S. Navy

General

Department of the Navy **703-545-6700**
Washington, DC 20350-1200 **www.navy.mil**
Navy Office of Information **www.chinfo.navy.mil**
1200 Navy Pentagon
Washington, DC 20350-1200
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www.chaplain.navy.mil
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Medals and Awards **202-685-1770**
Navy Mutual Aid Association **800-628-6011**
Henderson Hall **www.navymutual.org**
29 Carpenter Rd. **info@navymutual.org**
Arlington, VA 22212
Navy-Marine Corps Relief Society **703-696-4904**
875 N. Randolph St., Suite 225 **www.nmcrs.org**
Arlington, VA 22203-1977
Naval Services FamilyLine **877-673-7773**
1014 N St., SE, Ste. 12 (DSN) **288-2333**
Washington Navy Yard **nsfamline@aol.com**
Washington, DC 20374-5067 **www.lifelines.navy.mil**

Community and Personnel Services

Navy Personnel Command **www.npc.navy.mil/channels**
5720 Integrity Dr. **866-827-5672**
Millington, TN 38055-0000

Casualty Assistance (Active)/Family Liaison **800-368-3202**

Retired Activities Branch **866-827-5672**
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Assistance (Retired) **866-827-5672**
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Personnel Records

Active and Reserve Records Branch **901-874-4885**
Discharged, Deceased, Retired before 1994
National Personnel Records Center **314-801-0800**
Military Section
9700 Page Ave. **www.archives.gov/st-louis/military-personnel/**
St. Louis, MO 63132
Discharged, Deceased, Retired 1995—Present
Navy Personnel Command **866-827-5672**
5720 Integrity Dr.
Millington, TN 38055-3130
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Enlisted Separated before 1885
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National Archives and Records Administration
8601 Adelphi Road
College Park, MD 20740

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Military and Maritime Agencies

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Washington, DC 20573
Maritime Administration **800-996-2723**
Department of Transportation **www.marad.dot.gov**
West Building **marad.pao@marad.dot.gov**
1200 New Jersey Ave. SE
Washington, DC 20590
National Aeronautics and Space **202-358-0001**
Administration (NASA) Information **www.nasa.gov**
NASA Headquarters
Suite 5K39
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Washington, D.C. 20011-8400 **www.afrh.gov**

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Information on military medical benefits, survivor benefits, federal benefits for reservists, veterans' benefits, and more is published in the

- *2012 Uniformed Services Almanac*
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- *2012 National Guard Almanac*
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All four publications are available through Uniformed Services Almanac, Inc. info3@militaryalmanac.com; www.militaryalmanac.com. Each almanac is $12.95 plus shipping.

Associations

AFCEA (Armed Forces Communications and **800-336-4583**
Electronics Assn) **www.afcea.org**
4400 Fair Lakes Ct.
Fairfax, VA 22033-3899
American Society of Naval Engineers (ASNE) **703-836-6727**
1452 Duke St. **www.navalengineers.org**
Alexandria, VA 22314–3458
American Veterans (AMVETS) **877-726-8387**
4647 Forbes Blvd. **amvets@amvets.org**
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Association of Naval Aviation (ANA) **703-960-6806**
2550 Huntington Ave., Ste. 202 **anafhqtr@aol.com**
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Association of the United States Navy **877-628-9411**
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U.S. Coast Guard (CWOA) **202-554-7753**
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Coast Guard Academy Parents Assn **860-442-2683**
47 Mohegan Ave. **www.uscgaparents.org**
New London, CT 06320-8111 **president@uscgaparents.org**
The Coast Guard Foundation, Inc. **860-535-0786**
394 Taugwonk Rd. **www.coastguardfoundation.org**
Stonington, CT 06378-1807

Associations Cont.

Disabled American Veterans (DAV) **859-441-7300**
P.O. Box 14301 **www.dav.org**
Cincinnati, OH 45250-0301 **877-426-2838**

Fleet Reserve Assn (FRA) **703-683-1400**
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Alexandria, VA 22314–2754

Historic Naval Ships Assn **757-356-9422**
P.O. Box 401 **www.hnsa.org**
Smithfield, VA 23431-0401

Marine Corps Assn **800-336-0291**
715 Broadway St. **mca@mca-marines.org**
Quantico, VA 22134 **www.mca-marines.org**

Marine Corps Aviation Assn **800-280-3001**
P.O. Box 296 **mcaa@flymcaa.org**
Quantico, VA 22134 **www.flymcaa.org**

Marine Corps Heritage Foundation **800-397-7585**
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Submarine Technology Symposium, 15–17 May 2012, Johns Hopkins University, Applied Physics Lab, Laurel, MD. Registration: http://www.jhuapl.edu/sts. Contact: subtech@cavtel.net.

Naval Aviation Symposium '12, 9–11 May 2012, Pensacola, FL. Contact: Naval Aviation Museum Foundation, 1750 Radford Blvd. Suite B, NAS Pensacola, FL 32508-3104. 800-327-5002, or 850-453-2389.

AFCEA Solutions, 22–23 May 2012, Fairfax, VA. Contact: Programs, AFCEA, 4400 Fair Lakes Ct., Fairfax, VA 22033-3899. 703-631-6128 or 800-336-4583; www.afcea.org/events.

Naval Helicopter Association Symposium '12, 14–17 May 2012, Norfolk, VA. Contact: NHA, P.O. Box 180578, Coronado, CA 92178-0578. 619-435-7139; fax: 619-435-7354; www.navalhelicopterassn.org.

AFCEA TechNet Europe 2012, 30–31 May 2012, Prague, Czech Republic. Contact: europe@afcea.org; www.afcea.org/europe/.

Navy League National Convention, 19–24 June 2012, Honolulu, HI. Contact: Navy League of the United States, 2300 Wilson Blvd., Suite 210, Arlington, VA 22201-3308. 800-356-5760; 703-528-1775; www.navyleague.org.

Marine Corps League National Convention, 12–18 August 2012, Mobile, AL. Contact: P.O. Box 3070, Merrifield, VA 22116. 800-625-1775; www.mcleague.org.

Tailhook '12, 6–9 September 2012, Reno, NV. Contact: 800-648-1177; www.tailhook.org.

Air Force Association Air & Space Conference and Technology Exposition 2012, 17–19 September 2012, National Harbor, MD. Contact: 703-247-5838; www.afa.org.

Marine Corps League 32nd Annual Modern Day Marine Military Exposition, 25–27 September 2012, Quantico, VA. Contact: Nielsen Co., 1525 Wilson Blvd. Suite 1200, Arlington, VA 22209. 703-812-2741; www.marinemilitaryexpos.com.

Naval Submarine League Annual Symposium, 17-18 October 2012, Falls Church, VA. Registration opens in August. Contact: Box 1146, Annandale, VA 22003. 703-256-0891; www.navalsubleague.com.

Association of the United States Army Annual Meeting, 22–24 October 2012, Washington, DC. Contact: 800-336-4570; www.ausa.org.

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AFCEA TechNet International 2011, 23–25 October 2012, Rome, Italy. Contact: europe@afcea.org; www.afcea.org/europe/.

Naval Order of the U.S. Annual Congress, 24–27 October 2012, Baltimore, MD. Contact: www.navalorder.org; NavalOrder@aol.com.

Society of Naval Architects and Marine Engineers Annual Meeting & Expo 24-26 October 2012, Providence, RI. Contact: SNAME, 601 Pavonia Ave., Jersey City, NJ 07306. 800-798-2188; www.sname.org.

Surface Navy Association 25th National Symposium, 15–17 January 2013. Contact: SNA, 2550 Huntington Ave., Ste. 202, Alexandria, VA 22303. 703-960-6800; www.navysna.org.

U.S. Naval Institute and AFCEA West Conference and Exposition, 29–31 January 2013, San Diego, CA. For exhibit information and registration, contact: J. Spargo Associates, 11212 Waples Mill Rd., Ste. 104, Fairfax, VA 22033. 703-631-6200; fax: 703-818-9177. For program information, visit www.usni.org or e-mail conferences@usni.org.

