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SEAPOWER

SPECIAL REPORT:
EXPEDITIONARY WARFARE

June 2019 $5.00

NAVY LEAGUE OF THE UNITED STATES

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SEA-AIR-SPACE 2019 ROUNDUP / DEFENSE BUDGET SHOWDOWN / ABOARD THE USS LEWIS B. PULLER

Thank You!

BY ALAN KAPLAN, NAVY LEAGUE NATIONAL PRESIDENT

Thank you for the opportunity and honor of serving you. There have been many accomplishments that our headquarters and volunteer team can be proud of over the last two of years. Leading this charge has been such a privilege. Serving as your national president has been a humbling experience, and working side by side with all of you, as we worked together diligently, as a team, to elevate our organization's mission to new heights, has been an honor.

Our Navy League is now an organization of action, but we are also good at listening. We pay very close attention to what our sea service leaders are saying. Their challenges and what they are focused on are equally important to us as we advocate and educate for their well-being. We have spent a lot of time listening to our sea services leadership. Our missions are aligned, and we have positioned ourselves in a way that provides us with the best opportunity to win this never-ending competition that we fight each day for the greater good.

To all of you, thank you for all you have done to strengthen our Navy League. Because of you, we are a relevant and vibrant organization. Our team is strong and can compete — and win — no matter the challenge or how rough the seas. We have truly grown to become "One Team — Mission Focused." It is my deepest desire that you will provide our 50th National President, Bill Stevenson, with the phenomenal support you have afforded me. I am confident that together we will elevate our mission to even greater heights.

To my incredible family — Marnie, Zachary, Ethan and Ryan — thank you for affording me the opportunity to serve our organization in such a meaningful way. Nobody knows more than me how much you have all sacrificed in so many ways, and for that I will be forever grateful and thankful. To my boys, I hope that one day you will look back, with a more mature understanding, and be proud of the service our family, and your dad, gave for the greater good. Sometimes, what we do in life is about more than ourselves or financial reward, and I hope you carry this lesson throughout your lives. I love you all very much and thank you for your sacrifice.

To use one of my favorite quotes by Vince Lombardi, arguably the greatest football coach of all time:

"I don't say these things because I believe in the 'brute' nature of men or that men must be brutalized to be combative. I believe in God, and I believe in human decency. But I firmly believe that any man's finest hour — his greatest fulfillment to all he holds dear — is that moment when he has worked his heart out in a good cause and lies exhausted on the field of battle — victorious."

Fair winds and following seas, shipmates.

One Team — Mission Focused

Rethinking Coming Ashore

BY DANIELLE LUCEY, EDITOR-IN-CHIEF

It's been a busy month for the *Seapower* staff, and in the midst of a lot of activity, we've remained focused on bringing you this June issue, with our special theme of expeditionary warfare.

Before we get to the details, I want to point you to one of the projects that's been keeping us so busy — a new and improved *Seapower* website. Our new site offers our staff a lot of flexibility and gives our users a much better experience in reading our day-to-day news coverage, which Deputy Editor Scott Achelpohl and Senior Editor Richard R. Burgess work so hard to provide. A quick glace at all our coverage from Sea-Air-Space in May — one of those other things that has kept us immensely busy — and you'll see stories are much more visually appealing, easy to find, and they are now searchable and mobile-friendly.

We've worked hard to make this issue very theme-filled, starting off with a look at how the Navy's L class is preparing for the arrival of not just F-35s, but also unmanned technologies, which are pushing new needs on the amphibious ships. That story is on Page 22.

On Page 26, special correspondent Otto Kreisher looks at the long journey that brought the Marines Corps from the tracked Amphibious Assault Vehicle to the Amphibious Combat Vehicle, the first wheeled troop carrier to bring Marines ashore in about 70 years. Green-lit by Assistant Secretary of the Navy for Research, Development and Acquisition James Geurts, the program is virtually working on its 1.1 and 1.2 version simultaneously.

Our expeditionary warfare section rounds out with a dual take on Pacific Blitz 2019, a massive new exercise where Marines and Sailors rehearsed how a joint battle in the Pacific Ocean would play out. Special correspondent Gidget Fuentes takes on the main feature, going over the nuts and bolts of the exercise, while Edward Lundquist takes an analytical look at how the sea services approached Pacific Blitz. That story is on Page 30.

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DEPARTMENTS

COVER PHOTO MARINE CORPS STAFF SGT. ROBERT LYVERS PREPARES FOR LANDING ABOARD THE USS IWO JIMA IN THE U.S. 5TH FLEET AREA OF OPERATIONS ON JUNE 13, 2018. U.S. MARINE CORPS / GUNNERY SGT. ERIC L. ALABISO II

The Virginia-class attack submarine USS North Dakota (SSN-784) pulls into Naval Submarine Base New London in Groton, Connecticut. The Navy's plan next year to buy three Virginia-class subs — one more than usual — hangs in the balance of budget talks in Congress.

U.S. NAVY / Cmdr. Jason M. Geddes

Pentagon Budget Bills March On Without Agreement on Spending

Congress is proceeding with its annual defense legislation this spring despite no agreement on Pentagon (or any other) spending levels for the fiscal year starting Oct. 1.

By the end of June, three of the four congressional defense committees will have considered their defense authorization and appropriations bills, pushing them to the floors of their respective chambers on roughly the same accelerated schedule these must-pass measures typically enjoy.

Those bills, however, amount to little more than posture statements on the number of ships, aircraft and other expenditures in the absence of some kind of bipartisan budget deal — something Senate Appropriations Chairman Richard C. Shelby (R-Ala.) seems to recognize.

In late April, Shelby, who also serves as the chairman of the Defense Appropriations Subcommittee, said he would prefer not to consider any spending bills until the chambers reach a budget deal. He also suggested that his numbers would differ from those already proposed by the House.

Fiscal 2020 and 2021 are the last two years of the decade-long 2011 Budget Control Act, which created caps on defense and nondefense spending that many in the Pentagon considered draconian. Lawmakers have reached agreement to raise those caps, typically in two-year agreements, for each of the last eight fiscal years, providing the Pentagon with significant relief.

But partisan rancor has hit a peak on Capitol Hill, and lawmakers are already positioning themselves for the 2020 congressional and presidential elections. Gridlock over appropriations is expected to continue through the steamy Washington summer as the Defense Department watches to see if it will get its spending bill on time for the second year in a row.

Democrats, who have insisted on nondefense increases that approximate the defense increases pushed by Republicans, are now in control of the House. Senate Republicans need 60 votes — requiring the support of at least seven Democrats — to get any spending legislation through that chamber. And President Donald Trump has long threatened to veto if he doesn't get spending bills that mirror his administration's priorities.

The House Budget Committee has set a $664 billion cap on defense spending for next year, along with another $69 billion in funding for overseas contingency operations, bringing their proposed defense total for next year to $733 billion. But that number, seemingly an attempt to stake out a middle ground, has irked Republicans and Democrats alike.

The House's defense topline marks a $17 billion increase over this year's defense number, to the consternation of some Democrats not pleased with the rate of growth in the Pentagon budget. It's also $17 billion less than the Trump administration requested — and GOP hawks have endorsed — for fiscal 2020.

"The $750 billion top line for the national defense enables DoD to maintain irregular warfare as a core competency, yet prioritizes modernization and readiness to compete, deter and when in a high-end fight of the future," acting Defense Secretary Patrick Shanahan told House appropriators May 1.

In the grand scheme of things, a difference of $17 billion is just 2.2 percent of the proposed defense budget for 2020.

But the fate of some programs — such as the Navy's plans to buy three Virginia-class submarines (one more than usual) next year — could hang in the balance. Fewer dollars also could make more difficult fulfilling some items on the services' wish lists that did not make the budget cut, including $514 million for the U.S. Marine Corps to buy four more vertical-lift F-35B Lightning II stealth strike fighters and $240 million for two more of the aircraft carrier-compatible variant of the fighter, the F-35C, for the U.S. Navy.

Either way, the Defense Department will end up with a healthy budget next year, assuming lawmakers can agree to numbers other than those that conform to the 2011 budget law.

But the fighting over the next several months, which could ultimately lead to a stopgap spending resolution — or, worse, a government shutdown — could ultimately be worse for the military than the difference of a few billion dollars.

Chief of Naval Operations Adm. John M. Richardson appeared recently to implore Congress to rise above the partisan fray and get the Pentagon its budget on time.

"The single most effective way to maintain our strategic momentum is to provide adequate, stable and predictable funding," Richardson told House appropriators on April 30. "This makes everything possible. It solidifies strategic planning, incentivizes our commercial partners, and mitigates operational risk by maximizing our planning and execution time."

Buildup of Chinese Forces, 'Great Power Competition' Pressure Pentagon Budget, Drive Discussion of Growth

When Pentagon officials talk about the need for healthy growth in the Pentagon budget and push to buy advanced weaponry, China — specifically its continued investment in new weaponry — is often the first argument for why the department needs those investments.

So, it comes as little surprise that the Defense Department's latest report on China documents an ambitious and increasingly sophisticated military power with a modernization program focused on investment and infrastructure to support global missions.

Those include power projection, sea-lane security, counter-piracy, peacekeeping, humanitarian assistance and disaster relief, and noncombatant evacuation operations, according to the report. China is simultaneously growing its manufacturing in strategic domestic industries through its "Made in China 2025" program while also expanding its economic influence through its "One Belt, One Road" initiative, two efforts that have caused some international consternation about the intentions of the People's Republic.

"In keeping with past responses to external pushback, China's leaders have softened their rhetoric when promoting these programs without altering the programs' fundamental goals," the report states. "Separately, official Chinese military outlets have described 'unprecedented strategic distrust' growing between the United States and China."

These efforts have had tangible effects inside China, including in the shipbuilding sector. The country is now the top ship-producing nation by tonnage, having increased its shipbuilding capacity for all naval classes, including submarines and surface combatants.

China's two largest state-owned shipbuilders collaborate on ship designs and construction, a partnership that has made them more efficient. China is also increasingly self-sufficient, producing its naval gas turbine and diesel engines domestically as well as almost all shipboard weapons and electronics systems.

China began construction of its second domestically built aircraft carrier in 2018. And the PRC's first domestically built aircraft carrier will likely join the fleet this calendar year.

U.S. Coast Guard Commandant Karl. L Schultz, shown here at an April 4 Senate Committee on Commerce, Science and Transportation hearing, released the Coast Guard's latest strategy document April 22.

U.S. COAST GUARD/Petty Officer 2nd Class Diana Sherbs

Coast Guard's New 'Arctic Strategic Outlook' Sees Economic, Geopolitical Shift to Region

The U.S. Coast Guard has updated its "Arctic Strategic Outlook" for the first time since it published its strategy for the region in 2013 as it focuses more attention on an area of increasing interest regarding national defense, commercial shipping and natural resources exploration.

Released in an April 22 announcement, the new strategic outlook noted that as "the Arctic region continues to open, and strategic competition drives more actors to look to the Arctic for economic and geopolitical advantages, the demand for Coast Guard leadership and presence will continue to grow.

"Since the release of the Coast Guard Arctic Strategy in 2013, the resurgence of nation-state competition has coincided with dramatic changes in the physical environment of the Arctic, which has elevated the region's prominence as a strategically competitive space," the document said. "The United States is an Arctic nation, and the U.S. Coast Guard has served as the lead federal agency for homeland security, safety and environmental stewardship in the Arctic region for more than 150 years."

The shrinking and thinning of the Arctic Ocean ice pack in recent years has tempted Arctic nations — and some non-Arctic nations such as China — to expand their presence there and to build ships capable of navigating through the ice. The U.S. Coast Guard this year was funded by Congress to build a new class of icebreakers called polar security cutters. The service does not have any ports on the Arctic Ocean and has only one ship, U.S. Coast Guard Cutter Healy, that routinely operates in the Arctic.

"As the nation's primary maritime presence in the polar regions, the Coast Guard advances national interests through a unique blend of polar operational capability, regulatory authority and international leadership across the full spectrum of maritime governance," the announcement said. "The Coast Guard will continue to work with our allies and partners on the mutual goal of ensuring a safe, secure and cooperative Arctic, even as our aspiring near-peer competitors maneuver for strategic advantage in the area."

"The 'Arctic Strategic Outlook' reaffirms the Coast Guard's commitment to American leadership in the region through partnership, unity of effort and continuous innovation," said Coast Guard Commandant Adm. Karl L. Schultz. "We understand the significant investment required to secure the Arctic, and we appreciate and embrace the trust the American people have placed in the U.S. Coast Guard. We will remain vigilant in protecting our national interests in the polar regions."

CNO Warns Forum Of Demands of 'Great Power Competition'

With the return of the "Great Power Competition," the U.S. Navy's top officer on April 29 emphasized the need to strengthen ties with allies and partner nations and to condition commanders to avoid turning at-sea incidents into major battles while giving them training that prepares them to fight those battles if necessary.

The Navy also must ensure it acquires new technologies that will win a future war, rather than preserving current capabilities, and that it conducts futuristic training to build a flexible and resilient force that can cope with the unexpected challenges of the future, Chief of Naval Operations Adm. John M. Richardson told the Future Security Forum in Washington, D.C.

"One thing that characterizes our view of success is how we move forward," Richardson said. The worst thing the Navy could do is remain static, he said.

"What is more relevant for the future? Is it the Harry S. Truman or something else," he said, noting that revolutionary technologies "are just around the corner."

The CNO was responding to a question about the Navy's fiscal 2020 proposal to retire the aircraft carrier Truman at midlife — rather than refueling her — to free up funds to develop the future technologies. That proposal is opposed by key leaders in Congress.

Asked how the Navy was preparing for the return of the "Great Power Competition" with an increasingly antagonistic Russia and rapidly modernizing China, Richardson said it was important to think of tensions in the Black Sea and the western Pacific as regional, not bilateral, and to help "make all our allies and partners more resilient to this. … How do we reply as an alliance, a team?"

He also stressed the need to be able to respond faster to the competitors' actions and "to anticipate what the adversary is going to do, and not be reactive."

U.S. MARINE CORPS / Lance Cpl. Joseph Sorci

Sgt. Maj. Troy E. Black (left) at the 1st Marine Logistics Group Relief and Appointment Ceremony April 7, 2017, at Camp Pendleton, California. Black will become the new Sergeant Major of the Marine Corps.

Black Chosen to Become 19th Sergeant Major of the Marine Corps

Sgt. Maj. Troy E. Black has been selected to be the 19th Sergeant Major of the Marine Corps, the Corps announced in a release.

Black is the current sergeant major of Manpower and Reserve Affairs and will replace Sgt. Maj. Ronald L. Green during a post and relief ceremony later this year.

Following the ceremony, Green will retire after 35 years of service.

Since his enlistment in 1988, Black has, among other billets, served as Sergeant Major of Officer Candidates School, the 11th Marine Expeditionary Unit and 1st Marine Logistics Group. He has deployed extensively, including in support of Operation Desert Storm/Desert Shield, Operation Iraqi Freedom and Operations Enduring Freedom as well as numerous MEU and Fleet Anti-Terrorism Security Team Company deployments.

His personal awards include the Legion of Merit with Gold Star, Bronze Star with Combat Distinguishing Device, Meritorious Service Medal with two Gold Stars, Navy and Marine Corps Commendation Medal with Combat Distinguishing Device and three Gold Stars, Navy and Marine Corps Achievement Medal with Gold Star and the Combat Action Ribbon with two Gold Stars.

