Surface, Expeditionary Warfare Directors Outline Challenges, Programs

ARLINGTON, Va. — The directors of Surface Warfare and Expeditionary Warfare described their extensive and well-coordinated programs to build the forces needed to meet the challenges of the renewed era of great power competition, during a presentation to the Surface Navy Association's annual symposium Jan. 15.

Surface Warfare Director Rear Adm. Ronald A. Boxall warned that the challenges being presented by a resurgent Russia and the rapidly growing Chinese navy means "we can't continue doing what we've been doing," but must build a lethal, distributed surface force that "can take the fight to the enemy."

The path to that capability is set by the Surface Capability Evolution Plan that seeks to put the most capability at sea, Boxall said.

That plan is looking at a new frigate as the future small surface combatant, a new large surface combatant and a range of unmanned vessels, he said.

But there will be a focus on producing a common combat system for all those ships, to eliminate the different training programs now required by the various combat systems in the fleet. The plan also will emphasize increased offensive lethality and improving the speed by which new capabilities reach Sailors, he said.

Boxall repeated his view that the replacement for the aged Ticonderoga-class cruisers "may not be a cruiser." The focus is on looking at what capabilities that ship will need that the future DDG 51 destroyers cannot provide. The ship will be designed with the space, weight, electrical power and cooling to support whatever sensors, payloads and command and control systems it will need.

But they also will be seeking smaller versions of those systems that could be put on smaller combatants or even unmanned vessels, he said.

Boxall also stressed a focus on improving integrated training systems on the future ships to allow crews to get the quality training at sea now being provided in port.

Marine Maj. Gen. David W. Coffman said his office is working on the next generation of expeditionary warfare and the "need to reinvigorate maritime maneuver warfare."

Coffman cited the plans for the future amphibious fleet, which will be built around 12 of the "big-deck" amphibious assault ships capable of employing the fifth-generation F-35B fighter, helicopters and surface connectors — including the new model of the landing craft air cushion, a new landing craft utility and the amphibious combat vehicle — and 36 versions of the LPD 17 amphibious platform ships.

But his job includes a drive to rebuild a mine warfare capability with both the mine clearance mission and offensive sea mining, which has virtually disappeared, and supporting the Expeditionary Combat Command that includes the riverine and coastal operations craft and the Sea Bee construction teams, and the Naval Special Warfare Command's SEAL commandos and special warfare delivery craft.

Coffman said he also is working to meet the demand from Marine Corps Commandant Gen. Robert B. Neller to regain the small boat capability the Marines gave up more than a decade ago.

Asked what is being done to improve the amphibious force's capability to support the Navy in the fight for sea control in

the littoral areas, Coffman said no decision has been made on whether the amphibious ships will be armed and, if so, with what weapons. But, he said, the Marines are developing plans to use their weapons from the shore to support the fleet's sea control fight.

Return of Great Power Competition Demands Shift to 'Culture of Excellence'

ARLINGTON, Va. — The return of great power competition requires the Navy's surface forces to move from "a culture of compliance to a culture of excellence," one that recognizes standards as the baseline, strives to be the best of the best and focuses on owning the fight, the commander of Naval Surface Forces said Jan. 15.

While compliance is important, a culture of excellence is essential to bringing "superior performance and winning," and a "sense of urgency in all we do," Vice Adm. Richard J. Brown, who also is commander of Naval Surface Forces Pacific, told the opening session of the Surface Navy Associations annual symposium.

That sense of urgency is required because the national security and national defense strategies, and the Navy Strategy from Chief of Naval Operations Adm. John Richardson, are all maritime strategies "that call for sea control whenever and wherever we need it, requiring our surface navy to deter, but if necessary, fight and win the battle for sea control now in an age of great power competition," Brown said.

After the collapse of the Soviet Union in 1989, the Navy had "unfettered access and control of the sea to go wherever we wanted to go and do whatever we wanted," the admiral said. But now Russia has re-emerged to challenge the Navy in the Atlantic and the eastern Mediterranean and China is "in full challenge mode inside the first island chain" in the Pacific.

Meeting those challenges requires the surface force to not only shift to a culture of excellence, but to "embrace the concept of mission command," that requires combat-ready ships, with full system redundancy "to go to sea and support sustained combat operations.

It also requires tough, battle-minded crews and bold, confident commanding officers "driven to win and hungry for the challenge of command," he said.