ASNE Day 2013, 7–8 February 2013, Crystal City, VA. Contact: 1452 Duke St., Alexandria, VA 22314-3458. 703-836-6727; www.navalengineers.org.

Navy League Sea-Air-Space Exposition, 8–10 April 2013, National Harbor, MD. Contact: Navy League of the United States, 2300 Wilson Blvd., Arlington, VA 22201-3308. 703-528-1775; www.navyleague.org.

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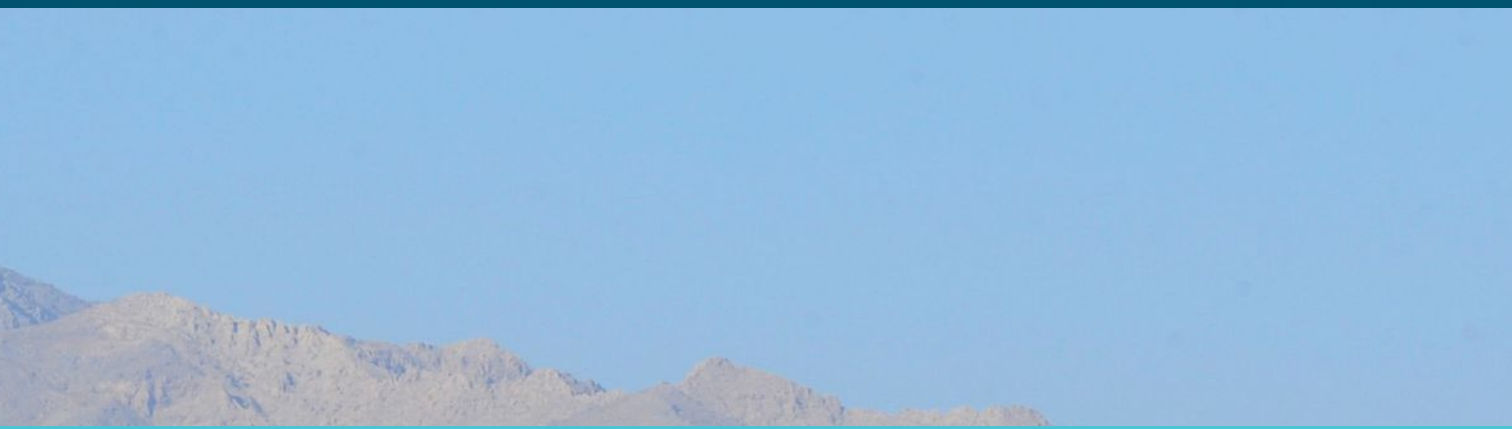

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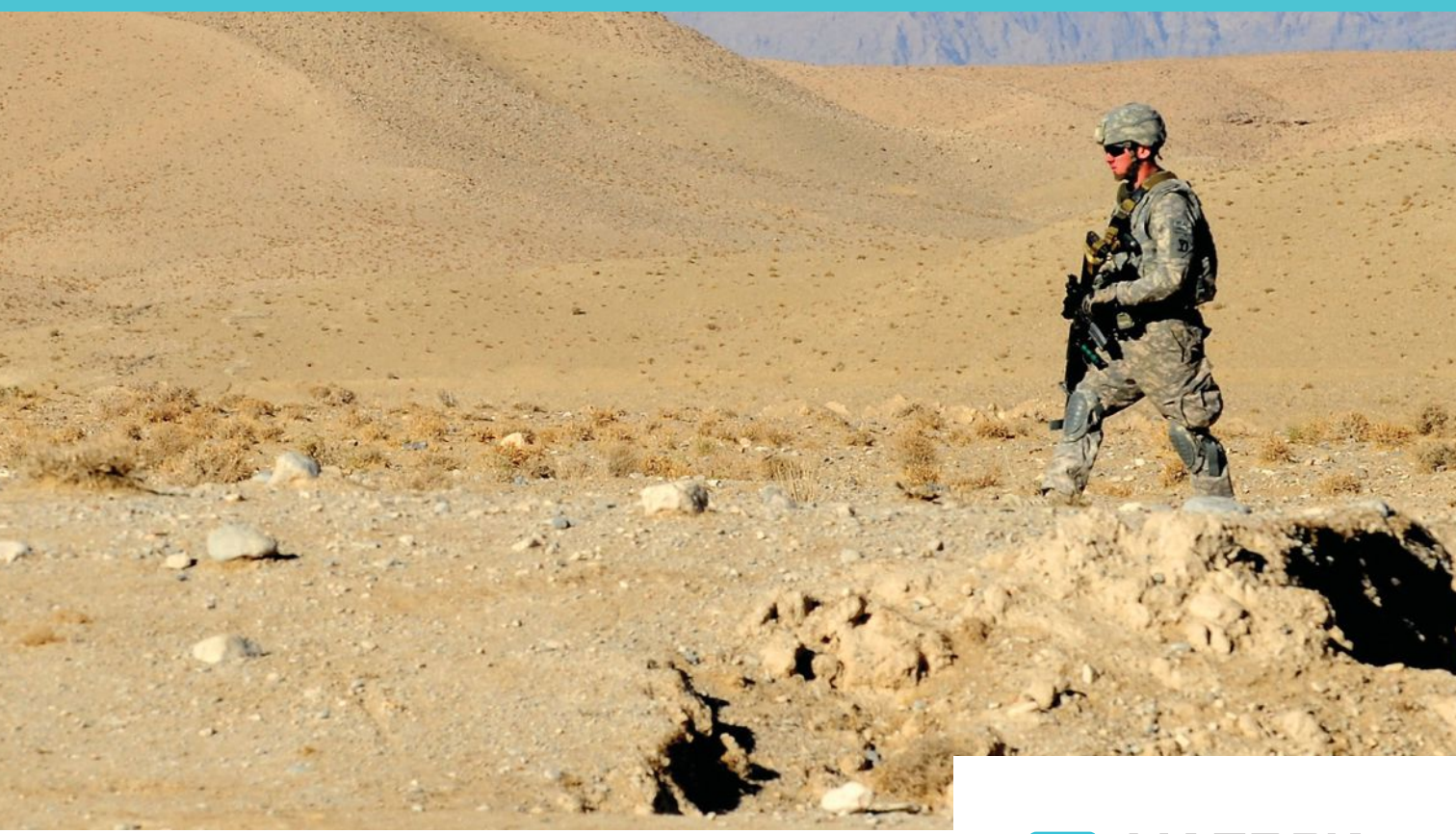


MAERSK LINE, LIMITED

Mr. and Mrs. Madison's War: America's First Couple and the Second War of Independence

Hugh Howard. New York: Bloomsbury Press, 2012. 384 pp. Illus. Notes. Index. $30.00.

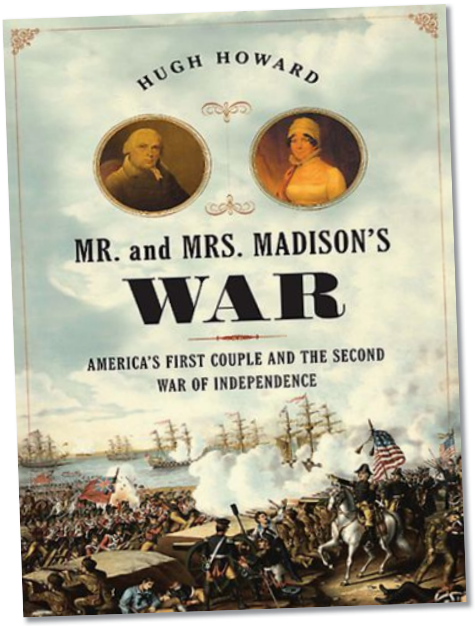
Reviewed by David S. and Jeanne T. Heidler

Hugh Howard has written an engaging look at the War of 1812 just in time for the commemoration of its bicentennial. The book is not entirely a military or political history, and it is certainly not a social history, but Howard blends these different perspectives into a lively story told through the eyes of James and Dolley Madison.