The post of Sergeant Major of the Marine Corps was established in 1957 as the senior enlisted adviser to the commandant of the Marine Corps, the first such post in any of the branches of U.S. military. The Sergeant Major of the Marine Corps is selected by the commandant and typically serves a four-year term.

Pentagon Report Cites Rapidly Modernizing Chinese Navy

China's first home-built aircraft carrier is likely to join the People's Liberation Army Navy (PLAN) fleet this year, a highlight of China's effort to modernize its fleet with modern, farther-ranging platforms and weapons.

Construction began on a second aircraft carrier in 2018, said a new report to Congress from the Defense Department, "Military and Security Developments Involving the People's Republic of China 2019." This carrier, which should reach the PLAN fleet in 2022, is likely to be fitted with a catapult aircraft launch system, according to the report.

A coastal defense navy during the Cold War, the PLAN is continuing a two-decade build-up with numerous blue-water platforms.

"The PLAN is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multirole combatants featuring advanced anti-ship, anti-air and anti-submarine weapons and sensors," the report said. "This modernization aligns with China's growing emphasis on the maritime domain and increasing demands on the PLAN to conduct operational tasks at expanding distances from the Chinese mainland using multimission, long-range, sustainable naval platforms possessing robust self-defense capabilities."

"Modernization of China's submarine force remains a high priority for the PLAN," the report said. "The PLAN currently operates four nuclear-powered ballistic missile submarines (SSBN), six nuclear-powered attack submarines (SSN) and 50 conventionally powered attack submarines (SS). The speed of growth of the submarine force has slowed and will likely grow to between 65 and 70 submarines by 2020."

The PLAN also continues to modernize its surface warship fleet.

Reporting by Megan Scully, Richard R. Burgess and Otto Kreisher.

U.S. Marine Corps Commandant Gen. Robert Neller speaks at the May 6 Sea Service Chiefs Leadership panel.

SUSTAINABILITY, AGILITY, SUPERIORITY

SEA-AIR-SPACE 2019 FEATURES TOP SPEAKERS, MORE THAN 300 EXHIBITORS —ALL FOCUSED ON BOOSTING THE SEA SERVICES' CAPABILITIES

REPORTING BY DANIELLE LUCEY, SCOTT ACHELPOHL, OTTO KREISHER AND JOHN MARCARIO

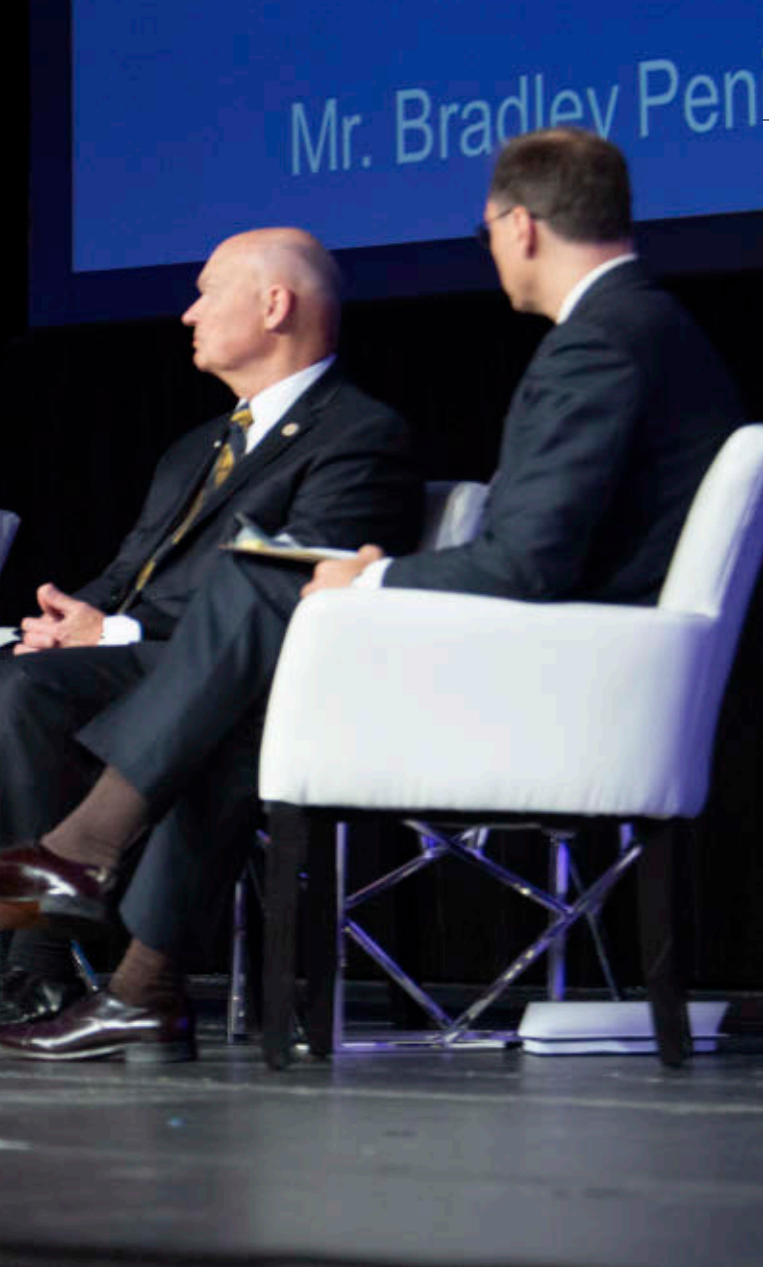
Sea-Air-Space 2019 brought together government, industry and the military for three days of education panels, exhibits and keynote speeches from the highest ranks of the sea services.

Navy League National President Alan Kaplan kicked off the event in an opening ceremony, detailing how 2019's theme of sustainability, agility and superiority map back to a recent Navy document put out by Chief of Naval Operations Adm. John M. Richardson, "Design for Maintaining Maritime Superiority 2.0."

"In CNO's guiding document it states that it has been decades since our nation last competed for sea control, sea lines of communication, access to world markets and diplomatic partnerships. However, we will need to adapt to this reality and respond with urgency. We will need sustainability, agility and superiority to compete and win in this dynamic and competitive environment."

The May 6 luncheon set the tone, with a keynote address from Richardson, who reinforced the message of a "decisive" Navy.

Much of the nation's economy, he reminded the audience, runs through the Far East now. He talks often these days about the resurgent "Great Power Competition" — and the CNO wasted no time doing so again



at Sea-Air-Space, reminding the audience of China's naval expansion and mentioning such events as recent Chinese missile exercises in the Mediterranean and Baltic Seas.

"That's where your Navy is going to be," Richardson said, adding that a third of world trade runs through the South China Sea. "That's why the United States Navy is there."

He also mentioned Fleet Adm. Chester W. Nimitz, who believed the Navy's role is to deter conflict but still ensure prosperity.

Richardson took part in ceremonies before his keynote address to laud recipients of two Navy League awards. The Fleet Admiral Chester W. Nimitz Award for 2019 went to James Herdt, CEO of Herdt Consulting and a retired Master Chief Petty Officer (MCPON) of the Navy. "I know my name is on this award," Herdt said, but in thanking Navy League he accepted it on behalf of the people of his consulting firm.

The second honor of the day, the Albert A. Michelson Award, went to Dr. Bruce G. Danly, director of research at the Naval Research Laboratory (NRL). He credited the men of women of NRL, "who ensure that our forces have the best technology, unmatched by none."

On May 7, keynote U.S. Navy Assistant Secretary of Research, Development and Acquisition James Geurts pulled reporters aside after his luncheon to discuss the Navy's balancing act of priorities in fielding the Columbia and Virginia classes of submarines.

The biggest issue is removing any conflict in the production of the two classes of subs, which will be built by the same two shipyards — Newport News and Electric Boat, Geurts told reporters after his luncheon speech at the Navy League's annual Sea-Air-Space exposition. The concern is the impact on Columbia if Virginia production "gets out the box," Geurts said. That issue could become acute in five years when both submarines are in serial production.

If any conflict in production emerges, Geurts said, the priority will be Columbia.

On another current acquisition issue, Geurts minimized the impact from President Donald Trump's decision to reverse the Navy's budget proposal to retire the aircraft carrier Harry S. Truman rather than put it through the planned midlife nuclear refueling and overhaul, which would give it 25 years of additional service life. Geurts said the change affected very little money in the fiscal 2020 budget, which is being processed in Congress. The cost of keeping Truman in service and paying for the refueling and overhaul will be worked into the fiscal 2021 budget, and "we'll do what needs to be done," he said.

In his speech at the luncheon, Geurts urged the industry and Navy officials in the audience not to focus on sequestration and other budget problems but look at what the Navy has accomplished in the last 18

Above: U.S. Navy Assistant Secretary of Research, Development and Acquisition James Geurts discusses the Navy's accomplishments at a luncheon May 7.

Below: Navy League National President Alan Kaplan is pinned as an honorary chief petty officer by Navy League Executive Director Mike Stevens, who served as 13th Master Chief Petty Officer of the Navy, and current MCPON Russell Smith (left) at the Secretary of the Navy Luncheon May 8.

LISA NIPP

months. "I've been incredibly impressed with how fast this organization has changed," he said.

On May 8, Secretary of the Navy Richard V. Spencer closed out the week's luncheon events with a talk that urged the industrial base to stay energized.

"We need the support. We welcome the support of industry if we are going to increase readiness and meet the operational demands of today and tomorrow," Spencer said. "Our goal is true partnership," based on the concept that "shared risk produces shared rewards."

He offered industry "a clear line of sight to our needs and resources, and industry understands that our security, stability and prosperity rely on ready and combat-capable forces that are capable of projecting naval power. … We must work together to provide solutions to our challenges."

The secretary noted the message he has presented in congressional hearings that the department's budget "we truly believe is prioritized on a strategy-driven, balanced approach, building on prior investments, while sustaining the industrial base and maintaining our competitive advantage as we transition to a more cost-imposing, survivable and affordable future force."

At this luncheon, Kaplan and Executive Director Mike Stevens also gave out the Adm. Vern Clark Safety Awards to individuals and units that exemplified a culture of safety.

In a surprise announcement, Kaplan himself also received an award of sorts. Stevens, who served as the 13th MPCON, alongside current MCPON Russell Smith, named Kaplan an honorary chief petty officer, which followed with a pinning ceremony.

Sea-Air-Space 2019 featured two first-time breakfast events, an Undersecretary of the Navy Breakfast and a Coast Guard Breakfast.

In the former, Undersecretary of the Navy Thomas Modly used much of his breakfast to reinforce the results of an "Education for Seapower" study, a report that called for a more agile education infrastructure that develops Sailors and leaders for "this era of uncertainty."

"We cannot take our eye off the ball in developing people," he said, adding that young people come to U.S. Navy service with more technological acumen and expect a different experience and lifestyle than prior generations. "We have to think of the kinds of kids we recruit."

The undersecretary emphasized the February report's findings that called for a top-down review of how Sailors and future Navy leaders are educated, from ROTC programs to basic training and beyond, to continuing education and leadership training. The interview-laden report also showed that a naval university system should be created and that a new chief learning officer be appointed.

"We need to get that key leader in place," Modly told the audience, which was moderated by Francis Rose, host of "Government Matters."

On May 8, Coast Guard Commandant Karl L. Schultz focused his breakfast remarks on emphasizing the importance of increasing resources in the Arctic.

The service released a new "Arctic Strategic Outlook" in April, which updated the same report from six years ago that highlighted the shortfalls the service faces in the ever-evolving polar region.

"We were trying to be honest with the report, ... be bold enough and frank and be candid enough with what the circumstances are," Schultz said.

The service has a full-time presence, District 17 in Juneau, Alaska, but has never had a full-time base in the Arctic. Over the past decade-plus, the Coast Guard has upped the rhetoric on the need to increase funding for resources in the region. This is starting to come to fruition, as the Coast Guard has begun to recapitalize its dated icebreaking fleet.

In April, the service awarded a $745 million design and construction contract to Pascagoula, Mississippi-based VT Halter Marine Inc. to begin building the next heavy icebreaker for the service. The Coast Guard now only has one, Polar Star, that is more than four decades old and suffering from increased mechanical issues and missed time at sea due to them.

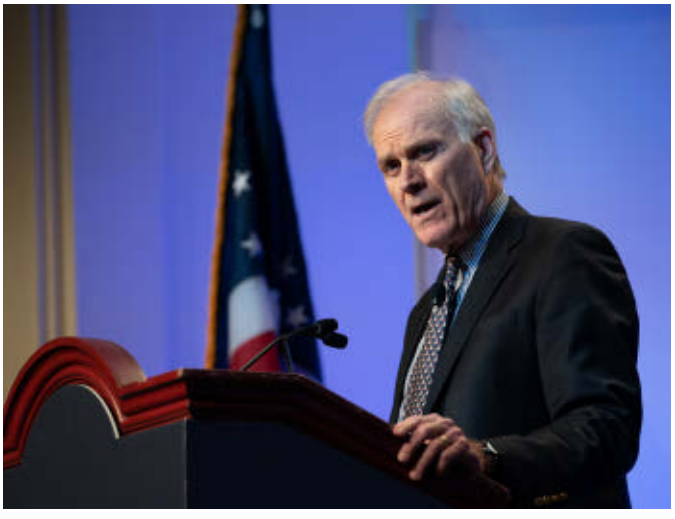
Schultz added that the new icebreakers will have

LISA NIPP

Jim Herdt (second from left) accepts the Fleet Adm. Chester W. Nimitz Award from Navy League National President Alan Kaplan (left), Chief of Naval Operations Adm. John M. Richardson (second from right) and Navy League Executive Director Mike Stevens (right).

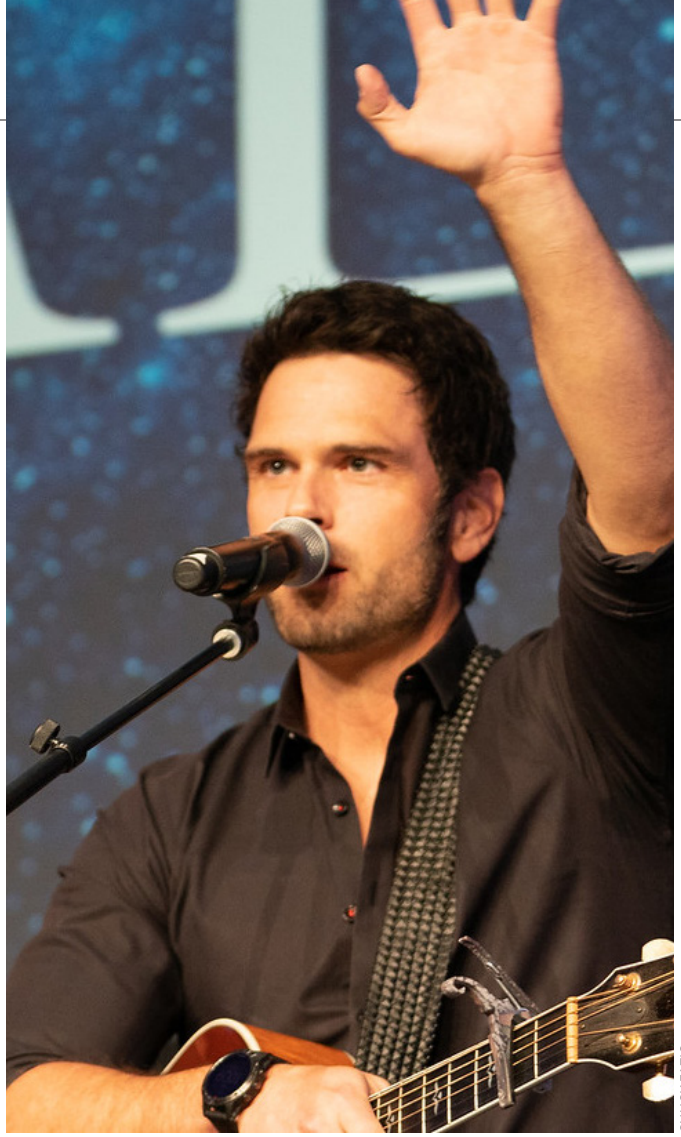
LISA NIPP

Alan M. Heckman (center) accepts an Adm. Vern Clark Safety Award from Navy League National President Alan Kaplan (left) and Executive Director Mike Stevens (right).