Brown said the surface force also needed "an integrated combat system that doesn't care if it is on a cruiser, a destroyer, a frigate or an amphib, but that provides for rapid capability upgrades and fleet commonality. It also needs advanced long-range, multimission weapons; small, medium and large unmanned surface vessels; a capable frigate and a new large surface combatant, he said.

The surface naval force is making the changes needed, with 2018 focused on raising standards, improving training, tightening up qualifications, re-emphasizing certifications and reasserting the primacy of command, Brown said. In 2019, "we must turn readiness into lethality ... through unrelenting pursuit of excellence."

Brown also touted the role of a surface warfare development command that can take risks and develop concept of where the surface navy should go in the future.

Program Manager: Zumwalt Class Will Influence Future Surface Combatant Designs

ARLINGTON, Va. — The Zumwalt DDG 1000-class destroyers are still early in their evolution, with questions remaining on how they will be armed, what size crew will be needed and how the novel "tumblehome" hull performs in heavy sea and wind conditions, but they are expected to influence the design of future surface combatants, the program manager said Jan. 16.

"The Navy considers this ship to be a game changer in the Pacific," Capt. Kevin Smith told reporters during a Naval Sea Systems Command briefing at the annual Surface Navy Association symposium.

Years later than expected, one of the massive warships — bigger than World War II heavy cruisers — has been commissioned but is more than a year from operational status, the second has yet to start the second phase of equipping, and the third and final ship is still under construction at the Bath Iron Works shipyard in Maine.

Initially intended as a land-attack warship providing long-range precision fire support for Marines ashore, the Zumwalts now are designated as surface strike platforms, with some anti-submarine capabilities. The status of the two 155 mm advanced guns systems (AGS) installed for the land-attack mission is in doubt after the long-range munitions developed for them proved to be too expensive.

Smith noted the separate testing of other munitions, including hypersonic guided projectiles fired last year from the

standard 5-inch naval guns, that could be used with the AGS. But tests on Zumwalt are planned with Standard Missile-6 missiles and Smith said the program also is looking at the naval-strike Tomahawk missile.

USS Zumwalt is in San Diego preparing for activation of its combat systems, which were installed there as the second phase of the construction and equipping process. The basic construction, called hull, mechanical, electrical, was completed at Bath before the ship transitioned to San Diego. Activation and testing of the Mk57 combat system, the SPY-3 X-band radar and associated systems must be conducted before Zumwalt can start the comprehensive operational testing that would qualify it for operational status, not expected until 2020.

Even before that, the ship has been getting underway regularly for testing and crew training, including three at-sea refuelings from a Navy oiler and "doing things with the fleet," Smith said.

During its design stage, the Zumwalt's hull form — which gets narrower at the top rather than at the waterline — was criticized as inherently unstable and dangerous. Smith and Capt. Drew Carlson, the current commanding officer, said the ship has proven to be more stable in turns than ships with conventional hulls in early at-sea trials. But Carlson said it sails differently, sliding through turns and "wants to go straight." It has yet to be tested in extreme sea conditions.

Meanwhile, the second ship, named for Medal of Honor recipient Michael Monsoor, a Navy SEAL killed in Afghanistan, is now in San Diego preparing to start combat system installation. It is scheduled to be commissioned Jan. 26. And the final ship, Lyndon B. Johnson after the former president, is completing construction at Bath.

Heavy Deployment Schedule Limiting Marine Corps Training Time

ARLINGTON, Va. — The Marine Corps is meeting its global commitments and national mission to be the ready expeditionary force but needs a reduction in its current high deployment rate to allow it to train the force for a possible future high-end fight, the Corps' top resource officer said Jan. 16.

With one-third of its operating forces currently deployed overseas, "our surge forces on each coast are ready to go now," and Marine forces "are responding and competing in every corner of the globe, providing critical deterrence, and when deterrence fails, they'll fight and win," Lt. Gen. Brian Beaudreault, the deputy commandant for Plans, Policy and Operations, said at the Surface Navy Association's annual symposium.

While giving a generally positive view of the Corps status, with aviation readiness improving and its expeditionary forces supporting the anti-terrorism mission and training with allies and partners, Beaudreault presented a long list of things the Marines need to prepare for the future.

Those requirements included increasing the self-protection and offensive capabilities of the amphibious ships, moving toward the goal of 38 gators, continuing experiments with alternative platforms, including the littoral combat ship as a possible troop carrier and armed escort, and improving its long-range precision fires.

It also needs to improve its capabilities in information

warfare, cyber defense, "protected mobility" with the Joint Light Tactical Vehicle and Amphibious Combat Vehicle, the multimission group five unmanned aerial vehicle program called MUX, and air defense capabilities.