Howard obviously did not set out to write a comprehensive account of the war, but his vignettes nicely illustrate its important events. It makes for a rollicking good read. The author focuses often on the "Presidentess," as contemporaries sometimes called Dolley, to paint a flattering picture of her strength, style, and sagacity. While James sometimes fades into the background as a result, he emerges at the end a dedicated patriot. Events occasionally overwhelmed him—most infamously when the British marched on the capital—but here Madison is nevertheless an enduring figure of stoic strength.

Howard begins with a riveting account of HMS *Leopard*'s 1807 assault on the USS *Chesapeake* to introduce American efforts to manage growing tensions with Great Britain. Colorful characters enter and exit the story, as did guests at Dolley Madison's famous levees. Those events were so packed with people they were called "squeezes," but Mrs. Madison managed with aplomb, and Howard similarly handles his large cast. The young British minister Augustus John Foster watches helplessly as events overtake him; brash and charming Henry Clay exults in war and then works assiduously for peace; and commanders cope with supply shortages, government ineptitude, and inexperienced recruits. Ignominious defeats are predictable, miraculous triumphs marvelous.

Howard has a flair for dramatic descriptions of military affairs, and though some arguably deserve more attention, those elaborately treated are beautifully told. From the disgraceful surrender of Detroit to Captain Isaac Hull's victory over the *Guerriere*, readers will smell gunpowder and feel sea spray. Naval engagements, in fact, are described with exceptional clarity and cinematic detail, both the blue-water exploits of America's storied frigates and the heroic actions on inland lakes, such as Oliver Hazard Perry's crucial victory at Put-in-Bay. Some of the book's best parts depict the tense days before the British attack on Washington, D.C., where growing civilian panic and mounting military chaos sealed the capital's fate.



Inevitably, the author's work has its flaws. Not everyone will agree with his admiring interpretation of Mr. and Mrs. Madison's equal importance in sustaining the war effort. Some will fault his choice of maps, particularly when his accounts of complicated campaigns would have benefited from them, as with British operations at Baltimore. Some of the latest literature is missing from his bibliography, and a few factual errors mar an otherwise splendid tale.

One of the most glaring instances is Howard's observation that Fort Mims in southern Alabama was a fortification used exclusively by white settlers. Actually, Fort Mims was peopled with whites, Creeks, and mixed-race settlers and militia, an indication of the complexity of the Creek War. Andrew Jackson did not replace William Henry Harrison. Harrison's resignation merely opened up a regular general's billet that Jackson was tapped to fill. And Howard's version of the Battle of New Orleans omits any mention of British operations aimed at the Mississippi's west bank that, if better timed, could have easily turned the tables on Old Hickory.

In short, specialists will find little new here, and some will likely cavil at the phrase "Second War of Independence" in Howard's subtitle and in his narrative. Yet we can say that he gamely makes a case for the war invigorating the country, in the end. Admittedly this is not a new view of the significance of that conflict, but Howard's explanation gives us different perspectives. Moreover, general readers are in for a treat, for Howard's manner of telling the story is fresh and often compelling.

David S. Heidler is an independent scholar in Colorado Springs, where Jeanne T. Heidler is a professor of history at the U.S. Air Force Academy. They are the authors of books on the War of 1812 and the early American republic, including, most recently, *Henry Clay: The Essential American* (Random House, 2010).

1812: The Navy's War

George C. Daughan. New York: Basic Books, 2011. 491 pp. Illus. Maps. Notes. Bibliog. Index. $32.50.

Reviewed by David Curtis Skaggs

The status quo antebellum terms of the Treaty of Ghent that ended the second war between the United States and Great Britain seemed to indicate, says author George Daughan, that Americans, Britons, Canadians, and Native Americans "had sacrificed in vain. . . . The war seemed to have settled nothing." In the document, the causes of the war—impressment of American sailors into the Royal Navy, restrictions on neutral commerce during wartime, encouragement

of native warriors to combat American settlers, disputes over national boundaries—are not mentioned. But to conclude that this meant nothing had changed defies reality, as Daughan, like most historians, finds. The consequences were worth the sacrifice: The war "laid the foundation of a peaceful relationship between the two great English-speaking countries that was to last more than two centuries and was to serve both them and the world extraordinarily well."

Daughan argues that at the core of this newfound appreciation of the United States was the significant contribution of its Navy to the war effort. For those wanting a review of the naval engagements, political infighting, strategic policies, and operational successes and failures, this soundly researched and finely written volume constitutes one of the best available. An unusual and important difference from most accounts of the Navy's history is the author's inclusion of the military aspects of the war in North America and related European events.

Daughan emphasizes the importance of William Jones as the secretary of the Navy, 1813–14. A privateer veteran of the American Revolution and longtime Philadelphia shipping merchant and banker, Jones took control of the department from his inept predecessor, Paul Hamilton, and provided organizational competence, administrative energy, and sound strategy. Recognizing that there was no chance for strategic victory in warship encounters on the high seas, Jones focused instead on commerce raiding, with an emphasis on the destruction of Britain's economically essential overseas trade. His orders stressed the destruction of commercial vessels over the desire held by too many of his captains for personal glory against enemy warships. Some, like James Lawrence, disobeyed him with fatal consequences.

As the British blockade tightened, Jones built and deployed sloops of war, against the wishes of many congressmen and senior naval officers who wanted 74-gun ships of the line and more heavy frigates. There was a sound strategic reason for his policy; sloops of war "were faster, took less time to build, were much cheaper, and required smaller crews" than frigates and ships of the line, and they could "also beat the blockade more easily." If Daughan had spent less space describing land warfare in Europe, he could have paid more attention to cruises such as that of the sloop *Wasp* and her gallant commander Johnston Blakeley; ton for ton and gun for gun, she did more for the war effort than the vaunted *Constitution*.

To supplement his naval strategy, Jones encouraged privateering. Daughan acknowledges that these entrepreneurs collectively captured more British merchantmen and adversely affected the enemy's domestic insurance rates and commodity prices than did the U.S. Navy. Given their strategic importance, the reader would have appreciated having a couple of these cruises included in the descriptions. Privateers also drove up prices for naval matériel and deprived the U.S. Navy of many of the country's experienced seamen.

Secretary Jones emphasized building and manning squadrons on the North American lakes more than most of his senior captains wanted him to (there were no admirals until the Civil War). He was well served by Oliver Hazard Perry on Lake Erie and Thomas Macdonough on Lake Champlain. On the very critical Lake Ontario, Commodore Isaac Chauncey proved a most effective supervisor of ship construction and a mediocre combat commander. Daughan virtually ignores Chauncey's opportunity to impose decisive defeat on Commodore Sir James Yeo's squadron at the so-called "Burlington Races" in September 1813. Particularly because he writes so effectively about naval action, this gap is disappointing. Also not receiving sufficient analysis are the amphibious operations at York (Toronto), Fort George on Lake Ontario, and at Amherstburg in the Detroit River, all fine examples of unity of effort without unity of command.

Still, *1812: The Navy's War* is more than its title implies. It combines a lively narrative of naval actions with a keen understanding of national strategy and international relations in the conduct of war. For those with limited reading time during this war's bicentennial, Daughan's account is an excellent overview with enough detail to satisfy most.

Dr. Skaggs is professor emeritus of history at Bowling Green State University, Ohio, and author of more than a dozen books, including the biographies *Oliver Hazard Perry* (2006) and *Thomas Macdonough* (2003), Naval Institute Press.

Admiral Nimitz: The Commander of the Pacific Ocean Theater

Brayton Harris. New York: Palgrave Macmillan, 2011. 238 pp. Illus. Notes. Bibliog. Index. $26.00.