CHUCK FAZIO

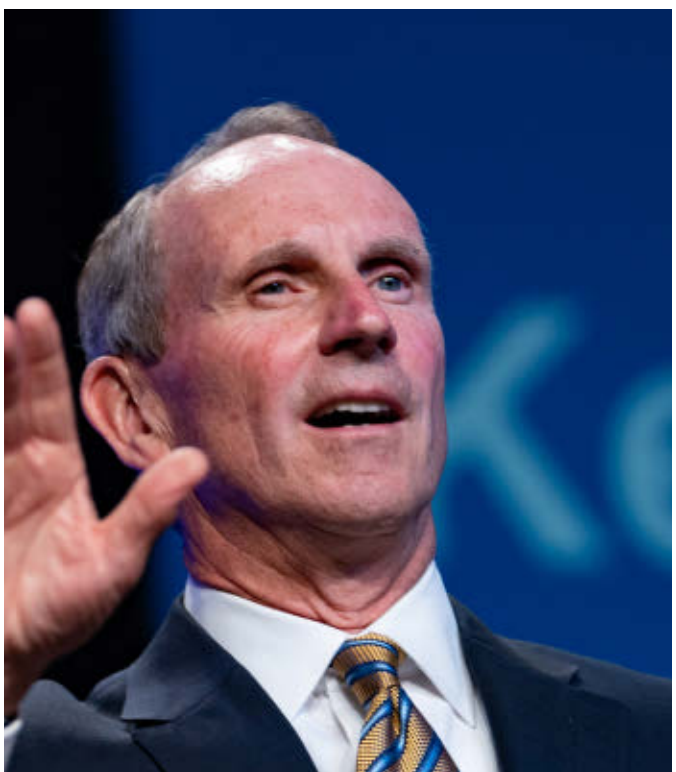
Secretary of the Navy Richard V. Spencer said he's looking to "a more cost-imposing, survivable and affordable future force."



CHUCK FAZIO

Above: Country music star and Navy League goodwill ambassador Chuck Wicks performs at the Navy League Maritime Gala.

Below: Retired Chief of Naval Operations Adm. Jonathan Greenert praises military spouses in his keynote address at the gala.



CHUCK FAZIO

unmanned systems and a helicopter on them. The current fleet does not have either of these capabilities.

The commandant said the lack of resources, such as icebreakers able to operate in the Artic, keeps him up at night. But the new heavy icebreaker is expected to be ready by fiscal 2024, at the latest, though Schultz acknowledged there will be challenges in filling in the gap between that cutter coming online and keeping Polar Star operating.

"We are working on how we bridge this gap," he said.

Sea Service Spouses Take Center Stage At Second Annual Maritime Gala

In its second annual Maritime Gala, held the night of May 7, the Navy League honored awardees from the highest levels of the sea services, but also dedicated the night to the often unsung work of sea service spouses.

The night's keynote speaker, retired Chief of Naval Operations Adm. Jonathan Greenert, pointed out that numerous military support organizations were founded by spouses, like Operation Gratitude and the Semper Fi fund, and he urged audience members to remember these organizations' important work in their annual giving.

"Our sea services and our families would be hard-pressed to function without sea service spouses … and they do it time after time," Greenert said.

He focused his speech on the importance of retaining the public's trust in the institution of homeland security and the military. Greenert noted that many other pillars of American life are losing ground in Americans' confidence, like the government and clergy, but the military is maintaining its spot as an exception to that rule.

"The American public needs and deserves an institution that we trust."

He also acknowledged the service of Navy League National President Alan Kaplan, who is in the last few months of his term leading the organization in support of the sea services.

"The national president of the Navy League, the title, is really the ultimate volunteer position," Greenert

said. "It's a gift to those of us in the sea services."

The show featured an awards program, bestowing the Adm. Arleigh Burke Leadership Award to Chief of Naval Operations Adm. John M. Richardson, where he was given the award by his wife, Dana Richardson, who presented the award to her "high school sweetheart and best friend."

Richardson played an important role in another organization awarded that evening. The Navy League gave its first-ever Sea Service Spouse Organization Award to Naval Services FamilyLine, where Dana Richardson serves as an ambassador.

The award, which was given by Ellyn Dunford, a longtime advocate for military spouses and wife of the chairman of the Joint Chiefs of Staff, Marine Corps Gen. Joseph Dunford, was accepted by FamilyLine chair Leanna McCollum, who acknowledged her organization's long history of volunteers that have kept it strong.

"It wouldn't be possible to be here tonight without the support of the countless number of volunteers both now and since 1965," McCollum said.

In a surprise announcement, Navy League Executive Director Mike Stevens, retired Master Chief Petty Officer of the Navy, gave Naval Services FamilyLine a check for $10,000.

Head of corporate citizenship for First Data, Dr. Vivian Greentree, also a military spouse, gave out the night's second award, the Theodore Roosevelt Award, to Bruce Mosler, chairman of global brokerage at Cushman & Wakefield. He is an advocate for the veteran and military spouse community, focusing his efforts on the 100,000 Jobs Coalition, now the Veteran Jobs Mission.

The night included performances by the Marine Corps Silent Drill Platoon and closed with a trio of country music stars, including Chuck Wicks, the Navy League's first goodwill ambassador; Mark Wills; and Lonestar's Richie McDonald. ■

For more coverage of Sea-Air-Space by Seapower, *go to https://seapowermagazine.org/category/sea-air-space.*

LISA NIPP

Sea-Air-Space attendees listen to a NAVAIR speaker on the exhibit hall floor.

LISA NIPP

Industry professionals and military personnel network in Prince George's Exhibit Hall. Sea-Air-Space offered attendees multiple exhibit halls, outdoor displays and several maritime vessels docked at the Gaylord National Convention Center.

CHUCK FAZIO

Chief of Naval Operations Adm. John M. Richardson stands proud with his family after receiving the prestigious Adm. Arleigh Burke Leadership Award.

Marines prepare F-35B Lightning IIs for flight operations on the amphibious assault ship USS Wasp (LHD 1). The vertical-lift Marine variant of the JSF reached IOC ahead of the F-35C.

U.S. NAVY / Mass Communication Specialist 3rd Class Benjamin F. Davelle III

F-35C ARRIVES

THE NAVY'S NEWEST FIGHTER ACHIEVES IOC, BUT QUESTIONS CONTINUE TO SURROUND THE CARRIER VARIANT OF THE JSF

BY DANIEL P. TAYLOR, SPECIAL CORRESPONDENT

After years and years of waiting, the last variant of the Joint Strike Fighter — the F-35C Lightning II — is officially operational. But it's still a couple of years away from making an impact on the high seas — and some questions about the plane remain.

The U.S. Navy on Feb. 28 declared that the F-35C, the aircraft carrier-capable variant of the fifth-generation stealth fighter, had reached initial operational capability (IOC). The Marine Corps vertical-lift F-35B and the Air Force conventional F-35A variants already have been declared operational.

The first F-35C squadron, Strike Fighter Squadron 147, completed carrier qualifications aboard the USS Carl Vinson (CVN-70) as a precursor to IOC. All that remains is a couple of years of preparations until the first squadron deploys aboard the Carl Vinson.

However, issues still surround the aircraft, which was plagued by development and production delays over its history.

A report issued in March by nonprofit watchdog Project on Government Oversight declared that the F-35 was "far from ready to face current or future threats," citing data that allegedly shows "unacceptably low" mission-capable rates. The watchdog group also stated that the F-35 was initially promised at $38 million per plane but that they now average $158.4 million apiece.

Despite all the questions that surrounded the program for years, the plane is here. And the Navy is preparing to introduce its variant into the fleet.

The IOC was a joint declaration between the Navy and Marine Corps, because the aircraft will be flown by both services. In the six months before that, the "last couple of pieces" began coming together for the program — training, crews and the like, Brian Neunaber, one of two national deputies for the Navy's F-35 program, said in an interview with *Seapower*.

"So we have airplanes," Neunaber said. "VFA-147 immediately reported to Carrier Air Wing Two. It's involved with unit-level training, and they will commence air-wing workups, probably in the middle of next year."

That said, the F-35C is still a couple years away from actual deployment. Their first ship — the Carl Vinson — is in drydock at Puget Sound Naval Shipyard for repairs and modernization after concluding a busy deployment cycle.

"She'll come out of the shipyard in the middle of 2020, and shortly thereafter the entire air wing will start working up with Carl Vinson, and sometime in the middle of 2021," the first deployment is expected, Neunaber said, noting that the deployment after that would probably take place six months later, and eventually all carriers would be flying the F-35C.

The Vinson's F-35C squadron will consist of 10 planes. Every air wing in the fleet eventually each will have a squadron of 10 aircraft before the Navy goes to two squadrons per carrier, he said. The program of record stands at 340 F-35Cs, Neunaber added.

Doubts, Praise for F-35C

Of the three JSF variants, the F-35C is the one that is "not in a particularly good place," said Richard Aboulafia, Teal Group's vice president of analysis.

Aboulafia said he believes that, though the Navy is going ahead with purchasing the aircraft, the sea service isn't enthusiastic about the F-35C. He noted that the Navy wants to keep buying the F-35C's predecessor, the F/A-18E/F Super Hornet, and that appetite hasn't seemed to diminish as the F-35C finally reaches IOC.

The Navy has a lot of reasons to hedge its bets, he argued.

"Why pay the up-front price at all — rather than wait for someone else to drive down the cost?" he said, also noting that the Navy "is less convinced themselves that [the F-35C] has much value at sea. There's also an institutional preference for twin-engine fighters."

Aboulafia also claimed the F-35C could diminish the Navy's case for large-deck carriers. "If the [F35B] works, and Marines deploy Bs and Cs together and the difference isn't all that great, then you have a situation where the case for large carriers is a little undercut," he said.

> ***"A report issued in March by nonprofit watchdog Project on Government Oversight declared that the F-35 was 'far from ready to face current or future threats.'"***

In a worst-case scenario — at least for a sea service that wants to keep operating a fleet of large aircraft carriers — the Navy could lose support for even a carrier fleet of 10 ships and see an argument for smaller carriers supplemented by amphibious ships gain a lot of steam, Aboulafia argued.

Though many have expressed doubts about the Navy's enthusiasm about the F-35C, the service has continued to publicly and emphatically support the fighter. The Navy argues that the F-35C offers the latest in technology and is perfectly suited to fight a modern war.

"The F-35C is ready for operations, ready for combat and ready to win," the commander of Naval Air Forces, Vice Adm. DeWolfe Miller, said in a statement following the declaration of the fighter's IOC. "We are adding an incredible weapon system into the arsenal of our carrier strike groups that significantly enhances the capability of the joint force."

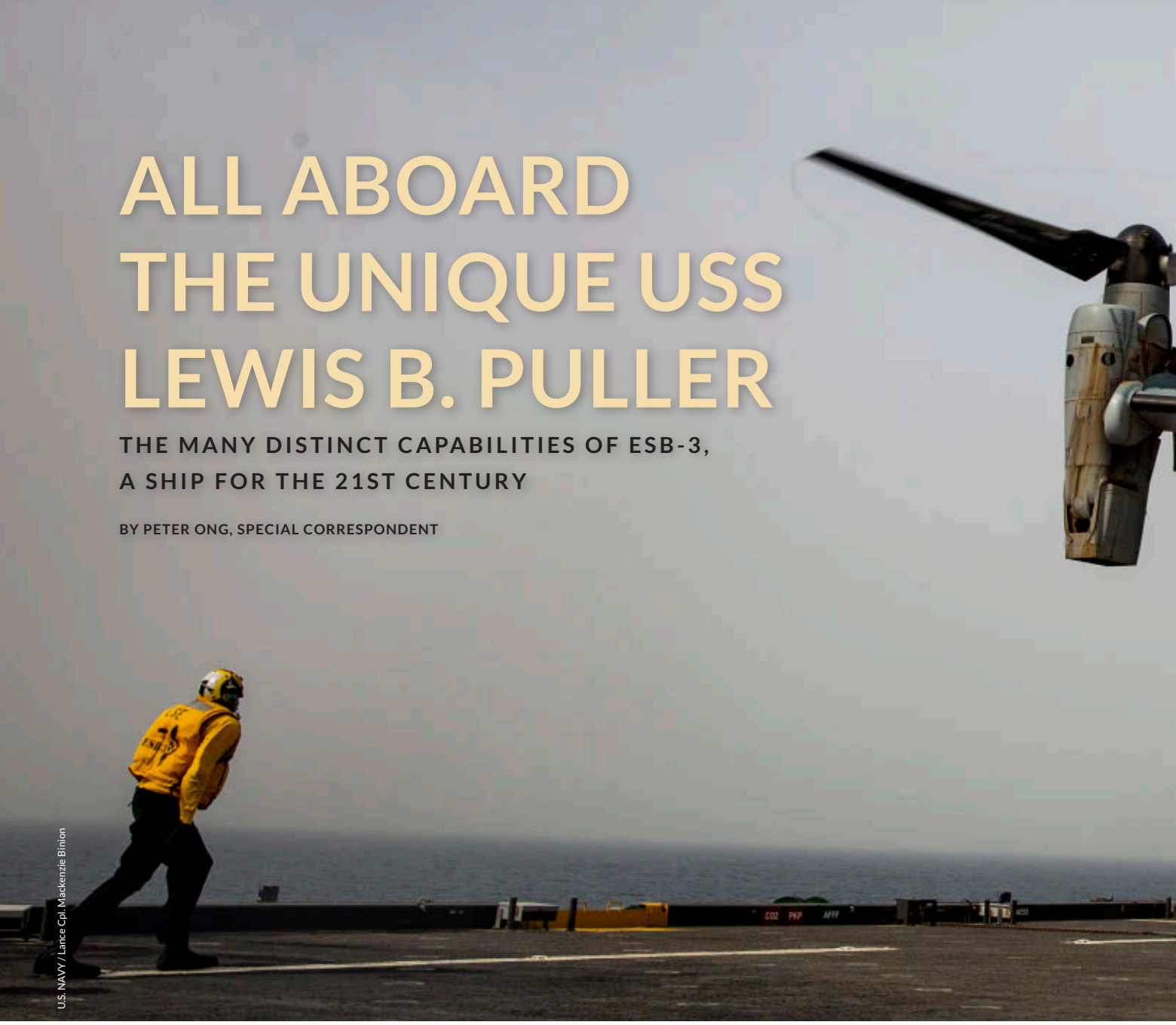
Capt. Max McCoy, commodore of the Navy's Joint Strike Fighter Wing, predicted that the F-35C would make us "more combat effective than ever before."