Beaudreault gave significant emphasis to the growing threat from Chinese area-denial defense capabilities to the naval forces' ability to project power where needed, saying the Navy-Marine team must "maintain freedom of maneuver, leveraging freedom of the sea, using land-based expeditionary bases to hold adversary's assets at risk ... [and] deliver long-range precision fires from land and sea base to achieve sea control or sea denial."

While urging faster acquisition of amphibious ships, he said the Marines must do better with what they have and "need to increase the offensive lethality of amphibious warships to meet the contested environment."

He said the amphibious fleet "must integrate organic vertical launch offensive and air defense capabilities and reduce its electronic signal."

But when asked, he said he did not know of any current program to add vertical launch systems in existing amphibs or put them in the LPD 17 variant being planned to replace the aged dock landing ships.

Beaudreault said the Marines were addressing future readiness on two paths — first, to meet its statutory mission of providing ready forces, and then preparing the force to combat potential peer adversaries. The second path requires relief from its heavy deployment schedule, he said.

The Corps was operating at a one-to-two deploy-to-dwell rate, which he said was a "short-term decision made to balance modernization, satisfy global demand and meet the current requirement to regain readiness."

The current deploy-to-dwell pace "does impact the Corps' ability to execute a high-end combat mission" because of limited training time, he said.

If they added more people to reduce that deploy-to-dwell burden, it would create budget stress on modernization and readiness, he explained.

"So over time, we will need to reduce operational commitments in order to return forces back to CONUS [continental United States] and to get us into the desirable one-to-three" pace.

Talking to reporters after his remarks, Beaudreault said aviation readiness has improved after two years of increased budgets allowed an increase in depot maintenance, supply of spare parts and trained maintainers at the squadron level. He touted the F-35Bs for maintaining a high mission-capable rate on the first two at sea deployments.

And he said he was not concerned that the Marines would be unable to meet their recruiting goals with the current low unemployment rates, as the Army experienced last year.

"I have no reason to be greatly concerned," he said. Having met their quotas every year for more than a decade, "we hope the past is an indicator of the future."

Marine Task Force Operates Across Africa During 'New Normal' Mission

ARLINGTON, Va. - A relatively small Marine Corps task force spent seven intense months operating across the vast expanse

of Africa, focusing on the "New Normal" mission of ensuring there would be no repeat of the deadly 2012 attack on the American diplomatic compound in Benghazi, Libya, that killed the U.S. ambassador and three other Americans.

"New Normal dominated. ... That's why we were there," to support the State Department's missions, Col. Adam L. Chalkey, commander of the recently returned Special Purpose Marine Air-Ground Task Force (SPMAGTF) Crisis Response-Africa 18-2, said Dec. 14.

The task force's "No. 1 operational priority," and what he considered would be "the minimal mission success," Chalkey said, was "we could not have another Benghazi," with a loss of American lives.

Focusing on that mission, one of the SPMAGTF's five infantry platoons rotated on 24-hour alert status prepared to fly wherever needed to reinforce or evacuate a U.S. diplomatic facility that was threatened. That response force would have been augmented as required by additional personnel and transported by some of the unit's six MV-22 tiltrotor Ospreys, with aerial refueling and communications support by its three KC-130 tanker-transports.

Asked if he was confident that they could have met their primary mission, Chalkey noted that "there always is uncertainty" and some places in Africa are more unstable than others. But, he said, "I'm confident we're not going to have another flashpoint incident" like Benghazi.

He attributed that confidence to the fact that organizations that might think of attacking a U.S. installation "know we are there, able to respond," which serves as a deterrent.

And it was not just the SPMAGTF that could respond. The Marine unit was tied closely in with the U.S. European/Africa commands and the conventional and special operations forces under their authority, he said.

But while part of his force was standing that fly-away alert, the rest were conducting a staggering array of cooperative security exercises across most of Western and Central Europe and the vast expanse of Africa, as far from its European operating bases as Madagascar, which is nearly twice the eastwest distance across the United States. Those operations required a total of 3,077 flight hours, with no mishaps.

And he had to maintain a balance between standing alert and doing unit training, Chalkey said.

"If all we did was standing alert, we would not be able to train and stay mission-ready," he said.

They were able to maintain that balance through the security cooperative arrangements and access to allied training areas. As a result, the colonel said his units returned home better trained than when they deployed.