Reviewed by Robert Love

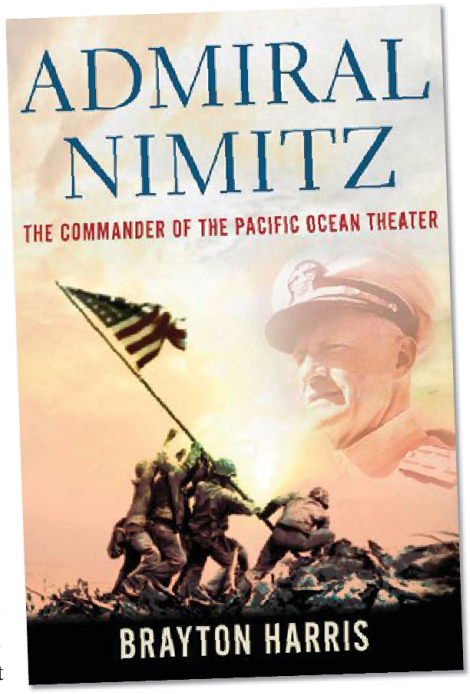
Most of the high-ranking American naval leaders of World War II deserve serious, respectable biographies, works of careful scholarship akin to Forrest Pogue's *George C. Marshall*, Gerald Wheeler's *Kinkaid of the Seventh Fleet*, or John B. Lundstrom's *Black Shoe Admiral* about Frank Jack Fletcher. Altogether too much of what is available is either hagiographic—*The Magnificent Mitscher* by Theodore Taylor, for instance—or reliant on older or less-than-rigorous research. None of the four fleet admirals—William D. Leahy, Ernest J. King, Chester W. Nimitz, and William F. Halsey—are the subject of serious, well-researched, carefully crafted studies.

This is particularly sad in the case of Nimitz. Descended from German settlers of Fredericksburg, Texas, he graduated from the U.S. Naval Academy in 1903, entered the infant submarine service, and later specialized in early diesel technology. His most notable interwar billets

were as assistant chief and later chief of the Bureau of Navigation (later renamed the Bureau of Naval Personnel). Slated to take command of the Asiatic Fleet in late 1941, Nimitz was abruptly tapped by Secretary of the Navy Frank Knox to relieve Admiral Husband Kimmel as CinC Pacific Fleet after the Japanese attack on Pearl Harbor.

Unique among the half-dozen wartime Allied theater commanders, Nimitz was seldom burdened by combined (multinational) concerns, although his joint (Army-Navy) difficulties were many, and he was served by a host of determined, often raspy flag and general officers. Blessed with a calm, cheery demeanor, Nimitz disliked personal confrontations. He defused them with what one Navy widow confided were the "best dirty jokes," by delegating unpleasantries to his chiefs of staff—either eccentric or unpleasant men—or by shifting blame to his immediate superior, Admiral King, who reluctantly bore this cross.

Whereas grand and, often, theater strategies were the product of compromises negotiated between King and Army Chief of Staff General George C. Marshall or with the Anglo-American Combined Chiefs of Staff (CCS), King worked might and main to shift operational planning from Washington to the Pacific command, but whether and why Nimitz welcomed or delayed accepting these responsibilities remains unclear. He resisted deployments to the South Pacific in early 1942, adopted King's attrition approach off Midway—apparently without considering alternatives—and agreed to the grinding Solomons offensive without quarrel.



After King convinced the CCS to approve the Central Pacific drive, did Nimitz allow the arrival of the *Essex*-class carriers to dictate operations, or were other choices in play? And why, considering his background, did he tolerate confusion and incompetence to beset Pacific Fleet submarine strategy and command until 1944? What were Nimitz' contributions to, or reservations about, the Downfall plan for the invasion of Japan? Recent scholarship indicates he tried to scuttle it.

For two years after he succeeded King as CNO in December 1945, Nimitz directed the most impressive demobilization in modern naval history. Secretary of the Navy James Forrestal took the lead resisting unification, but what policies did Nimitz advance for the postwar Fleet and shore establishment, and what were the bases—strategic, financial, and political—for his choices? Did he succeed, fail, or merely step aside? Two years after retiring, Nimitz was appointed by President Harry S. Truman as the United Nations Special Representative on the Kashmir dispute between India and Pakistan, a full-time task that he did not abandon until 1951. Little is known of this heroic, yet fruitless effort.

Most of these important matters are not even addressed, and the others are not satisfactorily examined in Brayton Harris' brief *Admiral Nimitz*. Based wholly on E. B. Potter's earlier *Nimitz*, a smattering of secondary sources, a few of the many oral histories held by the U.S. Naval Institute, and no archival research, Harris' pleasingly written biography is ridden with error, replete with disconcerting omissions, and bereft of new scholarship or understanding. The list of the "most competent flag officers" compiled by Secretary Knox's "secret board" did not include King or any other four-star admiral. The Allies did not adopt a "Europe first" grand strategy after Pearl Harbor because Britain "was in imminent danger of capture or collapse," but because Germany possessed the resources to win the war whereas Japan's defeat was a surety. Length alone cannot excuse these lapses, as illustrated by the deeply researched *MacArthur* by the knowledgeable U.S. Army historian Mitch Yockelson, an equally brief volume in a similar series. For the general reader unfamiliar with the Pacific war or naval history, however, *Admiral Nimitz* is a decent, short primer.

Dr. Love, who teaches naval and military history at the U. S. Naval Academy, is the author of the two-volume *History of the U.S. Navy* (Harrisburg, PA: Stackpole Books, 1992).

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subsequently, to have always served in ships whose names I am proud of. In one case, however, it led to an amusing incident.

I was a member of the air group deployed in the USS *Ticonderoga* (CVA-14), and we were enjoying a port visit in Hong Kong in the late 1950s. I happened to be in the ready room when a call came from the officer of the day asking if we could supply a guide for a tour of the ship for some British visitors.

I decided to do it myself and met them on the quarterdeck, a British army major and his family, as it turned out. I gave them what I thought was a suitable tour of the ship, during the course of which the major inquired about the origin of the ship's name.

Trying too hard perhaps to be diplomatic, I told them that it was an American Indian name.

Upon leaving the ship, they invited me to dinner at their flat and said, "Bring a friend, too, if you like." I took my wingman along, and over cocktails the major remarked, "By the way, I've done a bit of research on your ship's name, and I find that it comes from a time when we were not so friendly as we are now!" We had a good laugh over that and a very enjoyable evening.

Renaissance of the Russian Navy?

(See T. R. Fedyszyn, pp 30–35, March 2012 *Proceedings*)

Rear Admiral Thomas A. Brooks, U.S. Navy (Retired)—Congratulations to Captain Fedyszyn for reminding us that all the attention currently being paid to the Chinese navy may have caused us to forget that the Russian navy is still there, still possesses a sea-based deterrent capable of a devastating nuclear attack, and is beginning to make moves—although slow and sometimes faltering—to expand and upgrade its high-seas surface force.

There really is little that should be surprising about this. Throughout Russian and Soviet (and now, again Russian) history, when land borders were secure, the economy healthy, and a strong tsar was in power, Russia has looked outward and has built a high-seas navy. The opposite pattern is equally apparent: When threatened on land or faced with a weak economy, the navy has been relegated to defensive ships and missions.

This pattern goes back to the beginnings of modern Russia. In the early 18th century, Peter the Great built the first real Russian high-seas navy and used it to wrest the Baltic from Sweden. For almost 50 years after his death, the navy languished under weak tsars. Catherine the Great revived it during the 1765–90 period. Her successors, Paul I and Alexander I, allowed the navy to decline, but Nicholas I revived it and used it to gain control of the Black Sea from the Turks. The Crimean War spelled the end of that navy.

Alexander III, a strong tsar, rebuilt the navy with the stated goal to "sink perfidious Albion." His navy went down to defeat at the hands of the Japanese in 1904 and 1905, but his son, Nicholas II, commenced another building program. The combination of World War I, the Russian Revolution and civil war, and the 1921 Kronstadt Uprising put an end to those plans, and early Soviet five-year plans allowed for only a defensive, submarine-centered navy.

But Joseph Stalin, again the strong tsar, authorized the building of battleships, heavy cruisers, and aircraft carriers in the 1937 plan and again in his 1950 plan. After his death in 1953, his successors reverted to the defensive doctrine of the early five-year plans, but within ten short years, Admiral Sergey Gorshkov succeeded in obtaining funding for carriers, nuclear-powered battle cruisers, and a large high-seas fleet of guided-missile cruisers and destroyers. His navy faded away with the demise of the Soviet Union.