"We will continue to learn and improve ways to maintain and sustain F-35C as we prepare for first deployment," McCoy added in a statement. "The addition of F-35C to existing carrier air wing capability ensures that we can fight and win in contested battlespace now and well into the future." ■

ALL ABOARD THE UNIQUE USS LEWIS B. PULLER

THE MANY DISTINCT CAPABILITIES OF ESB-3, A SHIP FOR THE 21ST CENTURY

BY PETER ONG, SPECIAL CORRESPONDENT



U.S. NAVY / Lance Cpl. Mackenzie Binion

With the USS Lewis B. Puller (ESB-3), the concept is all about "mission modules." The U.S. Navy's first purpose-built Expeditionary Mobile Base and a variant of its planned Expeditionary Transfer Dock vessels is a floating Swiss Army knife. Based on an Alaska-class oil tanker, it looks like no other ship in the Navy. But it is very much forward-looking.

And Lewis B. Puller — the second ship named after Marine Lt. Gen. Lewis Burwell "Chesty" Puller, the most decorated individual in Marine Corps history who served in the "Banana Wars," World War II and the Korean War — has so many uses that no single one of its functions can be held above the others. It is home to many of the Navy's leading, 21st-century warfighting concepts put into practice.

AFSB Concept Brought to Life

Lewis B. Puller puts in practice the Navy's Afloat Forward Staging Base (AFSB) concept, which uses recon-

Petty Officer 2nd Class Onyx Ashe directs an MV-22B Osprey to a landing aboard the USS Lewis B. Puller.

figurable mission modules — moveable cargo containers and assets that allow for equipment specific to the mission. This "plug-and-play" environment acts as a force multiplier for units embarked aboard the ship.

She was created as a platform for the launching and landing of manned boats and rotary aircraft; berthing for Special Operations Forces (SOF) and Marines; and has the facilities and a wide empty flight and mission deck space to allow for the transport of mission-configurable equipment, rotorcraft, systems, weapons and cargo to support the Middle Eastern theater of operations, where the ship is assigned. Lewis B. Puller was commissioned there, in Bahrain, in 2017.

The ESB's ability to be reconfigured resembles a littoral combat ship (LCS), but Lewis B. Puller is not specifically oriented toward combat, although it has ample armament for defense. It carries no armor or heavy armament, but current self-defense weaponry comes from 12 crew-operated .50 caliber or M240B machine gun stations.

It performs more in a supporting role for airborne mine countermeasures, medical assistance, and SOF

"The ESB's ability to be reconfigured resembles a littoral combat ship, but Lewis B. Puller is not specifically oriented toward combat, although it has ample armament for defense."

and Marine support. ESB-3 also is command, communications and control headquarters for unmanned aerial, surface and undersea vehicle systems.

Lewis B. Puller also doesn't have the armor, sophisticated command and control rooms, complex sensors, floodable well deck, or long-range armament of an amphibious assault ship, so the cost of the ESB-3 — $545 million — was a mere fraction of a multibillion-dollar amphibious assault ships. What Lewis B. Puller and its brethren bring is a distinct logistical capability. Without being an aircraft carrier, it sure acts like one.

Helping to Reduce the 'Tyranny of Distance'

Lewis B. Puller was delivered from General Dynamics' National Steel and Shipbuilding Co. (NASSCO) in San Diego on June 12, 2015. Fully loaded, it displaces 90,000 metric tons and is second in displacement only to the Navy's Nimitz-class and Ford-class aircraft carriers.

ESB-3 is 785 feet (239 meters) long, 164 feet (50 meters) wide and has a draft of 34.5 feet (10.5 meters). Its sustained speed is 15 knots, it has a range of 9,500 nautical miles and it is driven by four Fairbanks-Morse MAN 48/60 diesel generators that provide power to two variable-speed reversible propulsion motors spinning two shafts with two fixed-pitch propellers.

It has a crew of up to 44 Military Sealift Command civilian mariners with space for about 250 crew and embarked forces. It carries 100,000 gallons of potable water and 380,000 gallons of JP-5 jet fuel, making it able to rearm and refuel rotor and tilt-rotor platforms — in other words, a rotorcraft "pit stop" for maritime operations.

Although not specifically designed for it, the ship provides a platform to move supplies from one ship to another closer to shore operations, thus allowing for more rapid replenishment to support logistical combat in-theater supplies, or for replenishing and reinforcement of SOF ashore.

USS Ponce Helped Pave the Way

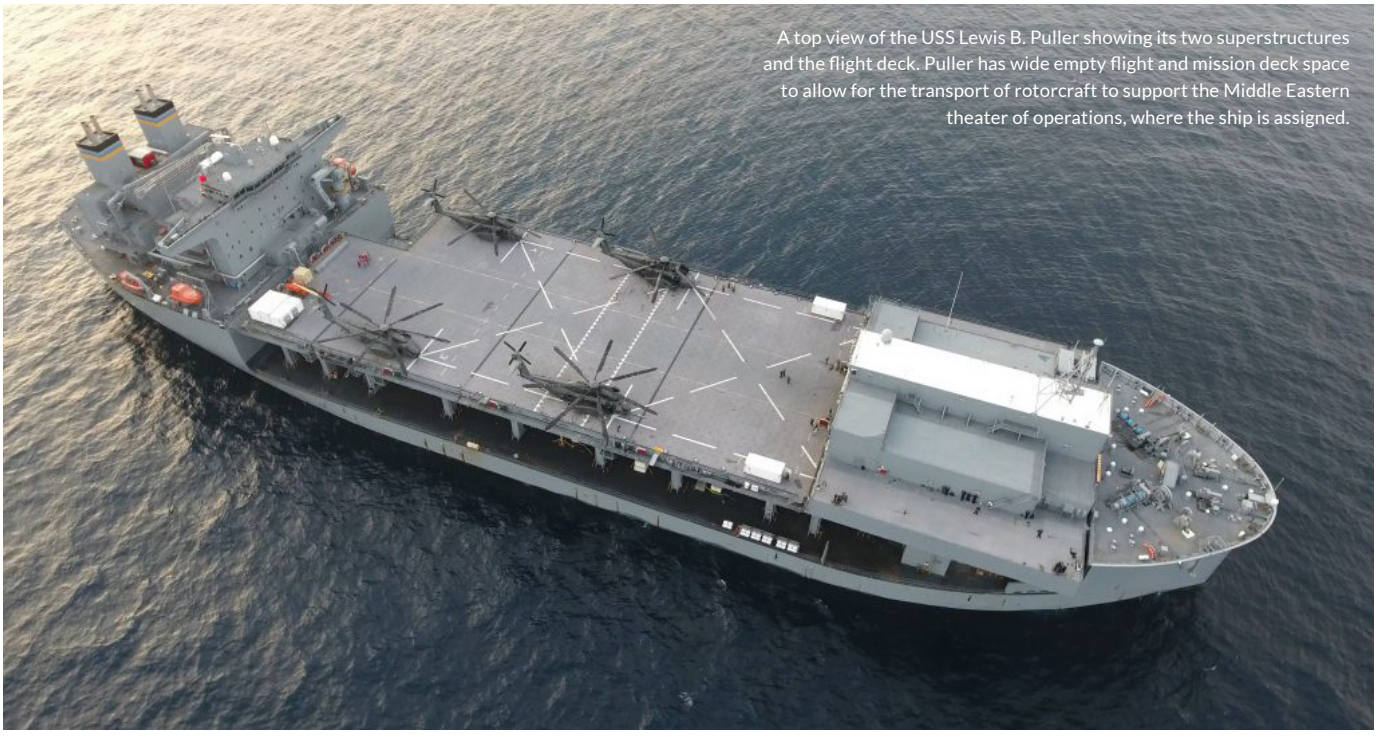
Before its decommissioning, the amphibious transport dock ship USS Ponce (LPD-15) paved the way for USS Lewis B. Puller by being redesignated as an AFSB to fill the mission requirements until ESB-3 could deploy, said Navy spokesperson Lt. Lauren Chatmas.

"In August 2017, Lewis B. Puller entered the Persian Gulf to replace [Ponce], and the two ships briefly operated together," before Ponce sailed home to Naval Station Norfolk, Virginia, on Sept. 27, 2017, Chatmas said. Ponce had been in service for 46 years and 27 deployments — five of those years as an AFSB in the Middle East, before its decommissioning on Oct. 14, 2017, she said.

Navy sources described the Ponce as limited, however. The ship could perform as a converted AFSB, but space aboard was tight. Lewis B. Puller doesn't have the same space constraints and has "growth potential" with its modular design and can be reconfigured using cargo containers — 20-foot-equivalent units (TEUs) — to support various operations. The open mission deck of the ESB-3 allows for numerous cargo and container configurations stacked and arranged together, and the ship has the power connections to accommodate all.

Afloat Forward Staging Compared to Amphibs

"Amphibious warfare ships and expeditionary platforms [like Lewis B. Puller] provide separate and distinct capabilities," Richard Betsinger, head of the Marine Corps' Expeditionary Ship Capabilities Branch, Maritime Expeditionary Warfare Integration Division Capabilities Development Directorate, Combat Development and Integration, said via email.



A top view of the USS Lewis B. Puller showing its two superstructures and the flight deck. Puller has wide empty flight and mission deck space to allow for the transport of rotorcraft to support the Middle Eastern theater of operations, where the ship is assigned.

U.S. NAVY

"Amphibious warfare ships are the centerpiece of the Navy-Marine Corps presence, crisis and contingency response capability, and continue to play a critical essential role in global operations," Betsinger said.

"Amphibs are unique in the sense that they are able to maneuver in harm's way and facilitate the rapid employment and persistent sustainment of combat power in the face of opposition, whereas the [ESB] is optimized for at-sea forward staging missions with potential for alternative joint and [Marine Corps] expeditionary operations. ESB [also] provides an affordable and effective option to deploy forces for low-intensity operations and crisis-response missions without reducing the availability of amphibious warfare ships required for other missions."

Lewis B. Puller in Closer Detail

ESB-3 has a ship's store, fuel and equipment storage facilities, weapons magazines, explosive ordnance disposal magazines, repair spaces, mission-planning spaces, a flight briefing room, a tactical operations and communications center, underway replenishment facilities, a gym, a medical treatment/examination room, and mess halls and kitchens.

According to the U.S. Naval Institute, a large mission planning space, with available on-the-spot outlets for plug-in computers and communications, can be left open as one large room or divided into four separate sections for different teams and secret sessions, if necessary.

Regarding configurable spaces, Chatmas said, "ESBs contain many of the standard spaces found in other U.S. Navy ships. If a specific space is not present, there are provisions for spaces to temporarily fill the role," such as the TEUs anchored to the deck, she said. Such mission modules can accommodate anything from weapons armories, medical facilities, berthing and command-and-control spaces. Lewis B. Puller also incorporates, in various compartments, the new N-30-class passive fire protection system, which is a steel bulkhead with an insulation system attached.

The open mission deck below the flight deck allows for accommodation of cargo containers, towed sonar arrays, mission modules, landing barges, unmanned

Life on Board

U.S. NAVY

The ship's store aboard the Puller. The store serves a crew of up to 44 Military Sealift Command civilian mariners and about 250 embarked forces.

U.S. NAVY

One of the 12.7 mm M2 machine guns aboard the Puller. The Expeditionary Mobile Base is not built for combat but supports U.S. Navy and Marine Corps forces in theater. However, it does have full defensive capabilities.

U.S. NAVY

Crew members exercise on the mission deck of the Puller.

surface and subsurface vehicles, mine countermeasure drones and small boats.

Operational Uses of the ESB-3: Rotorcraft To Small Boats to Medical Assistance

First of its class, ESB-3 has the 52,000-square-foot flight deck amidships with hangar facilities in the forward superstructure. Tractors, cranes, tugs and forklifts move cargo and equipment around toward rotary platforms stationed at four locations on-deck. The flight deck also has its own P-25 firefighting vehicle.

In theory, the ship can accommodate any rotor, tiltrotor and unmanned aerial system (UAS) platform in the U.S. inventory, pending their risk and exposure to the salty sea air. The flight deck can accommodate four MH-53E Sea Dragon minesweepers or MH-60 Seahawk helicopters and may also be used with Marine Corps CH-53E/CH-53K Super or King Stallions, AH-1Z Viper, UH-1Y Venom, or V-22 Osprey tilt-rotor aircraft. Usually, the hangar does not house additional rotorcraft as its intended purpose is maintenance, said a contact within the Navy's Program Executive Office (PEO) Ships.

Marine Corps vehicles carried aboard would be those that can rolloff a rotorcraft cargo ramp or be sling-loaded onto the ESB via a MV-22 Osprey, a CH-53E Super Stallion and CH53K King Stallions. These vehicles would normally be stored on the flight deck or inside the hangar.

As for flying the short takeoff/vertical landing fighter aircraft, the F-35B Lightning II, from the Lewis B. Puller, this ship isn't intended for it — as a Navy carrier is.

"The ESB is not outfitted with the appropriate navigation, air traffic control, landing aides, lighting or signal equipment to accommodate fixed-wing flight operations," Capt. Christopher Harrison, Marine Corps communication strategy and operations officer, said via email. Specific to the F-35B, USS Lewis B. Puller doesn't have the reinforced high-temperature-resistant deck plating needed for the vertical landing of the Lightning II. "There is no future design modification where the ESB will meet the F-35B's launch criteria," Harrison said.

Betsinger agreed. "The Marine Corps does not in-

tend to use [the ESB] for the F-35 platform. Rather, the intention is to utilize the flight deck for rotary, tilt-rotary and [UAS] platforms. The ESB is optimized for airborne mine countermeasures and [SOF] support with potential for alternative joint and [Marine Corps] expeditionary operations."

Typical combatant watercraft carried aboard the open mission deck would be rigid-hulled inflatable boats, combat rubber raiding crafts, combat assault craft and unmanned surface vehicles. These boats, along with weapons and cargo, get lowered to the sea using a starboard crane with an 11-ton lift capacity located under the flight deck. Another crane on the port side is forward of the rear command superstructure. The ship can also load Marines and special operators onto a landing barge, although the barge was not delivered with ESB-3.

The Navy is exploring the addition of a mine countermeasures suite of mission modules to the ESB's capabilities. These systems, originally developed under the LCS Mission Module program, have been modularized into cargo containers for potential use on multiple platforms.

Mission module gear includes the AN/DVS-1 Coastal Battlefield Reconnaissance and Analysis (COBRA) unmanned airborne mine detection system, which allows the ship to detect mines near the surface and shore. COBRA consists of a sensor mounted to an MH-60S helicopter and a separate MQ-8 "Fire Scout" unmanned aerial vehicle. Another potential mission module that may be carried is the "Knifefish" unmanned undersea vehicle for detection, identification and classification of floating surface or submerged mines. These robots could augment the four Navy AMCM helicopters generally embarked for mine countermeasures.

According to the U.S. Naval Institute, visitors aboard have included Navy medics that have surveyed the mission deck for possible trauma and surgery medical container configurations to potentially make ESB-3 into an interim Role II medical facility (although PEO Ships could not verify that claim), Marine Fleet Antiterrorism Security Team for Maritime Operations training and SOF for launching and recovering of boats from the mission deck. Various foreign, Navy, Marine Corps and SOF helicopters and personnel also have

U.S. ARMY NATIONAL GUARD / Sgt. Emily Finn

A Sailor salutes a U.S. Army UH-60 Black Hawk helicopter and its crew members as it takes off from the Lewis B. Puller.

landed and flown off Puller's flight deck. The ship also supported Alligator Dagger 2017, a Marine Corps ground force exercise for Task Force 51/5th Marine Expeditionary Brigade and the Navy's 5th Fleet.