But now 20 years have passed. Russia's borders are secure, and its economy is strong. The recent election of Vladimir Putin has assured the country of a strong "tsar"—probably for the next dozen years. Throughout history, this has meant that Russia will build a high-seas fleet.

Wait and see!

Inside the New Defense Strategy

(See N. Friedman, pp. 50–55, March 2012 *Proceedings*)

Colonel Charles D. McFetridge, U.S. Army (Retired)—As a member of the Naval Institute for more than 40 years, I have been stimulated, educated, and sometimes inspired by the workings of my sister service as related in *Proceedings*. It remains the premier service journal, and I have read each issue throughout my 30-year Army career and now in retirement. Dr. Friedman has been a favorite author of mine, so I turned quickly to his article on the New Defense Strategy. He articulates the Obama administration's "new" strategy, a replay of the one that Donald Rumsfeld championed a decade ago—rely on air and sea power and drastically reduce resources from the land-power component (Army and Marines).

I found Dr. Friedman's views balanced and thoughtful until I reached the section "What Stalin Knew." He correctly states that the Eisenhower administration "took a meat-ax to the U.S. Army." Lacking credible ground power, the United States had no realistic military options to counter communist military challenges as the Soviets and their proxies seized power in Eastern Europe, Asia, and moved aggressively in what we then called the Third World. America's overwhelming naval and air dominance between 1945 and 1960 was ineffectual unless opponents chose to play to our strengths. They rarely did. During those years our only counter to military aggression and subversion was to drop bombs. With a few exceptions, the United States had few viable military options other than total war.

I was appalled to read Dr. Friedman's assertion that President John F. Kennedy's rebuilding of the Army "offered the nation a unilateral option in Vietnam." This is simply wrong. The United States had about as many *treaty* allies fighting in Vietnam (South Korea, Australia, New Zealand, the Philippines, and Thailand) as it had in the Korean War and many more than in the Pacific in World War II. The reason defense was a centerpiece of the 1960 election was precisely because we had lost sight of the essential truth that America's defense must be a balance of land, sea, and air power. Overreliance on one or two of these at the expense of the other simply puts our vulnerabilities on display.

To maintain that "large armies get governments into trouble by offering possibilities that are easy to enter but very difficult to exit" is, with all due respect, oxymoronic. To follow this logic, the weaker the defense capabilities are the less likely governments are to get into situations that are difficult to exit; ergo, we should adopt unilateral disarmament. Then we would never be tempted to use military force because we couldn't. We call this preemptive capitulation. Armies (or fleets or air forces) do not "get governments into trouble." Rather it is the U.S. government that commits its military forces to achieve strategic policy objectives. When those forces are too weak to achieve the objectives set by the government, then and only then does it becomes difficult to get out.

So Much Strategy, So Little Strategic Direction

(See M. Junge, pp. 46–50, February 2012; M. Cancian, p. 9, March 2012; and M. Klopfer, p. 84, April 2012 *Proceedings*)

Commander John T. Kuehn, U.S. Navy (Retired), associate professor of military history, U.S. Army Command and General Staff College, Fort Leavenworth—Commander Junge's thoughtful and ambitious piece should be seriously considered by those making policy and who have influence that can be used to change the institutional culture of the Navy—for this is precisely what Junge is asking. The "budgets are not strategy" argument has been made many times in the past, but obviously it needs to be repeated on a regular basis. Recommendations are needed for professional military education aimed at moving the Navy away from what seems a rather stagnant intellectual culture that values engineering and the hard sciences more than the humanities. It does this at least until officers get to the point where Goldwater-Nichols forces the Navy via the Officer Professional Military Education Program (the OPMEP) to get some mandatory humanities education.

Commander Junge's recommendations for the U.S. Naval Academy and accession programs are nothing new, many of us have been arguing for a better balance in those areas for years.

Nothing ticks me off more than to hear senior officers tell our majors at the Command and General Staff Officer College, where I teach, "It's only a lot of reading if you do it." The Navy culture has been telling its officer corps this about the humanities, including naval history, since the end of World War II, and it is time to change this paradigm and re-institute a cultural ethos that values comprehensive intellectual development, not just the ability to use the manual to solve differential equations. If the Navy is to have a meaningful strategic culture, that is, one that can effectively educate and execute the process called "strategy," then it must again value the humanities. As C. P. Snow famously wrote in *The Two Cultures*: "Education isn't the total solution to this problem: but without education the West can't even begin to cope." The same might be said of the U.S. Navy.

The Emerging Arctic Frontier

(See R. J. Papp Jr., pp. 16–21, February 2012, and H. N. Boyer, pp. 9,84, March 2012 *Proceedings*)

Seppo I. Hurme—I would like to add the following to Admiral Papp's ar-

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ticle and Mr. Boyer's comments. Both stress the importance of the Arctic in light of the climate change that is making navigation and exploration for natural resources much more feasible than ever before. Those in Congress pushing for search and exploration of oil and gas apparently have given little thought to how we can protect those resources. Once again, the commercial sector seems to be taking the lead. Shell Offshore has leased two Finnish multipurpose icebreakers that also can be used to service the oil platforms and in fighting any spills that may occur. For the next three seasons, they will serve in the Arctic during summer, returning to icebreaking duties in Finland for the winter. They also will be used to ensure that Arctic ice does not threaten the drilling rigs.

These ships are truly state-of-the-art, as the Finnish company Aker Arctic has neatly solved the problem as to what to do with icebreakers when the winter is over. Environmentally, they are also superlative. The main engines will be fitted with catalysts in the exhaust system to allow them to burn ultra-low-sulfur diesel fuel. Its emissions will meet all EPA requirements.

Unfortunately, the Coast Guard will not be able to purchase similar ships from Finland, because American law requires domestic bottoms. However, the Canadians have found a solution that could be used by the Coast Guard. Aker Arctic Technology has been chosen to join a team led by STX Canada Marine to design the Canadian Coast Guard's future flagship, the CCGS *John G. Diefenbaker*. The design work is expected to take 18–24 months, and the ship will be built by Vancouver Shipyards Co. Ltd. It will be capable of accommodating 100 personnel, with space for an additional 25 people. The ship will be able to break through eight feet of ice at three knots. The delivery of the *John G. Diefenbaker* will coincide with the decommissioning of the current flagship, the CCGS *Louis S. St-Laurent*, in 2017.

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Cameron's Historic Descent: A Personal View

By Don Walsh

In the early morning hours of 26 March, explorer/Oscar-winning filmmaker James Cameron realized a decade-old dream. He piloted his manned submersible, the *Deepsea Challenger*, to the deepest place in the World Ocean, the Challenger Deep in the western Pacific's Mariana Trench. Cameron's maximum depth was 35,756 feet, only 84 feet less than the Navy's bathyscaph *Trieste* 52 years earlier.

This story began for me in December 2003 when I was invited to visit Jim's offices in Malibu, California. We spent a fascinating day discussing his plan to build a full-ocean-depth manned submersible. Then for the next seven years, I heard nothing more about his project.

That changed last January when I was asked to go to Sydney, Australia, to spend a week at the shop facility where the submersible was being constructed. I expected to see a warehouse floor covered with component pieces but no submersible. What I found was quite different. A team of 35 technicians had virtually completed the *Deepsea Challenger*!

The Deepsea Challenge Expedition project had two major sponsors in addition to Cameron's own resources: the National Geographic Society and Rolex. Project costs have not been revealed, but they appear to be on the north side of $20 million. There was not a penny of government funding in any of this work.

The sub represents a remarkable departure from conventional manned submersibles. All such vehicles have two primary components—a thick-walled spherical pressure hull for the people and an egg-shaped external framework filled with special foam to provide buoyancy. The 12-ton *Deepsea Challenger* has those basic elements, but the resemblance with conventional deep submersibles ends there. In order to be able to dive rapidly, this craft resembles a vertical torpedo or spar buoy.