What the Future Holds

The Expeditionary Sea Base concept appears sound enough to continue — and future ESBs are planned or even under construction.

The chief of naval operations' 2016 Force Structure Assessment (FSA) "identified the need for more ESBs beyond the original two ships of the class," Chatmas said.

The future USS Hershel "Woody" Williams (ESB-4) is undergoing its post-delivery availability period, and the future ESB-5, USS Miguel Keith, is under construction at NASSCO in San Diego, with expected delivery this fall, she said.

According to the Naval Institute, the Navy intends to assign USS Hershel "Woody" Williams to the 6th Fleet, for duty in Europe and Africa, and the USS Miguel Keith to the 7th Fleet for patrols of the Pacific. Each future ESB may have different mission deck cargo and purposes, depending on their theater of operation.

"There is an enduring requirement for the missions that the ESB-class ship fills," Chatmas said. "The ESB class is in both the FSA and the 30-year construction plan. The ships will continue to serve the nation and its maritime forces for many years to come." ■

UPGRADING THE AMPHIBS

WITH THE ARRIVAL OF THE F-35 AND A HOST OF NEW TECHNOLOGIES, THE NAVY'S L CLASS IS GETTING SOME MAJOR UPDATES

BY DANIEL P. TAYLOR, SPECIAL CORRESPONDENT

U.S. NAVY / Mass Communication Specialist 3rd Class Vance Hand

An MV-22B Osprey lifts off from the flight deck of the amphibious assault ship USS America (LHA 6). The introduction of the America and her sister ship, USS Tripoli (LHA 7), reflect a tilt toward aviation capability, but Naval Sea Systems Command says all amphibs will continue to support surface operations.

The U.S. Navy is changing — and that means its ships need to change, too.

The arrival of assets such as the F-35B, the Marine Corps version of the Lightning II Joint Strike Fighter, various unmanned aircraft and other technologies are leading to significant upgrade efforts for the sea service's amphibious ships, which the nation relies on to react rapidly to developing situations around the world.

Whether it's the older LHDs, the relatively new LPDs or the brand new LHAs, the Navy is looking at ways to make them more effective in a changing warfare environment. And some significant upgrade programs are underway.

Colleen O'Rourke, a spokesperson for Naval Sea Systems Command, told *Seapower* that the Navy's priorities when it comes to amphibious ships is to have vessels that are "lethal, survivable, unpredictable and networked."

"The newest classes of amphibious ships showcase improvements in networking amphibious warships, increases in both aviation and vehicle-carrying capabilities and the ability to interface with and support the latest generations of military vehicles and connectors," she said.

Amphibs 'Tilt' Toward Aviation

The introduction of the USS America (LHA 6) and USS Tripoli (LHA 7) reflect a "tilt" toward aviation capability in amphibious operations, but all amphibs will continue to support surface operations as well, O'Rourke noted. The USS Bougainville (LHA 8) will be reconfigured to include well-deck capabilities and will be the Navy's first ship to incorporate a single-facing, rotator SPY-6(V)2 Enterprise Air Surveillance Radar (EASR).

Meanwhile, both America-class (LHA 6) and Wasp-class (LHD 1) ships are undergoing integration of the latest in Marine Corps aviation: the F-35B Joint Strike Fighter and the MV-22 Osprey tilt-rotor aircraft.

"Integration efforts span a multitude of ship al-

An aerial view of USS Wasp (LHD 1) with both vertical-lift F-35B Lightning II strike fighters and tilt-rotor MV-22B Ospreys on her deck. Both the Wasp class and America class ships are undergoing integration of the latest in Marine Corps aviation.

U.S. NAVY / Mass Communication Specialist 1st Class Daniel Barker

terations ranging from structural modifications like strengthening the flight deck, topside relocation efforts, software, hardware and electrical, and aviation support capabilities to enable flight operations of the F-35 JSF and MV-22 as embarked assets," O'Rourke said. "LHA 7 and LHA 8 will be delivered with these capabilities as the modifications were incorporated into their construction."

As for the San Antonio-class amphibious transport dock — which have been in operation for the past 14 years — the Navy is upgrading both the command-and-control systems and the networking technologies on all Flight I ships (LPD 17-29) for during their midlife modernizations.

The Flight II ships (LPD 30 and higher) will benefit from some of the design improvements, technical risk mitigations and cost reductions being executed on LPDs 28 and 29, O'Rourke added.

"LPD 29 and the Flight II ships will receive the single-facing, rotator SPY-6(V)2 (EASR), providing greater capability over the legacy radar systems," she said.

"Flight II ships will also have improved command-and-control capabilities, weapons and electronic warfare suites (RAM Block II, SLQ-32 and NIXIE upgrades) and improved fuel efficiency. Additionally, lithium-ion battery charging and stowage facilities will be incorporated to align with Marine Corps vehicle and equipment requirements. Flight II ships will also incorporate upgrades to the aviation and well-deck facilities to better accommodate the Navy's latest generation of helicopters and surface connectors."

The Profound Impact of the F-35B

Bradley Martin, a senior policy researcher with the RAND Corp., said the vertical-lift F-35B strike fighter has been one of the biggest drivers of upgrades for amphibious ships.

"The thing with the LHA class is it's being built to support the F-35B, and the F-35B is such an evolution of capability for MAGTFs [Marine Air-Ground Task Force] that's going to change a lot about the way people think about the uses of those units," Martin said. "With the ability to support the F-35Bs, the MAGTF achieve a degree of self-sufficiency and airborne early warning because of what the F-35 can do. It can be a strike asset, counter-air — all that is largely based on the LHA class to support that platform."

The older LHDs can be modified to support the F-35B as well, but LHAs benefit by being essentially optimized for that use.

"That's going to be the major change," Martin said. "The types of upgrades involved are not just mechanical and electrical stuff, like supporting higher temperatures. It's also information-sharing, intel-generating capability, exploitation capability — all that stuff is going into LHA, which is going to make it a very capable warship. It's not completely the equivalent of an aircraft carrier, but it is still considerably more self-sufficient than the current class of big-deck amphibs."

As for the San Antonio-class, the Navy may be looking to evolve the role of those ships to do anti-ship missions by giving them vertical launch systems (VLS) or deck-launched missiles that can reach over the horizon against other ships, Martin said.

"There's also a desire to put an improved self-defense capability on [the San Antonio class]," he said. "It will never be an area air defense kind of asset, but it can do local air defense that helps a lot in terms of ship ability to operate in a high-threat environment."

Could Aircraft Carriers Fade in Importance?

Could all these amphibs diminish the necessity of an aircraft carrier? That might be taking it a bit too far,

RAYTHEON

The SPY-6(V)2 Enterprise Air Surveillance Radar (EASR). Every Flight II amphib will receive the EASR.

Martin argued, but the modern L class certainly can do a lot more than the amphibs of yesteryear.

"Clearly a Ford- or Nimitz-class carrier carries a lot more aircraft and can generate a lot more sorties than an LHA, but an LHA can be very useful in a lot of places where you don't need or want something the size of an aircraft carrier," he said. "So, I wouldn't go as far as to say it is an argument for fewer carriers, but I will say that having LHAs around with all this additional capability multiplies the number of places you can have naval influence."

As for the addition of unmanned aircraft, Martin doesn't see that as a big driver of upgrades, but it does have an effect.

"They're all capable of handling a variety of unmanned platforms," he said. "They will, however, be able to handle larger UAVs of a variety of capabilities, and these will further add to the ability of refueling, ISR [intelligence, surveillance and reconnaissance] and add to the ability to do some types of strike and anti-surface warfare. It does a lot of good things in terms of expanding areas of influence you have from the sea." ■

Marines from the Amphibious Combat Vehicle new equipment training team complete an operator course in the vehicle.

U.S. MARINE CORPS / Ashley Calingo

ACV MAKES THE CUT

AFTER INITIAL TESTS, THE CORPS SAYS ITS WHEELED VEHICLE MEETS REQUIREMENTS, PLANS WHOLE FAMILY OF TROOP CARRIERS

BY OTTO KREISHER, SEAPOWER CORRESPONDENT

After a $3 billion failed first attempt to replace its 1970s-era Amphibious Assault Vehicles (AAVs), the Marine Corps appears to have a winner with its Amphibious Combat Vehicle (ACV), a surprising choice of a wheeled vehicle instead of the tracked machines that have carried Marines ashore since World War II.

The initial test versions of the ACVs, dubbed 1.1, have performed so well in months of trials on land, in the ocean and aboard amphibious ships that the Corps has decided that a planned two-stage development process can be skipped and has accepted ACV 1.1 as meeting the goals set for a future, advanced 1.2 model.

In January, James F. Geurts, the assistant Navy secretary for research, development and acquisition, "granted us approval to combine the 1.1 and 1.2 programs together into what we're calling the ACV fam-

ily of vehicles," said Col. Kirk Mullins, ACV program manager at Marine Corps Land Systems (MCLS). "That decision was made in large part because the ACV 1.1 vehicles demonstrated all the requirements to transition into 1.2."

During an April 10 Senate Armed Services Committee hearing, Lt. Gen. David H. Berger, deputy commandant for combat development and integration, said Geurts was able to make that decision because "looking at the progress that was made on 1.1 testing against 1.2 criteria, it was moving so fast and doing so well that they merged the two together into a single one."

At that same hearing, Geurts praised the ACV testing team as "a really smart government team that thought on how to capitalize upside opportunity." While the acquisition community "spent a lot of time managing downside risk," it is "not nearly as proficient at taking advantage" of positive events.

Testing the 1.1 vehicles against the 1.2 requirements, Geurts said, "allowed me to have the confidence that we had the data" to compress the program. "The operator feedback was what we wanted, so they thought proactively and then put [out] an acquisition strategy that allowed us to accelerate.

"That brings gear to the fleet faster. It's much more cost-effective, and now we can focus some of that [research and development] on what's past 1.2, not just redoing the R&D for the sake of doing it," he said.

Consolidating the program has enabled Marine Corps Land Systems to award two low-rate initial production (LRIP) contracts to BAE Systems for a total of 60 of the basic troop carrier ACVs and to start development of the three specialized models, possibly moving the total program ahead by years.

Those LRIP contracts came less than four years after the Marines issued the request for proposals (RFP) to start the ACV program, a relatively short period for a major, complex procurement project.

In a web posting in March, Dan Goure, a national security analyst with the Lexington Institute, noted the extensive list of failed major defense acquisition programs over the last several decades that wasted tens of billions of dollars. "Rarely have the military services been able to learn from their mistakes and restructure a failed program so it can succeed. One exception to this tendency is the Marine Corps' Amphibious Combat Vehicle program." After the failed Expeditionary Fighting Vehicle (EFV) program, "this time they got it right," Goure said in the posting.

Searching for an AAV Replacement

The Corps' current amphibious vehicle, the AAV-7, entered service in 1972, the latest in a series of tank-like tracked assault transports that first took Marines over the reefs onto Tarawa on Nov. 20, 1943. The AAV-7 has served well in thousands of training exercises and in several contingency operations and conflicts. But the casualties inflicted — particularly by land mines and improvised explosive devices (IEDs) — during ground combat in Operation Iraqi Freedom demonstrated that the flat-bottomed, lightly armored AAV had to be replaced.

The Marines had started a search for an AAV replacement in 1974 with the Advanced Amphibious Assault Vehicle program, which was later renamed EFV. It was supposed to be a tracked armored speed boat capable of carrying combat-loaded Marines ashore from amphibious ships 25 nautical miles away at speeds of 25 knots — three times that of the AAV.

But technological challenges and serious reliability problems stalled the program repeatedly while the cost soared through $3 billion, until Defense Secretary Robert Gates ordered it canceled in January 2011.

After years of reevaluation showed that amphibious vehicles operate most of the time on land, where they would be exposed to IEDs and anti-armor weapons, the Marine Corps launched another effort to replace the AAV. But this time, the Corps was determined to get an adequate, reasonably priced product that would provide good ground mobility and better protection for Marines on board.

Replacement Candidates

In November 2014, Land Systems released an RFP to industry for a ground vehicle with some amphibious

Marines from the Amphibious Combat Vehicle new equipment training team take the vehicle out for a dive at the Amphibious Vehicle Test Branch facility at Camp Pendleton, California.

U.S. MARINE CORPS / Ashley Calingo

capability, a V-shaped underbody to lessen the effect of mines and IEDs and other passenger protection features. And the RFP had a firm requirement that any proposal be based on existing technology that could be produced relatively quickly and inexpensively.

A year later, MCLS awarded contracts to BAE Systems and SAIC to produce 16 prototype vehicles, each for testing against the requirements for ACV 1.1, which included relatively modest amphibious capabilities. Both companies delivered their demonstration vehicles quickly and, in March 2017, Marines began putting them through rigorous trials on multiple terrain features and then into the sea.

The vehicles offered were eight-wheeled troop transports already in service with other nations, modified to meet Marine requirements. Both types performed so well in the tests that Land Systems began increasing the difficulty of the amphibious trials, matching them against the 1.2 specifications.

"We completed our last test against the 1.2 requirements in October, with what we called the high-surf test," Mullins said. Although 1.1 required the vehicles to get ashore through 3-foot breaking surf, the testers moved up the California coast to Vandenberg Air Force Base, "where we subjected the vehicle to up to 6-foot surf breaker height and demonstrated up to 9-foot."

The ACV candidates conducted the sea trials from two amphibious transport docks (LPDs), USS Anchorage and USS Somerset, launching and recovering the vehicles multiple times. They swam the vehicles 12 nautical miles from ship to shore and then conducted land maneuvers for up to 50 miles total, he said.

They also checked to ensure the vehicles could move

easily in and out of the confined vehicle storage space on the ships, Mullins said, and they conducted developmental tests in Alaska, putting the vehicles through winter conditions.

The October tests "were among the last set of criteria that we had to demonstrate before we were confident that we could go forward and say the 1.1 vehicle met the 1.2 requirements," Mullins said.

The vehicles showed a water speed of around 6 knots, he said, which is slightly slower than the AAV and the ACV requirements of 7 to 8 knots but were capable of 55 mph on hard surface, about 10 mph faster than the legacy vehicles. The extensive land mobility trials showed the vehicles could operate in soft sand, including at 35-degree slopes.

Mullins said many of the trials on land and at sea were conducted with assault amphibian Marines operating the vehicles and infantry Marines in back. The BAE personnel variant ACV carries a crew of three and 12 infantry Marines.

"The ride quality both on land and water is significantly better than the [AAV]," Mullins said. "All the feedback we got both from the infantry Marines and the amtrack operators was extremely positive. The Marines that have had exposure to these vehicles are very excited about the prospect of getting these vehicles."

AAVs are notorious for their rough ride on land, with Marines who rode in them during desert operations calling the experience "shake and bake." The old amtracks also were prone to leak sea water and diesel fumes into the passenger compartment during water operations.

As part of efforts to reduce injuries from IEDs to Marines inside, ACVs have suspended seats to cushion the shock from explosions under the vehicle, which also softens the ride over rough terrain. ACVs also have spall liners inside to reduce fragments from munitions hitting the sides of the ACV and added armor on the V-shaped hull bottom.

The Marines will start receiving LRIP vehicles in June, Mullins said. Some of them will be used for additional survivability tests, including defensive weapons and underground explosives.

"We already determined these vehicles meet the survivability requirements. We will do tests to ensure the vehicles coming off the production line still meet those requirements," Mullins said.