After shallow test dives near Sydney, the sub left for Papua, New Guinea, on board its dedicated mother ship, the 206-foot *Mermaid Sapphire*. Maximum depth reached by Cameron in this deep-test series was 27,000 feet. He was now one of only 12 deep-ocean explorers who had reached that depth.

COURTESY OF THE AUTHOR

Legendary filmmaker James Cameron (left) is all smiles as he emerges from his submersible after having made it to the deepest part of the ocean. Columnist Don Walsh, who pioneered the reaching of those ultimate depths in 1960, is on hand to congratulate Cameron on now being a member of "a very exclusive club."

Next, the *Sapphire* headed north toward Guam and the nearby Challenger Deep. It was now mid-March, and everything was ready for sailing to the dive site 184 miles southwest of Guam. I rejoined the expedition at this time. We now were accompanied as well by a dozen oceanographers on the board the 130-foot support ship *Barakuda.*

On 24 March, the *Deepsea Challenger* made an unmanned maximum-depth dive. Acoustically transmitted telemetry data showed the sub descending at about 2.5 knots, nearing the bottom, and then hovering just above the seafloor at a depth of 35,350 feet. While some minor repairs and adjustments were required, the *Deepsea Challenger* performed exactly as designed.

On 26 March the *Sapphire* launched the *Deepsea Challenger* with the 6-foot-2-inch Cameron crammed into the small cabin. Just before the hatch was closed I told him, "Good luck and have fun!" During the two-and-a-half-hour descent Jim was able to have both voice and Twitter communications with the *Sapphire*'s control room via acoustic links. The telemetry gave the sub's continuous depth and position data. At 0900 he arrived at the bottom of the Challenger Deep and spent two and a half hours there.

It took the *Deepsea Challenger* only 70 minutes to reach the surface. It was midday now, and as he opened the hatch, I greeted a smiling Jim: "Congratulations and welcome to a very exclusive club! You and I are the only living persons who have been this deep in the oceans."

It was a great honor to have been part of this historic expedition. In 1960, after Jacques Piccard and I surfaced from our dive, we sat topside waiting for the boat. We talked about when the next manned expedition would return to the Challenger Deep. As I recall, we agreed that it might be at least two years away. In fact, it was 52 years later.

The Deepsea Challenge Expedition was not a one-off record-setting project. The next phase of diving operations will return to the Challenger Deep where imagery, scientific data, and physical sampling will be accomplished. Operations will resume not only at the Challenger Deep but also within other deep ocean-trench systems.

Borrowing a line from his movie *The Terminator*, James Cameron says, "I'll be back!"

Don Walsh was pilot of the U.S. Navy bathyscaph *Trieste* when it dove to 35,840 feet into the Challenger Deep in January 1960. Subsequently he was designated U.S. Navy Submersible Pilot No. 1.

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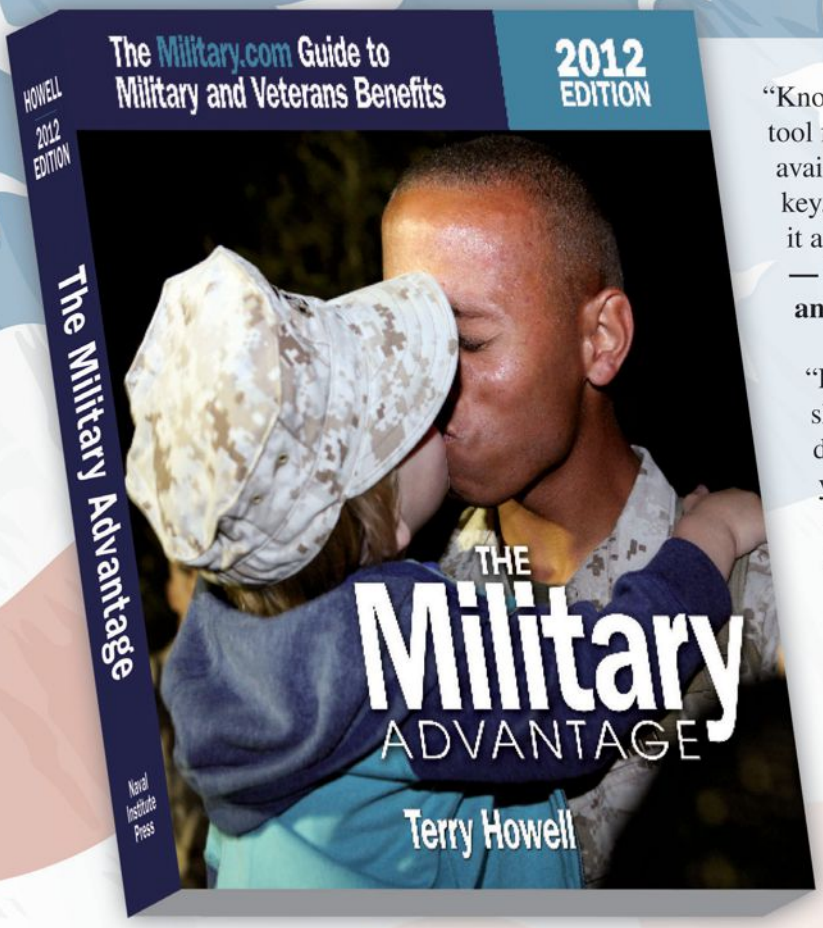

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Technology's Hidden Dangers

By Norman Friedman

A recent incident in Afghanistan illuminates a military aspect of the new world of integrated electronics, as exemplified by smart phones. Integration means that formerly disparate functions, such as those of a camera, phone, and Internet access, are combined seamlessly in a single device so one can feed off the others. In this case, four new attack helicopters were delivered to a U.S. base, the location of which had apparently been unknown to the enemy. Soldiers there photographed them and put the photos on the Internet, presumably using a social medium such as Facebook. Not long afterward the helicopters were all destroyed by a Taliban mortar attack. The base was secret, and it was unlikely that Afghan agents had tipped off the Taliban. What happened?

Technology was the culprit. The soldiers used smart phones to take the pictures; today about a third of all photographs taken by Americans are taken by phones rather than by stand-alone cameras. Smart phones generally incorporate GPS receivers, and they automatically tag their photos with GPS locations, which tell the user where the picture was snapped. In a digital world, that adds very little to the size of the photo, and it is usually a welcome feature—where were we when we saw that astounding thing on vacation? The phones' GPS has made possible all sorts of applications undreamt of a few years ago. It is, for example, the inbuilt GPS that makes it possible for you to hit an icon on your smart phone and suddenly have all nearby restaurants pop up.

The integrated GPS feature can be turned off, but the default option is to leave it on; why would a consumer not want it? It may even be impossible to turn off completely, because we now live in a world in which government finds it useful to be able to track a cell phone or smart phone, a consequence largely of the same terrorism that has taken us to Afghanistan to fight the Taliban.

In this case, the GPS attachment had devastating consequences. Once the photos had been uploaded, they could be read by unintended parties—the Taliban in particular. The GPS tags, which are called metadata, could also be read. In effect, the soldiers innocently snapping photographs were broadcasting their location, and because the digital world is nearly instantaneous, the broadcast was almost in real time. Certainly the intelligence was available soon enough for the Taliban to exploit it.

The Internet has made it possible to use what amounts to radio phones without risking the kind of radio location that, in the past, caused fatal problems. In an important sense the Internet is nonlocal. That is why it is so difficult to know who launches a jamming attack on someone's e-network, or who is trying to steal various secrets (guesses are another matter entirely). However, the miracle of GPS and the standard practice of tagging photos (including those from many stand-alone cameras) with GPS locations turns many Internet messages into potential intelligence windfalls for enemies.

It's been a long time since mobile phones were more than just telephones, and in some ways our society is just waking up to that fact. For example, many courts have long banned cameras, which is why accounts of major trials generally feature sketches by professional court artists. However, most of us consider our cell phones and smart phones so essential that we are unwilling to be separated from them, and many court authorities are sufficiently deaf to the nature of technology that they have not realized that allowing a cell phone into a courtroom generally means allowing in a camera (federal courts do realize this, and they ban both phones and laptops).

The Afghan incident is a modern version of an old but insufficiently familiar story. The bottom line is that emitting anything electronic is dangerous, and anyone who emits thoughtlessly in a war zone is likely to be killed. This reality is often ignored because the world of electronic intelligence is so secret, both currently and, by extension, historically. That makes good sense when it applies to code-breaking, because news of a broken code leads an enemy to change it and thus wipe out many hours of work. Hence the elaborate Allied efforts during World War II to keep the Germans from suspecting that their Enigma system had been deciphered.

Only in the past few years has it become clear that the Germans suspected, but refused to believe, that their incredibly clever system had been compromised. Victims of code-breaking resist the revelation that they have been fooled, so strongly in fact that an enemy can often brazenly use code-breaking information without the victim acknowledging what is happening. Anyone who thinks that problem has to do with the nature of Nazi society ought to reflect on the fact that the U.S. Navy ignored more than a decade of fairly blatant evidence that the Soviets were reading its mail, which turned out to be the result of a combination of the Walker-family spy ring and the loss of crypto machines on board the USS *Pueblo* (AGER-2).

The Taliban case is, therefore, an unusual and laudable example of quick U.S. awareness of a serious electronic problem. Much of the success of the past was in simply using the fact that messages were sent to particular addresses: traffic analysis. When someone says that al Qaeda may be stirring because Internet chatter is up, he is reporting a form of traffic analysis.

Learning from History

We tend to denigrate this kind of intelligence (and to open ourselves up to it) because the spectacular achievements of the past are so often unknown. Many naval historians know that before World War II the U.S. Navy read Japan's codes and used that knowledge to reconstruct major Japanese maneuvers. However, in most accounts the only specific fruit of that work was the realization, in 1936, that Japanese battleships were a lot faster than imagined, the consequence being the redesign of the U.S. *South Dakota* class. For some reason that does not rank as a world-shattering achievement.

What has received infinitely less publicity is that, using traffic analysis, the U.S. radio-intelligence team unraveled Japan's 1930 maneuvers, which they discovered were designed specifically to test plans to counter the existing U.S. Pacific strategy—the thrust directly across the Pacific from Hawaii to the Philippines. The results really were shattering. It was obvious that the Japanese had been able to track U.S. exercises so well that they knew exactly what the U.S. Navy planned to do. That was the equivalent of what the Taliban did with the photos of the helicopters. Worse, it was clear that the Japanese plan would work. When Japan invaded Manchuria in 1931, President Herbert Hoover asked the CNO, Admiral William V. Pratt, what the Navy could do about it. Aware of the dramatic lessons learned the year before, he told the President that the Navy could do nothing. Worse, the Japanese would have good reason not to take any U.S. naval threat seriously.

This was a lot more important than technical intelligence about the speed of a Japanese battleship, and the U.S. naval leadership of the time took it seriously. There were two lessons. One was that U.S. strategy had to change. The radio intelligence explains a seismic shift in the U.S. war plan, previously not really explained, from the direct thrust into Japanese waters to the step-by-step advance used during World War II.

The other lesson was that U.S. communications were fatally insecure. The Japanese had tracked U.S. exercises (as the U.S. analysts had tracked the Japanese) by exploiting radio call signs, in effect the radio addresses to which messages were sent. The U.S. Navy promptly encrypted the addresses and adopted radio practices (the "Fox schedule") that countered traffic analysis. It did something more profound, too. It set up a "red team" whose role was to monitor its own radio traffic to see whether it could be exploited. We now know that the red team approach succeeded brilliantly.

These incidents did not make it into the short histories of U.S. naval radio intelligence that have been widely used during the past few years. They are buried in a much longer (and physically messier) history of pre-1941 U.S. naval radio intelligence compiled some time early in World War II. It seems ironic that an achievement at least as great as the code-breaking leading up to our victory at Midway has been almost completely forgotten.

As for our own security, it helped a great deal that communication was in the hands of a limited cadre of specialists, who could and would respond to instructions to avoid dangerous practices. Not everyone had a pocket-sized radio. But incidents like the Taliban mortar attack will continue and multiply unless we get better at red-teaming ourselves and at understanding our own rapidly changing communications technology. We are unlikely to gain awareness, on the necessary wide scale, without spreading a lot more knowledge of what, in the past, was seen as the black art of exploiting enemy communication.

The story of the interwar U.S. Fleet is far from unique, and during World War II many who should have known a lot better were killed by poor communications discipline and, a lot worse, poor comprehension of what could be gained. Only in the past few years, for example, has it become clear that many of the German successes in North Africa came not from code-breaking but from simply direction-finding British command transmitters while others in the British army were chipping away at the Germans by reading *their* radio messages.

War of 1812 Bicentennial Under Way

U.S. NAVY (WILLIAM LOVELADY)

The U.S. Coast Guard training barque *Eagle* (WIX-327) arrives in New Orleans on 17 April as part of The War of 1812 Bicentennial Commemoration. The events in New Orleans are part of a series of city visits by the Navy, Coast Guard, Marine Corps, and Operation Sail beginning in April 2012 and concluding in 2015. New Orleans is the first and last city visit in the series.

Dr. Friedman is the author of *The Naval Institute Guide to World Naval Weapon Systems*, Fifth Edition, and *Network-centric Warfare: How Navies Learned to Fight Smarter Through Three World Wars*, available from the Naval Institute Press at www.usni.org.

The first of the new U.S. Coast Guard Sentinel-class cutters was delivered in February. Up to 58 of the new ships, also known as Fast Response Cutters, are planned. The *Bernard C. Webber* (WPC-1101), is homeported in Miami, Florida, which is expected to receive the rest of the first batch of new vessels along with Key West, Florida, and San Juan, Puerto Rico. Based on the Stan Patrol 4708 design from Damen Schelde Naval Shipbuilding in the Netherlands, the cutters are being named in honor of heroic U.S. Coast Guard enlisted personnel. The *Bernard C. Webber* was ordered in 2008 and built at Bollinger Shipyards in Lockport, Louisiana. Displacing 353 tons when fully loaded, the 154-foot cutter carries a crew of 24, can travel in excess of 28 knots, and is armed with a 25-mm gun and four .50-caliber machine guns. The cutters are intended to replace the long-serving Island class in Coast Guard service.

U.S. COAST GUARD (J. JOHNSON)

NAVAL PRESS SERVICE (MICHAEL NITZ)

Germany recently announced plans to retire two Type 143A guided-missile patrol boats and two Type 333 coastal minehunters. The Type 143As, the *Nerz* (pictured here) and the *Dachs,* joined the fleet in 1983 and 1984 respectively. They are part of a class of ten 350-ton missile boats that were based on the earlier Type 143 class. The Type 143As, sometimes known as the Gepard class, are armed with Exocet antiship missiles, a rolling-airframe point-defense surface-to-air missile system, and a 76-mm gun. The Type 333 minehunters being retired, the *Laboe* and *Kulmback*, are part of a five-ship, 620-ton class of mine-countermeasures vessels that began entering service in 1989. They were built by Germany's Abeking & Rasmussen shipyard in Lemwerder, and at Krögerwerft shipyard in Rendsburg. The Type 333s were constructed using antimagnetic steel; they are equipped with hull-mounted variable-depth minehunting sonar and remotely operated minehunting submersibles.

In December 2011 Indonesia signed a deal to acquire three newly built German-designed Type 209 submarines. These new 1,400-ton boats likely will be an enhanced version of South Korea's Type 209 submarines (pictured here), sometimes known as the *Jang Bogo* class. Current plans call for the first two Indonesian subs to be constructed at Daewoo shipyard in Okpo, South Korea, with the final unit to be built locally at the PT PAL shipyard in Surabaya. Delivery of the first new South Korean–built submarine is scheduled to take place around 2015 with all three units planned for service by 2018. Presently, Indonesia operates two 31-year-old Type 209/1300 submarines, built in Germany and recently overhauled with new equipment. In October 2006, Indonesia announced the tentative acquisition of six submarines from Russia in a deal that included 4 Kilo-class boats. With this latest order from South Korea, however, that Russian submarine deal appears to have been abandoned.