The LRIP vehicles also will be used to begin training Marines from the operational assault amphibian battalions to conduct the operational test and evaluation trials. Those trials will determine if the production ACVs are ready for operational use, which would clear the way for full-rate production.

The vehicles being produced in the LRIP agreements are the basic personnel versions, which are armed with a .50-caliber heavy machine gun in a remotely operated station. They will make up most of the total ACV buy, currently expected to be 694, Mullins said.

Production

With Geurts' sign-off on the 1.2 requirements, Land Systems has cleared BAE to start developing the specialized versions, starting with a command-and-control variant, followed by a gun variant, which will have a 30 mm cannon in a remotely operated turret, and a recovery model, to repair or tow disabled vehicles.

The administration's fiscal year 2020 defense budget requests $317 million for 56 ACVs, which have an estimated price of about $5 million each, Mullins said.

Knowing that they would have to keep operating the aged AAVs for years, in March 2015 the Marines had awarded SAIC a survivability upgrade contract to rebuild up to 392 AAVs to keep them operational for another 20 years.

But with the progress in the ACV, in late August the Marines terminated the survivability upgrades "in an effort to better align programs with the National Defense Strategy and congressional guidance to reduce investment in legacy programs and focus buying power on modernization," Land Systems said in a statement.

"The Marine Corps is focused on modernizing the force to meet current and evolving threats," the statement said. "The mobility and survivability demonstrated by [the ACV], along with the planned lethality will ensure that our Marines have the firepower and survivability to succeed in the future fight." ■

Sailors assigned to Coastal Riverine Squadron (CRS) 11 conduct navigational check rides on Sea Ark patrol boats during Pacific Blitz 2019 at Marine Corps Base Camp Pendleton, California.

U.S. NAVY / Chief Mass Communication Specialist William S. Parker

The Future of Expeditionary Logistics Now

EXERCISE EYES SUPPORTING FORCES FROM SEA BASES IN THE NEAR-PEER FIGHT

BY GIDGET FUENTES, SPECIAL CORRESPONDENT

Some 10,000 Marines and Sailors stretched their logistical muscles to support and supply sea-based operations during a major exercise to prepare naval expeditionary forces for enemy threats and a potential future fight across an island-dotted battlespace.

During Pacific Blitz 2019, they built expeditionary bases, cleared and repaired an airfield and seaport, resupplied units on land and warships at sea, and created medical care, refueling and rearming positions. The exercise, held March 12 through March 31 in Southern California, combined two regular training events — maritime prepositioning exercise Pacific Horizon and amphibious integration exercise Dawn Blitz.

The force-level training event for I Marine Expeditionary Force and the Navy's 3rd Fleet, supported by Naval Expeditionary Combatant Command (NECC), focused on distributed maritime operations with emphasis on expeditionary logistics and sea control. That includes operational capabilities to refuel, resupply, repair and rearm expeditionary forces dispersed at sea and ashore — and likely against capable, peer-like enemy forces. Those missions are critical to the Marine Corps and Navy concepts of Distributed Maritime Operations (DMO), Littoral Operations in a Contested Environment (LOCE) and Expeditionary Advanced Base Operations (EABO).

The campaign-level exercise required fleet and force battle staffs to integrate and "action officers work through the pains of: how do you actually do this, how do you coordinate, do our systems talk well to each

> ***When people think Navy, they think airplanes, they think carriers, they think DDGs and they think submarines — but they're not necessarily thinking expeditionary teams of four to 10 people that are thinking of putting missiles back on DDGs in disassociated locations.***
>
> — Cmdr. Brian Cummings, NECC explosive ordnance disposal planner and exercise liaison to 3rd Fleet and I MEF

other and how do we get better at those pieces," said Lt. Cmdr. John Ruggiero, a lead planner at NECC headquarters in Virginia Beach, Virginia, exercise liaison to 3rd Fleet and I MEF. Both sides want "to ensure that we continue to build on what we've learned, to make sure we document what we've learned and keep that going." Lessons learned will wrap into follow-on exercises such as Large-Scale Exercise 2020, Ruggiero said.

NECC provided something of a bridge supporting fleet and force missions in the battlespace, where expeditionary advanced bases, advanced naval bases, sea bases, airfields and ports provided logistical hubs to support and sustain operational forces.

"We are constantly looking for opportunities like Pacific Blitz where we can demonstrate this capability," said Cmdr. Brian Cummings, NECC explosive ordnance disposal planner and exercise liaison to 3rd Fleet and I MEF. "When people think Navy, they think airplanes, they think carriers, they think DDGs and they think submarines — but they're not necessarily thinking expeditionary teams of four to 10 people that are thinking of putting missiles back on DDGs in disassociated locations."

Sailors worked with 1st Marine Logistics Group to con-

U.S. MARINE CORPS / Lance Cpl. Betzabeth Y. Galvan

Marines with 1st Transportation Support Battalion, 1st Marine Logistics Group, and Sailors with Beach Master Unit (BMU) 1, Naval Beach Group 1, load supplies during Pacific Blitz 2019 at Camp Pendleton, California, on March 28.

Showing Off The LOCE Concept

Pacific Blitz 2019 Demonstrates Agility Of Expeditionary Forces and Proves Value Of Navy-Marine 'Blue-Green' Integration

BY EDWARD LUNDQUIST, SPECIAL CORRESPONDENT

Pacific Blitz 2019 gave U.S. forces the chance to increase maritime readiness to be prepared for real-world crisis situations while putting into practice the Littoral Operations in a Contested Environment (LOCE) concept.

LOCE was issued in 2017 by Chief of Naval Operations Adm. John M. Richardson and Commandant of the Marine Corps Gen. Robert B. Neller to "describe naval operations in the littoral environment in light of emerging threats … to provide a unified framework for Navy-Marine Corps innovation," according to the LOCE executive summary. "It places a renewed emphasis on fighting for and gaining sea control, to include employing sea-based and land-based Marine Corps capabilities in support of the sea control fight."

The joint LOCE concept "seeks to provide a unified framework for Navy-Marine Corps innovation and stimulate creativity to answer the contested littoral problem by

advancing Navy-Marine Corps integration."

The LOCE noted that Navy and Marine Corps forces are often "employed as separate entities in an artificially divided maritime battlespace. These practices inhibit the effective application of our complementary capabilities."

The LOCE called for the services to experiment and determine effective ways to integrate their capabilities under a composite warfare commander (CWC) "for operations on the sea and from the sea, and from the land to the sea."

The scenario-driven amphibious Pacific Blitz exercise began in January and ended in March and was designed to train and integrate the staffs of I Marine Expeditionary Force (I MEF), commander, U.S. 3rd Fleet (C3F) and major subordinate commands to include Expeditionary Strike Group 3 into a littoral combat force.

Led by Maj. Gen Robert F. Castellvi, commander of I MEF, with Rear Adm. Cedric Pringle, commander of Expeditionary Strike Group 3, as his deputy, Pacific Blitz demonstrated "Blue-Green" integration to implement sea denial and sea control from ashore as well as command and control of simultaneous amphibious and maritime prepositioning forces, distributed maneuver, fires, intelligence and logistics support.

"We were able to demonstrate the operational littoral combat force headquarters' staff concept," Pringle said. "Our staff was fully integrated, both Blue and Green, and we were not only able to demonstrate command and control of various forces, but we also were able to support sea denial and sea control to a certain extent, from ashore."

The exercise planning and execution was entirely joint, with the command post established inside a compound of tents set up at a remote site at Camp Pendleton, California.

"This exercise represented an opportunity to assess our ability to conduct littoral operations in a contested environment," Pringle said. "As a littoral combat force, our primary role is to provide decentralized command and control of both maritime and ashore assets in support of a wide range of military operations."

A variety of units participated. The Navy expeditionary forces of Naval Expeditionary Combat Command established advanced naval bases (ANB) to enable theater logistics. A Naval Mobile Construction Battalion 5 detachment provided direct support to 1st Marine Logistics Group at a simulated ANB on Naval Air Station Point Mugu and Port Hueneme, assisted by Underwater Construction Team 2, Construction Battalion Maintenance Unit 303, U.S. Coast

U.S. NAVY / Petty Officer 3rd Class Jack Aistrup

struct advanced naval bases and facilities at simulated "islands" in the scenario-based exercise. In a first, they removed and unpacked an Expeditionary Medical Facility from the roll-on/roll-off cargo ship USNS Sgt. William R. Button (T-AK-3012), set it up at an expeditionary base at Camp Pendleton, California, and later broke it down, packed it up and reloaded it onto Button.

Navy Seabees at five sites built several berthing areas, did concrete slab and masonry work, repaired a damaged airfield, repaired and rebuilt a 3.5-mile gravel road and, in a proof-of-concept, built a 90,000-square-foot heavy equipment storage area with a 24-foot-wide, 8-foot-tall berm.

"The best part of this exercise was all these projects were real-world projects, with the exception of the berm … being utilized by their customers," said Builder 1st Class Jacob Kusay of Naval Mobile Construction Battalion 5.

But it wasn't just about construction. The road and berm projects were part of the realistic battle scenarios, Kusay said, so "we set up our own 360-degree se-

Seabees offload an AC generator unit from the back of a cargo truck onto a forklift on Marine Corps Base Camp Pendleton, California, as part of Pacific Blitz 2019.

curity, maintained their own security watch 24/7 until the project was completed."

More than 100 Marines with Marine Aviation Logistics Squadron 16 packed their mobile facilities onto aviation logistics ship SS Curtiss (T-AVB-4) at Port Hueneme, California, and got underway to do aircraft maintenance at sea, a new experience for maintainers accustomed to working in hangars and airfields.

"That's kind of why we do this, to operate outside our comfort zone to expand our capabilities," said Capt. Mark Stone, supply officer with 3rd Marine Aircraft Wing's aviation logistics department. Stone helped coordinate movements by boats and MV-22 Osprey tilt-rotors and CH-53E Super Stallion heavy-lift helicopters to and from the Curtiss.

The Marine Corps relies on Curtiss and SS Wright (T-AVB-3) on the East Coast to provide at-sea intermediate-level maintenance of rotary and fixed-wing aircraft. Marines repaired, tested or maintained aircraft parts brought to the ship. Those they couldn't fix were sent to the depot for overhaul. Marines "repaired a significant amount of components for us to get back to

Guard Port Security Unit 312 and an Explosive Ordnance Disposal Mobile Unit 11 platoon. A second NEF task element, led by Coastal Riverine Group 1 (CRG-1), supported the 1st Marine Logistics Group at a simulated ANB on Camp Pendleton. It was composed of Coastal Riverine Squadrons 1, 3 and 11; NMCB-5; CBMU-303; and Navy Cargo Handling Battalion 1.

Pacific Blitz 2019's significance was underscored by the fact that both Richardson and Neller conducted "battlefield circulation" together to witness how Pacific Blitz was playing out from the field headquarters at Camp Pendleton, to USS Somerset (LPD 25) to see how operations were going afloat, to San Clemente Island, where an expeditionary advanced base had been established (including fueling and arming spot) and the ANB at Point Mugu, where a prepositioning ship was being offloaded.

"They got an opportunity to see the scope and scale of what it would take to get those forces into theater and distributed, and to provide the effective command and control to achieve the end state we desired," Pringle said.

Recent experimentation has looked for new ways to influence what happens in the littoral, or near shore, area and has caused the lines of demarcation between service responsibilities and domains to blur.

Another example of realizing the LOCE vision was a littoral combat group (LCG) that deployed last year made up of an amphibious ship and a surface combatant. USS Wayne E. Myer (DDG 108), USS Somerset (LPD 25) and Special Purpose Marine Air-Ground Task Force (SP-MAGTF)-Peru deployed on short notice for operations off the western coast of South America. LCG-1 was led by Capt. Ken Coleman, the PHIBRON 3 commodore, embarked on USS Somerset, and included personnel from 28 different commands.

Pringle said Pacific Blitz 2019 was a learning exercise — and just one step along the journey.

"It's not the end state, and it's not all encompassing," he said. "It does, however, provide the direction on where we need to get better."

According to Pringle, Pacific Blitz was the textbook model of naval integration. "It's alive and well, but just like with anything else, we have to be able to practice in both a live and virtual environment," he said. ■

Edward Lundquist visited Camp Pendleton to report this story.

MALS-16 to support the flight line," Stone said. By the end of the exercise, Marines on the ship had fixed or repaired 134 components, Maj. James Moore, MALS-16 operations officer, said in an email.

Pacific Blitz provided a rare, hands-on training in an expeditionary ordnance reload operation typically handled by Navy Munitions Command teams. It was the first time Navy Cargo Handling Battalion 1 did the rapid resupply mission, a new capability the Navy is weighing expanding since the future distributed battlespace may require other units to rapidly resupply and reload warships.

Sailors used a forklift and crane to load an SM-2 missile into a vertical launch system tube on guided-missile destroyer USS Michael Murphy (DDG-112) March 13 at Seal Beach Naval Weapons Station, California.

"It gave us a great overview, start to finish, of how would we do this down range as far as transportation, getting equipment supplies and ordnance from point A to point B," said Chief Aviation Ordnanceman Raymond Gibree, senior adviser with the reload team.

"We garnered a tremendous amount of experience with the reps and sets we got, under the oversight of NMC," Gibree said. "We are expected to do this mission in many different locations, under many different circumstances and under permissive, hostile and uncertain areas."

The scenario included transporting the team on two Navy ships and utility landing craft to reach Michael Murphy. It helped "make sure we can provide that capability to the fleet in more locations, more responsive to their requirements," Ruggiero said, "wherever they happen to be." ■

5 Boeing Orca XLUUVs Funded by Navy

BACKGROUND

The Orca extra-large unmanned undersea vehicle (XLUUV) program was developed to meet fleet requirements. The U.S. Navy selected the Orca design submitted by Boeing to advance the concept and technology of autonomous unmanned undersea vehicles. Orca will be deployable from shore and will operate independently with a variety of sensor packages.

SCOPE

The Navy has ordered five Orcas for concept development and eventual operational use. Boeing's Echo Voyager prototype vehicle is not Orca but does provide technical risk reduction for the Orca program.

TIMELINE

The Navy awarded Phase I competitive design contracts each in the $40 million range in September 2017 to two potential vendors for the XLUUV program. The preliminary design review was completed in March 2018. Boeing submitted its XLUUV design for Phase II of the competition on Dec. 7, 2018. Boeing was chosen for the fabrication, test and delivery of four Orcas and awarded an initial increment of $43 million on Feb. 13. A follow-on award for $46.7 million on March 27 added a fifth Orca and associated support elements, bringing the total contract value to $274 million.

WHO'S WHO:

Dan Tubbs is the Boeing deputy director of advanced maritime systems for Boeing's unmanned undersea efforts.

BOEING CO.

Orca extra-large unmanned undersea vehicle (XLUUV).

"The Orca XLUUV class of vehicles, named for the large sea predator, is the largest unmanned undersea vehicle currently planned for the Navy's operational use. It will not be submarine-launched but will be autonomously launched from the shore and independently deployed. It will not require a support vessel for operations.

Boeing has prototyped various sizes of UUVs and began its work in the area of unmanned undersea development in the 1960s. Boeing's largest UUV is the 51-foot-long Echo Voyager, developed by the company as a demonstrator. The Orca will be similar in size.

Echo Voyager's advanced autonomy allows it to operate effectively in clear and congested waters without physical human contact. Its range covers 6,500 nautical miles (one fuel module), allowing the vehicle to perform long endurance operations.