U.S. NAVY (B. STEVENS)

Mr. Wertheim, a defense consultant in the Washington, D.C., area, is the author of *The Naval Institute Guide to Combat Fleets of the World*, 15th Edition, currently available from the Naval Institute Press at www.usni.org.

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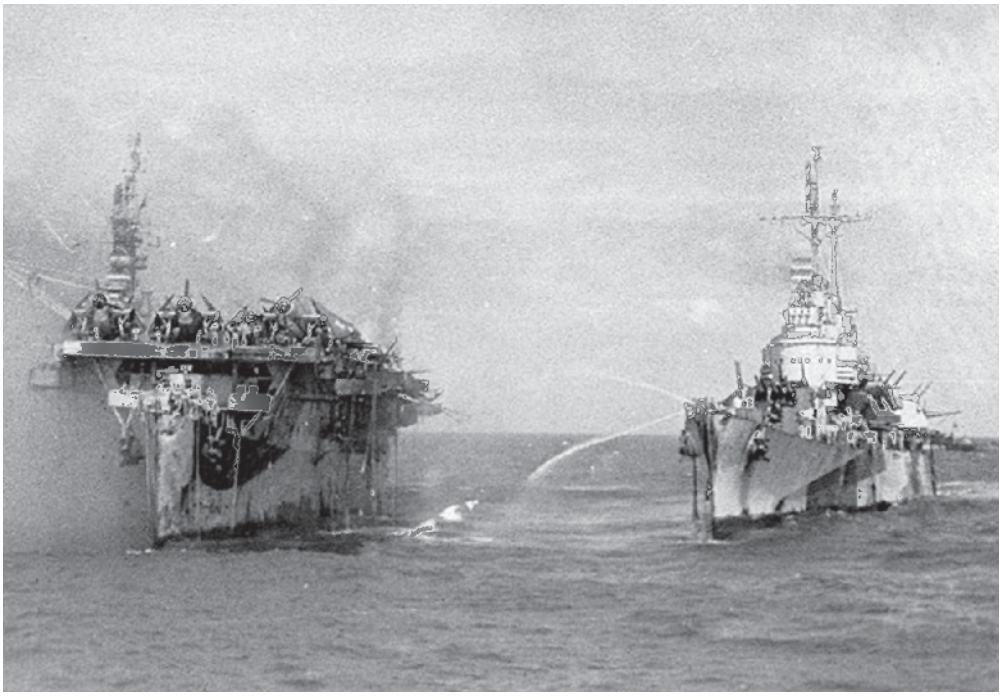
'Heights of Courage and Forgetfulness of Self'

By Lieutenant Commander Thomas J. Cutler, U.S. Navy (Retired)

On 24 October 1944, the light carrier USS *Princeton* (CVL-23) had recovered 12 aircraft when her lookouts spotted a "Judy" coming straight for the ship. Batteries of 20- and 40-mm antiaircraft guns immediately opened up, but the Japanese bomber continued in, undeterred, releasing a single 550-pound armor-piercing bomb. Plummeting straight and true, the bomb landed almost dead-center on the flight deck, just forward of the after elevator. A series of explosions ripped great gaping holes in the flight deck, and one of the ship's massive aircraft elevators was lifted completely out of its pit and came to rest at an odd angle on the flight deck.



U.S. NAVAL INSTITUTE PHOTO ARCHIVE

The light cruiser USS *Birmingham* pulled alongside the light carrier USS *Princeton* to help extinguish the fires caused by a Japanese bomb hit during the Battle of Leyte Gulf in October 1944.

As the *Princeton*'s crew battled raging fires, several other ships of the task group moved in to rescue men who had either jumped or been blown overboard by the explosions. The light cruiser USS *Birmingham* (CL-62) came close aboard to help fight fires and to get a hawser across so that she might take the disabled *Princeton* under tow. As the *Birmingham* approached the carrier's port side, the cruiser's topside decks were crowded with towing and firefighting equipment and, more significant, hundreds of her crew.

Without warning, a tremendous explosion tore off a huge portion of the *Princeton*'s stern as her after magazine blew up. There was a terrible staccato of metal on metal as shrapnel of all shapes and sizes—pieces of the *Princeton*—raked across the *Birmingham*'s exposed decks, echos of the deadly grapeshot canisters fired from the cannon of yesteryear's sailing ships. The effect was the same. Hundreds of men instantly fell dead or were horribly wounded. The official report of the incident reads "The decks ran red with blood, not figuratively but literally." Severed limbs lay about the blood-smeared deck like casual droppings on a slaughterhouse floor. The senior medical officer was away from the ship assisting in an operation on the cruiser USS *Santa Fe* (CL-60), and the dental officer was among the first to die, which left only one doctor to deal with the incredible carnage.

There is great irony in that war is humanity's greatest folly, yet it sometimes brings out what is best about mankind. In sharp contrast to the surrounding horror, many of the crew, some seriously injured themselves, administered first aid to those with hope and helped ease the suffering of those without. The ship's executive officer later described the scene:

> I really have no words at my command that can adequately describe the veritable splendor of the conduct of all hands, wounded and unwounded. Men with legs off, with arms off, with gaping wounds in their sides, with the tops of their heads furrowed by fragments, would insist, 'I'm all right. Take care of Joe over there,' or 'Don't waste morphine on me, Commander; just hit me over the head.' "Terrible as the destruction was, it is a source of supreme gratification to know the heights of courage and forgetfulness of self to which one's shipmates can rise.

Despite a final casualty count of 229 killed, 4 missing, 211 wounded seriously, and 25 with minor injuries, the heavily damaged *Birmingham* was repaired and returned to the war in time to participate in the battle off Okinawa. There she would survive another hit—this time from a kamikaze.

Lieutenant Commander Cutler is the author of several Naval Institute Press books, including *A Sailor's History of the U.S. Navy* and *Brown Water, Black Berets*.

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Feature articles (3,000 words, not including footnotes) These pieces deal with major issues facing the Sea Services (Example: "The Navy's Not Serious About Riverine Warfare," Lieutenant Daniel Hancock, USN, *Proceedings*, January 2008), are instructive, accessible, and entertaining ("Midway, The Story that Never Ends," by Thomas B. Allen, June 2007), offer fresh ways of looking at military matters ("Taking Africa Seriously," by Lieutenant Commander Pat Paterson, USN, October 2007), or describe situations and circumstances of which military professionals should be aware ("Capitalizing on Al Qaeda's Mistakes," by Colonel Mark Cancian, USMCR (Ret.), April 2008). Features are aimed at all members of our audience in the belief that, in an era of jointness, Marines need to know what the Navy is doing, etc.

Now Hear This/Nobody Asked Me, But...(700 words) Both these columns are commentaries, that is, the views of our readers on issues that matter to the national security community. A NHT ("The Navy and its DDG-1000—Heading Wrong," Captain Robert Smith, USN (Ret.) August 2007), normally addresses a weighty issue; the latter also takes on an important matter but more often at the level of every day concerns. A NAMB ("Let's Have One Book for Every Sailor, Too," Captain Stephen F. Davis Jr., USN, April 2008), often employs a lighter writing style to make its point. Both often challenge conventional thinking on an issue of consequence.

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‘The end crowns all, And that old common arbitrator, Time, Will one day end it.’

William Shakespeare (1564–1616)

U S NAVAL INSTITUTE PHOTO ARCHIVE

A sailor on board the USNS *Mercy* (T-AH-19) lowers the national ensign at the close of day on 22 August 2008 signifying the end to the ship’s deployment for Pacific Partnership 2008. Over four months in Southeast Asia—with stops at the Federated States of Micronesia, Papua New Guinea, the Philippines, Timor-Leste, and Vietnam—the ship’s medical team treated more than 90,000 patients.

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