Powered by a batteries and marine diesel generators, the demonstrator completed its first phase of sea testing, alpha sea trials, in 2017, when it operated off Southern California for about three months. It returned to sea last year for bravo sea trials. That testing will conclude later this year.

The Orca will be reconfigurable to accept payloads tailored to particular missions. The core vehicle will feature systems for guidance and control, navigation, autonomy, situational awareness, communications, power distribution, energy, propulsion and maneuvering. Its modular payload bay will be equipped with interfaces for sensors and payloads and the potential for cost-effective upgrades in future increments."

30 Sea Cadet Chiefs Go to Washington

BY KATE MCILVAINE, DIRECTOR OF COMMUNICATIONS, U.S. NAVAL SEA CADET CORPS

On April 14, 30 of the USNSCC's most exceptional chief petty officers from around the country reported to Arlington, Virginia, for the inaugural Senior Leadership Academy.

While spring break is usually synonymous with vacations and video games, these cadets chose to attend a week-long training full of exceptional educational experiences, world-class guest speakers and reflection on the role of grit and resilience in leadership.

While their peers back home were still sleeping, the chiefs began the day with a pride run to the Iwo Jima Memorial, where they watched the sun rise and listened to a speech about the meaning of the memorial from Chief Petty Officer Harvey Cascadden, a cadet who aspires to become a Marine.

After that stirring start to the day, the chiefs made the first stop in their tour of Washington. Retired NASA astronaut and Air Force Col. Eileen Collins, the first female pilot and first female commander of a space shuttle, escorted them through the Smithsonian Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia, answering questions and providing her unique perspective on the museum's exhibits, which include the space shuttle Discovery herself. Later in the week, the cadets accompanied Sea Cadet alum and attorney Matthew Landry to the U.S. Supreme Court, where they asked questions and learned about the court, the Constitution and the rule of law.

The chiefs left Washington to spend their last full day of training at the U.S. Naval Academy, where they met with an Arctic explorer, participated in a STEM (science, technology, engineering, math) experiment about climate change, met with a model ship curator and had their seamanship skills challenged in a simulator there.

The cadets also spent hours contemplating the challenges of leadership at sea with some of the finest leaders known to the Navy.

U.S. NAVAL SEA CADET CORPS

Col. Eileen Collins and the chiefs at the Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center in front of the space shuttle Discovery.

Mike Stevens, the 13th Master Chief Petty Officer of the Navy and current executive director of the Navy League of the United States, held a special chief's mess, sharing his three keys for success: work hard, stay out of trouble, be a good and decent person. In addition to the MCPON, the chiefs met Cmdr. Mike Abrashoff, author of the book "It's Your Ship," Col. Chris Costa, executive director of the International Spy Museum, and Fleet Master Chief of U.S. Fleet Forces Command Paul Kingsbury.

Chief Petty Officers Ethan Spell and Jessica Chacko took the opportunity to get out the word about the USNSCC when they appeared on the morning show of a local news network, accompanied by the national director of education, Richard Quest. They used their time on-air to talk about the week's activities and explain their reasons for becoming Sea Cadets.

At their graduation ceremony at the U.S. Navy Memorial, the cadets looked back on their week with honored guests, retired Rear Adm. Althea Helen "Allie" Coetzee Leslie, the eighth Master Chief Petty Officer of the Coast Guard Vincent Patton III, and Kingsbury.

At the conclusion of their visit to the nation's capital, meetings with distinguished naval leaders and reflection on their futures, these 30 chiefs committed themselves to continuing to represent the Naval Sea Cadet Corps, their nation and themselves with the same levels of professionalism and pride they demonstrated during SLA. ■

Petty Officer 'Umm' No More

HALL RAISES HIS CONFIDENCE, RISES TO CHIEF PETTY OFFICER

BY CHIEF PETTY OFFICER MATTHEW C. HALL, NSCC, FLYING TIGERS SQUADRON, BATESVILLE, INDIANA

As someone who has been in the Sea Cadet program for five years, I can say that it has been one of the greatest honors and best decisions of my life. The Sea Cadets provide support to all who join, motivating them to serve their communities and maybe even their country.

U.S. NAVAL SEA CADET CORPS

Matthew Hall receives his chief petty officer pin — and credits officers of his Flying Tigers Squadron with instilling confidence in him to be able to lead.

For me, thanks to the support, motivation and dedication of the officers of the Flying Tigers Squadron, the idea of quitting was never in my vocabulary, and help from family and the friends I made in the program changed my life. All of this helped me during my journey to become a chief petty officer.

When I joined the U.S. Naval Sea Cadet Corps, I was a nervous wreck. I had issues with confidence. I wasn't very physically fit, and I was a moderately successful student with below-average study habits. I also had a very bad habit of saying "umm" before almost every sentence. This habit had its consequences, as my training officer at the time showed me.

During one of my first staff cadet meetings as supply petty officer, the staff cadets suggested what to do at drill and how to have the unit work. I put ideas of what I thought could work in place and agreed with others when my training officer brought up the fact that I was saying "umm" before almost each sentence. Even after he said this, I kept on saying "umm," and he said that if I liked saying "umm" so much, I would be known as "umm" until I stopped. This is how I ended up with the nickname "Petty Officer Umm." He explained that this signaled low self-confidence and that any officer, CEO, manager or supervisor would see it as such and that it could harm to my career. I took this to heart, and at that moment I decided I need to make some changes if I wanted to be successful.

After this, I went on to improve my performance as a cadet and in other areas of my life. I found a passion for engineering and mathematics, which led to my attendance at two STEM trainings, one in Latimer, Tennessee, and another at the U.S. Naval Academy in Annapolis, Maryland. I attended marksmanship training in Latimer as well, led by that same training officer, who I will always remember as one of the best instructors I've met, and he helped me earn my marksmanship ribbon with an expert device.

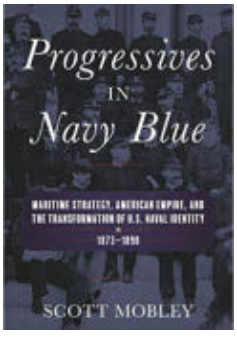
At Federal Aviation Administration Ground School, I discovered how much I loved flying and found my motivation to become a naval aviator. I broadened my sense of life at sea at port operations and became a better leader at Navy League orientation as a staff cadet.

All these accomplishments wouldn't have been possible without my superior officers and their confidence in me, even though I didn't have confidence in myself to start. I'm certain that I can be successful in what I do and say. My journey isn't over — it's only just beginning. Anything is possible if you have the motivation to put time and heart into achieving your aspirations.

This article was edited for Seapower, *but it originally appeared in the March 2019 issue of Sea Cadet Quarterly. To read more about the Sea Cadets, visit www.seacadets.org/scq.*

Transforming the Navy, U-Boat Pens, The Pacific War, South American Ships

BY RICHARD R. BURGESS, SENIOR EDITOR



PROGRESSIVES IN NAVY BLUE: Maritime Strategy, American Empire, and the Transformation of U.S. Naval Identity 1873-1898

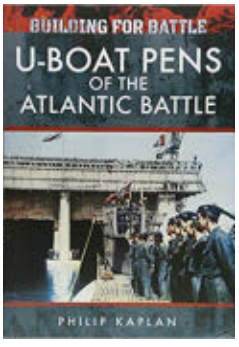
By Scott Mobley. Annapolis, Maryland: Naval Institute Press, 2018. 432 pages. $34.95.
ISBN: 978-1-68247-193-7

This book is an academic study of the transformation of the U.S. Navy from 1873 to 1898 from a commerce-protecting force emerging from the age of sail to an overseas presence ready for action in the Spanish-American War. The author describes the cultural tension — fitting for the age — between officers who progressively pushed scientific and technological advances and nautical and gunnery proficiency and those who were strategic thinkers like Mahan who pushed the officer corps to increase their professional outlook of the Navy as a global warfighting force able to influence world events. The two cultures forged what the author calls a "warrior-engineer" identity for naval officers that continues to this day.

WINNING A FUTURE WAR: War Gaming and Victory in the Pacific War

By Norman Friedman. Washington, D.C.: Naval History and Heritage Command, 2017. 262 pages.
ISBN: 978-1-943604-24-1

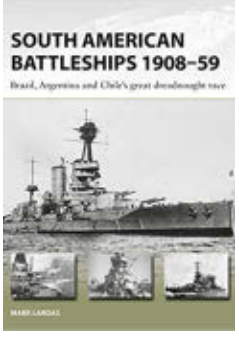
This distinguished naval historian and author describes the transformation of the U.S. Navy from a relatively unsophisticated force in 1919 to one that would fight to victory during World War II. The role of the Naval War College between the wars by using war-gaming was key to victory. It tested new tactics and the employment of new technologies such as naval aviation in ways that could not be tested in fleet exercises. Another product of the war-gaming of the era was the formation of strategy in the event of a war with Japan, one that proved successful as the Navy recovered from its initial setbacks and swept to eventual victory over the Japanese.



U-BOAT PENS OF THE ATLANTIC BATTLE

By Philip Kaplan. South Yorkshire, U.K.: Pen & Sword Books Ltd., 2017. 176 pages. $39.95
ISBN: 978-1-52670-554-0

Germany's conquest of France in 1940 enabled the Kriegsmarine to base much of its U-boat force on the west coast of France, thereby greatly extending the range of the U-boats and putting more Allied shipping at risk. To protect the submarines while in port, the German government built huge structures called U-boat pens, bunkers built to withstand Allied air attacks. Some of these pens could shelter 12 U-boats under concrete ceilings more than 3 meters thick. Allied air raids damaged them only slightly, and the bunkers remain in existence today. This well-illustrated book also covers the U-boat operations in the Atlantic that began and sometimes ended in these shelters.



SOUTH AMERICAN BATTLESHIPS 1908-59

By Mark Lardas. Oxford, U.K.: Osprey Publishing Ltd., 2018. 48 pages. $18.00
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The terms "battleship" and "South America" are rarely associated with each other, and many readers might be surprised that three South American navies operated battleships from 1908 until 1959, with only two firing their guns in anger. Brazil's booming exports in 1906 enabled it to order two dreadnoughts. Argentina entered the arms race with an order for two dreadnoughts, followed by Chile, which ordered two. The Brazilian battleships patrolled the Atlantic Ocean during World War I and provided coastal defense in World War II. One, Sao Paulo, fired its guns to help suppress a revolt in Brazil. Argentina's two saw no action in either war. Chile's one ship completed as a battleship was confiscated by Britain for World War I and fought at Jutland, being restored to Chile after the war. This well-illustrated monograph covers its obscure subject thoroughly.

Seapower *does not review works of fiction or self-published books.*

The First Expedition

BY DR. DAVID F. WINKLER

(Editor's note: This article retains the original spelling and grammar from Lt. John Paul Jones' 1776 report.)

In an after-action report written on April 14, 1776, Lt. John Paul Jones, embarked in Alfred, then in port at New London, Connecticut, receiving repairs and refitting, provided his perspective on a recent expedition with a squadron of the recently formed Continental Navy — a raid on New Providence in the Bahamas. Describing the departure of the force off the capes of Delaware, Jones penned, "On the 17th of Feby the fleet put to sea with a smart northeast wind."

The flotilla, commanded by Esek Hopkins, who had chosen the 24-gun Alfred as his flagship, surged through some rough weather to arrive at Abaco in the Bahamas on March 1. Jones then reported that the local harbor pilots had provided vital information.

"By these people we were informed that there was a large quantity of powder [with] a number of cannon, in the two forts of New Providence — In consequence of this intelligence the Marines and Landsmen, to the number of 300 and upwards under the command of Captn [Samuel] Nicholas were embarked in the two sloops [Providence and Wasp]. It was determined that they should keep below deck 'till the sloops were got in close to the fort — and they were then to land Instantly and take possession before the Island could be alarmed."

However, the surprise was foiled when sentries at one of the forts "fired an alarm on the approach of our fleet." Despite the forewarning, the locals were not prepared to offer much resistance. The landing party stormed ashore and assaulted Fort Montague, where the defenders fired a few cannon shots at the raiding party before fleeing. Having secured the fort, the landing party remained there overnight. In his report Jones continued:

"The next morng the Marines marched for the town and were met by a messenger from Govr who told Captn Nicholas that 'the Western Garrison' [F. Nassau] was ready for his reception and that he might march his force in as soon as he pleased. — This was effected without firing a gun on our side — but the Govr had sent off 150 barrels of powder the night before. Inclosed you have an inventory of the cannon, stores, which we took possession of and brought off in the fleet."

The inventory would show 88 cannon and 15 mortars — an impressive catch. However, the real need was for precious gunpowder. For Hopkins, Nicholas and Jones, a nearly perfectly executed grab-and-go raid proved too good to be true. Returning to home waters, the flotilla ran afoul of the Royal Navy's Glasgow. The enemy 20-gun sloop of war first directed her guns against Cabot. Jones scribed, "The Cabott was disabled at the 2d [sic] broadside the Capt, being dangerously wounded; the master and several men killed." Glasgow then turned her attention to the flagship. Jones continued:

"The enemys whole fire was then directed at us and an unlucky shot haveing carried away our wheel block and ropes, the ship broached too and gave the enemy an oppertunity of rakeing us with several broadsides before we were again in condition to steer the stuck and return the fire. In action we received several shot under water which made the ship verry leaky."

Remarkably, Jones went on to report that for all the damage inflicted on Alfred, the loss of life was only five, including the "2d Lieut of Marines and four men, one of whom (Martin Gillingwater) a midshipman prisoner."

Regarding Hopkins, Jones wrote: "I have the pleasure of assuring you that the commr in chief is respected thro' the fleet and I verily belive that the officers and men in general would go to any length to execute his orders."

Unfortunately for Hopkins, his Bahamas gambit rankled many in the Continental Congress who had wanted Hopkins to employ his sea power to stop British raids against villages and plantations along the shores of the Chesapeake Bay and the Carolinas. Thus, Congress censured Hopkins in August 1776, and he would be eventually relieved as the first commander-in-chief of the Continental Navy in January 1778. ■

Dr. David Winkler is a historian with the Naval Historical Foundation and will be the Class of 1957 Chair of Naval Heritage at the U.S. Naval Academy for 2019–2020.

NEBRASKA NAVY LEAGUE COUNCIL

Navy Junior ROTC Cadet Nathaniel Denne with his $500 academic scholarship at Papillion-La Vista South High School.

Nebraska Council Recognizes Cadet With Annual $500 Scholarship Award

Retired Senior Chief Petty Officer William Cover, a member of the Navy League's Nebraska Council, presented Navy Junior ROTC Cadet Nathaniel Denne with a $500 academic scholarship in May to be used toward his continued education at the Citadel in Charleston, South Carolina, next fall.

The scholarship was presented at Papillion-La Vista South High School in Papillion, Nebraska, where Denne is a student. He was his unit's honor cadet graduate this year. The Nebraska Council makes the scholarship award presentation annually.

CAMDEN-KINGS BAY NAVY LEAGUE COUNCIL

Special guest Donna Rowe, retired Army captain and decorated triage nurse during the Vietnam War, speaks to the Camden-Kings Bay Navy League Council on April 18.

Decorated Vet Rowe Visits Camden-Kings Bay, Revisits Harrowing Experiences in Vietnam

The Camden-Kings Bay Navy League Council had a special guest for its April 18 dinner meeting: Donna Rowe, retired Army captain who was head nurse of emergency room/triage area of the 3rd Field Hospital in Saigon from 1968 to 1969 during the height of the Vietnam War.

Rowe, who spoke to the council about her harrowing wartime experiences and her high regard for the doctors and helicopter evac personnel with whom she served, received the Vietnam Service Ribbon and the Army Commendation Medal and was the first woman inducted into the Georgia Military Veterans Hall of Fame.

Rowe appears in the 2004 documentary, "In the Shadow of the Blade," which follows the journey of a restored Vietnam-era UH-1H Huey helicopter across the U.S. to document the stories of Vietnam veterans and their families. Among the documentary's vignettes is the story of "Baby Kathleen," which Rowe tells.

One day while Rowe was on duty as the triage nurse, a helo radioed ahead with news of a severely wounded infant on board. The girl had been found in the arms of her dead mother after a North Vietnamese attack, and Rowe broke protocol and agreed to take the infant in and treat her. (Vietnamese civilians were last in the line on the triage list as other hospitals and the triage room were overflowing with the wounded.)

Not sure the girl would survive, Rowe asked a Catholic priest to baptize her on the way into surgery, and Rowe named the girl "Kathleen," from a song her father used to sing to her, and "Fields," after the 3rd Field Hospital.

The baby survived her wounds and stayed at the hospital until an American soldier cut through the red tape, adopted her and took her back home. Years later, Rowe told the story of Baby Kathleen to a reporter, whose news story led to the discovery of Kathleen living in California. Rowe later met Kathleen and her adoptive parents and is friends with the family to this day.

MADRID NAVY LEAGUE COUNCIL

Carlos Suarez (right), president of the Madrid Navy League Council, presents a token to Adm. José Luis Urcelay Verdugo for his Feb. 21 speech to the council.

Madrid Navy League Council Welcomes Spanish Navy's Deputy Chief of Staff

Adm. José Luis Urcelay Verdugo echoed the sentiment of the Madrid Navy League Council in helping to "foster close and friendly relations with our host nation, Spain, and especially the Spanish armada and armed forces" in a wide-ranging speech Feb. 21 to the Madrid council.

In his speech, the admiral took attendees on a tour of the history of U.S.-Spanish military cooperation, especially the two nations' sea services, that endured through the Spanish-American War and into the 20th and 21st centuries, but also touched on modern defense policy and cooperation between industries on weapons that serve the Spanish sea service.

"If I had to pick a truly transformational milestone in the history of the relationship … it is, beyond any doubt, the cooperation agreement between the United States and Spain signed in the 1950s and renewed 30 years ago now, as we had the opportunity to celebrate very recently," Verdugo told the attendees.

The gift of ships, submarines, aircraft and Marine Corps equipment from the U.S. to Spain helped Spain integrate into NATO and lessons learned from the U.S. defense industry have served Spain well in the formation of Spain's modern sea service, the admiral said in his Feb. 21 address.

"This model has permitted us to develop the state-of-the-art platforms we have today," he said, citing Spain's F100 Álvaro de Bazán class of Aegis combat system-equipped frigates, the Juan Carlos I line of amphibious assault ships and its S-80 Plus class of submarines.

"At the foundation of the success story of those and other programs lays a strong cooperation between Spanish and American companies" such as Spanish defense contractors Navantia, a shipbuilder, and Indra Sistemas, an information technology specialist, and U.S. defense giants Lockheed Martin and Raytheon, he said. There has also been strong cooperation from General Dynamics Electric Boat in helping Spain overcome technological issues with its S-80 Plus-class submarine.

He lauded Spain's NATO membership, which has allowed Spanish and U.S. forces to "live and train next to each other, resulting in the exchange of tactics, techniques and procedures that open the door to new operational opportunities, should it be decided by our political masters on both sides of the Atlantic."

As an example of cooperation, he cited the integration in April of the F100 frigate Mendez Nuñez into the USS Abraham Lincoln (CVN-72) carrier strike group out of Norfolk, Virginia.

"To sum up, I would conclude by stating that we all win with the collaboration between the U.S. maritime forces and the Spanish navy," the admiral said. "I am sure it paves the way for a bright and successful future where our military relationship may be a catalyst to strengthen, even more, the association between our nations and our peoples."

Membership Report

2019 TOP RECRUITERS		NEW MEMBERS
Lynn Atkinson Drucker	Fort Lauderdale, FL	26
Enrique Acosta Gonzalez	Central Florida, FL	4
James Semerad	Detroit Women, MI	3
James T Black	Lake Merritt, CA	3
Kevin MacFarland	Tampa, FL	3

2019 TOP COUNCIL RECRUITING	NEW MEMBERS
San Diego	193
Honolulu	59
Imperial Valley	36
New York	26
Jacksonville	24
Key West	23
Tampa	21
Treasure Coast	19
Central Florida	18
National Capital	18
Northern Virginia	17
Charleston	16
Hampton Roads	12
Palm Beach	10
Philadelphia	10

SANTA BARBARA NAVY LEAGUE COUNCIL / Alice Robles

The Marines of Kilo Company, 3rd Battalion, 5th Marines, stand under a sign to "Rancho del Cielo," President Ronald Reagan's 688-acre vacation home, which the Marines toured.

Santa Barbara Council Provides 3/5 Marines Some R&R Before Long Deployment

The Santa Barbara Council played host April 9-11 to 25 Camp Pendleton, California, Marines and their commanding officer, Capt. Kenney Conover, and provided them with a little rest and relaxation before they shipped out from San Diego for a long deployment.

About to join the 11th Marine Expeditionary Unit for a deployment of between six and seven months, the Santa Barbara council honored the Marines of Kilo Company, 3rd Battalion, 5th Marines, with a stay at the Franciscan Inn, a tour of President Ronald Reagan's 688-acre vacation home, "Rancho del Cielo," in Santa Barbara and a barbecue at the home of Bob Duncan, a Santa Barbara director, overlooking the Pacific Ocean.

The council also hosted a steak dinner at Chase Palm Center on the Marines' final night in Santa Barbara.

The third-grade students of another council member, Alice Robles, a teacher at Ellwood Elementary School in Goleta, California, wrote notes of appreciation to the young Marines, who enjoyed reading the sentimental messages.

CHRIS POLINSKY

Adm. Christopher Grady (center) stands with area officers, senior enlisted personnel, Merchant Marine Academy students and New York Council members.

New York Council Honors Grady, Buzby at 117th Anniversary Dinner

Leaders of the business, military and government came together April 2 at the New York Yacht Club to celebrate the 117th anniversary of the Navy League and to pay tribute to Adm. Christopher Grady and Maritime Administrator Mark H. Buzby, who received the New York Council's Distinguished Service Award.

The annual gala is held to raise funds for the council's efforts on behalf of the almost 5,000 men and women of the U.S. Navy, Marine Corps, Coast Guard and Merchant Marine who are stationed in or visiting the New York City metro area. Proceeds from the evening also support Fleet Week New York and the New York Council's youth programs, which include almost 1,000 members of the Young Marines, Naval Sea Cadet Corps, Marine Corps Junior ROTC and Navy Junior ROTC.

Grady, commander of the U.S. Fleet Forces Command, received the Distinguished Service Award, which goes to active-duty members of the sea services who have held significant commands. Buzby, a retired Navy rear admiral, received the J. Robert Lunney Patriot's Award for his career of public service prior to joining the Maritime Administration.

Grady thanked the New York Council for his award. "My wife, Christine, and I are deeply honored to be here with you tonight, and I am proud to accept your recognition on behalf of the over 100,000 Sailors, Marines and Navy civilian professionals whom I serve alongside every day at U.S. Fleet Forces Command."

STATEMENT OF POLICY

- We of the Navy League of the United States stand for a strong America — a nation morally, economically, and internally strong.
- We believe that the security of our nation and of the people of the world demands a well-balanced, integrated, mobile American defense team, of which a strong Navy, Marine Corps, Coast Guard, and Merchant Marine are indispensable parts.
- We support all Armed Services to the end that each may make its appropriate contribution to the national security.
- We know that in a free nation an informed public is indispensable to national security and, therefore, we will strive to keep the nation alert to dangers which threaten — both from without and within.
- We favor appropriations for each of the Armed Services, adequate for national security, economically administered.
- We oppose any usurpation of the Congress's constitutional authority over the Armed Services.
- We urge that our country maintain world leadership in scientific research and development.
- We support industrial preparedness, planning, production.
- We support efforts of our government to achieve worldwide peace through international cooperation.
- We advocate a foreign policy which will avoid wars — if possible; if not, win them!

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At Sea Aboard 'Gold Eagle'

2 TEACHERS TOUR SUPERCARRIER USS CARL VINSON

As part of the Educators at Sea program, councils of the Navy League of the United States sponsored visits by science and technology schoolteachers to Navy vessels. Seapower *asked teachers to chronicle their trips. These are two of their stories about time on the aircraft carrier USS Carl Vinson.*

By TOM CHAMPION, Naperville North High School, Naperville, Illinois

Sometime last year, a friend of mine asked me if I had any interest in a program that takes educators out to a ship at sea. My answer was, of course, a resounding yes!

When I was a child, I would ask my own father about his experiences in the Navy. He had been drafted as a doctor and served his time aboard the submarine USS Nathan Hale (SSBN-623) during the Vietnam War. He never spoke of his experiences as being "good" or "bad." Rather, they were experiences that were unique to him and his life. In later years, I contemplated joining the Navy, though due to various distractions, it was not the path I took. I still found myself from time to time wondering what it would have been like. Now it seems I might have stumbled upon an opportunity to get a taste of the Navy experience.

Shortly thereafter, I was contacted by retired Capt. Terry Jelinek (my friend's dad), and he conveyed to me that the Educators at Sea program was indeed underway (no pun intended) and that I was going to receive some information from the Navy League about possible departure dates. I started by filling out paperwork, but I did not truly believe that anything was going to happen until I had to fill out some particularly serious forms that referred to life and liability. Suddenly, a date and a ship were provided. I was on my way!

I would be remiss if I didn't express my gratitude to both Cmdr. Michael Jelinek and Capt. Terry Jelinek for opening this door for me. I would also like to thank the Navy League and its generosity for covering the major expenses associated with the trip. Though I didn't meet him, Tom Pruter (southern region president of the Navy League) was a key player in this experience, and Steve Fiebing (deputy public affairs officer, Distinguished Visitor Program coordinator) assisted us greatly.

The ship to which I was assigned — the Vinson — is one of the big ones, a Nimitz-class carrier. I thought about the movies I'd seen that featured this awesome platform, and I'll be honest, I was speechless — which in my family is generally impossible. I began to prepare for the trip both mentally and physically as I didn't want anything to impede what I'd be presented with aboard the Vinson. I researched the ship and its operations so I'd be prepared to learn anything I could and link it to science or the high school experiences I'm part of every day. I asked myself: How and where could science and the Navy be connected?

I also did some research to make sure that I didn't make a fool of myself. I asked individuals I know, including a former student who is an F-18 pilot, about the worst things I could do once I was on board the Vinson. The top three were wear camouflage clothing on board the ship, wear a hat while on deck and make any reference to "Top Gun."

With this information in hand, I headed to San Diego, where I met up with some fellow travelers, and 12 hours later I was on a C-2 Greyhound flying to the carrier. It was surreal to land on the ship and feel the plane catch the cable. That was also the true beginning of the weekend. None of it seemed real until I walked off the back of that plane and realized I was on a carrier at sea!

From there, we spent every minute possible moving and seeing systems of the ship. We met dozens of Sailors, officers and chiefs, and I have so many memories that it's only possible to list 10% of what we did.

I came out of the weekend thinking about the amount of science and technology the Navy applies, and I concluded that there must be a specific pool of young talent the sea service would entice: students who are motivated, who collaborate, who delegate tasks, who compete against other teams and who are involved in STEM (science, technology, engineering, math). They practice their communication skills and excel at decision-making. They know how to fail; they learn from it and try again. Students with robotics, applied materials and engineering aptitudes would excel — members of the drone club, the debate team, the speech team, for example, or others that combine talent, trade, leadership and collaboration.

If I had known or experienced something like this some decades ago, I believe I would have taken a chance on the Navy myself.

By Hope Mikkelson, Verona Area School District, Verona, Wisconsin

"Here we go! Here we go! Here we go!"

I faintly heard this through my heavy-duty ear protection as we were almost there. The hum of the C-2 Greyhound, or COD, a transport plane used for high-priority cargo, passengers and mail, was too loud to decipher the actual words. But from the pre-flight training I knew it meant that we had about two minutes until we landed.

Out of the corner of my eye I was able to see the arms of our in-flight officer waving overhead at the front of the COD. I tugged on my harness, making sure it was connected and held on for the landing. Another deep breath and soon I would embark via an arrested landing or "trap" aboard the Carl Vinson at sea.

We went from 120 to 0 mph in about two seconds.

As we scuttled off the COD, there was a flurry of activity. As my eyes adjusted to the daylight, I was pulled by the flight deck crew toward the side of the carrier and down a flight of steps — step over a door well, go down a flight of steps, over a door well and into a room. I removed my headgear and, as I stood there, I felt the sway of the ship. I swallowed and took a deep breath and smiled — thankful my Dramamine was working. There I was, actually aboard an operating nuclear-powered aircraft carrier, which was, until last year, the largest warship ever built. Unbelievable!

Over the next 24 hours, I was led on a tour with the other participants, and we were able to see the flight deck, the rudders, the exercise areas, the machine shop, the dental and medical areas, and dining.

We ate the finest meals and were able to talk up-close with members of the crew, the command master chief and the chief engineer, with whom I shared a game of cribbage. We learned about life aboard the carrier, the mission of naval aviation and how the entire crew works together. We also met Capt. Matthew C. Paradise, commanding officer of the Vinson, and were awarded his challenge coin in recognition of our visit to the carrier.

The entire experience was a success, and I'd like to thank Educators at Sea for this once-in-a-lifetime opportunity. I am grateful to the men and women who serve and protect our freedom. The confidence and competence of the naval officers and their crew was quite evident. It was clear they were ready for combat. Importantly, I saw firsthand the carrier was a place where people learned valuable skills that could be carried through a full military career or into civilian life. As a high school science teacher, I participated in this embark to learn about the Navy and the various STEM skills and careers that are available so I could share this knowledge with my students. This experience opened my mind to the resources available to my students, if they want to explore what the Navy has to offer.

117th Anniversary Dinner

New York Yacht Club
April 2, 2019

The New York Council greatly appreciates the generous support of the corporations, foundations, other organizations and individuals who help continue our vibrant initiatives that support Sea Service personnel.

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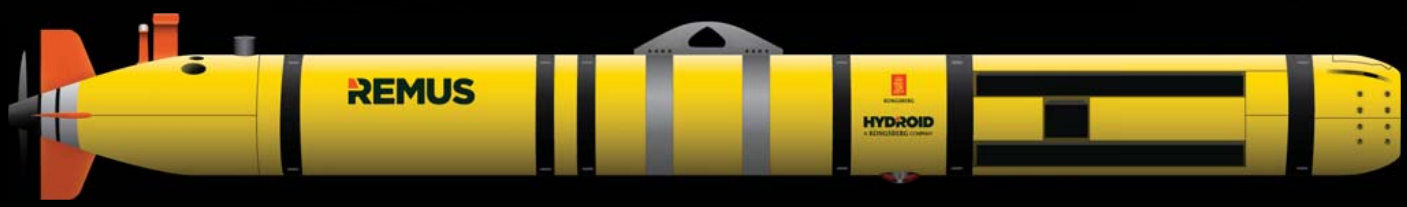

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