"Even though our mission was New Normal, we were operating out of Europe ... taking full advantage of Europe and our strategic partners," to keep his own force well trained and to help improve the combat capabilities of U.S. allies in Europe and Africa, Chalkey said at a Potomac Institute briefing.

The unit, which averaged about 850 Marines and Sailors, rotated between out of Moron, Spain, and Sigonella, Italy, with most of its time at the latter facility on the island of Sicily.

"The efforts of and the relationships built with our host nations, Spain and Italy, gave us the opportunity to train," he said.

And they also were conducting security cooperation missions across Africa, "helping our partners mature their skills, to the point where they could export those skills to other African nations." That was in keeping with the intentions of Marine Gen. Thomas D. Waldhauser, commander of the U.S. Africa

Marine Corps' Sea Dragon Effort Turning Focus to Information Operations

STAFFORD, Va. — After two years focusing on increasing the lethality of the small ground units and providing logistical support in the contested littorals, the Marine Corps Warfighting Laboratory (MCWL) is moving into intensive trials on information operations and ways to more fully integrate the naval forces to fight the maritime campaign, which will include a search for Marine-operated anti-ship weapons.

The focus of the Sea Dragon force development effort in the current fiscal year will be on "a handful of select, high-value capabilities" that will enable Marine expeditionary forces to maintain their "battle networks in the most highly contested environments," providing a "high degree of domain awareness" through experimental technologies for sensing the environment and feeding that "into networks we can fire and fight from," Brig. Gen. Christian F. Wortman, the MCWL commander, said Nov. 27.

They also will be testing capabilities to disrupt an enemy's ability to sense the environment and target Marine units, Wortman told reporters at an office near Marine Corps Base Quantico.

Then, the gains from the first three years of the re-energized Sea Dragon will culminate in fiscal 2020 experiments to address Marine "contributions to a maritime expeditionary campaign," with close cooperation with the Navy, Wortman said.

Those efforts will be in direct support of Marine Corps Commandant Gen. Robert B. Neller's commitment to an integrated naval force, he added.

"We know that fleet and Marine forces are far more lethal, survivable and effective when they fight as an integrated team. So we're approaching naval and Marine Corps development as an integrated team, to the maximum extent possible."

As a key part of Neller's commitment to the integrated naval campaign and the Corps' effort "to support the sea fight in contested maritime domains," Marine elements will conduct, in partnership with the Navy staff, the research establishment and industry, a series of "fight the naval forces forward" advanced naval technology exercises (ANTX) in 2020, Wortman said.

The ANTX series will focus on "naval fires, technology to close the kill chain in highly contested environments and to deny the enemy the ability to target our forces."

A key part of that will be a search for land-based, long-range, anti-ship missiles that Marines could employ from advanced expeditionary bases within an enemy's defensive shield to support the Navy's fight for sea control.

"The commandant is determined to provide a capability to strike a killing blow against advanced surface ships from our tac [tactical] air assets or land-based locations," Wortman said.

Where the first year of the new Sea Dragon campaign resulted in major changes to enhance the lethality of the infantry squad and other small ground combat elements, 2018 focused on the logistical and sustainment challenges of distributed operations in contested areas. Those experiments identified unmanned and autonomous logistics distribution assets "as high

value. We are working aggressively" on unmanned underwater, surface, air and ground vehicles "to support our logistics distribution requirements," the general said.

The goal is to sustain the expeditionary forces in high-tempo operations "while dramatically reducing the risk to our Marines and frustrating the ability of potential adversaries to interrupt our sustainment operations."

In response to a question on the possible role of underwater vehicles, Wortman said "anything that offers us the ability to move bulk liquids, ordnance or other consumables over extended range in a manner that is hard for an enemy to target is really attractive to us."

They also see the potential of those systems in the seacontrol fight by "employing unmanned underwater systems from expeditionary advanced bases with a wide range of payloads that will challenge or destroy adversary capabilities in some of these contested environments."

Wortman said the 2018 experiments also introduced the new "experimental opposing force," a cadre of eight to 10 civilian experts who will challenge the MCWL experimenting units and the technologies and concepts they are testing.

Panelists Make Pitch for More Robust Integrated Air and Missile Defense

WASHINGTON — The growing capabilities of potential adversaries in the Indo-Pacific Command area has led the U.S. services to

better integrate their air and missile defense systems, but more needs to be done in that effort and the available resources are not adequate to the threat, two Army officers with recent experience in the theater said Nov. 26.

"The requirements out there exceed the capacity we have," Brig. Gen. Clement Coward, currently commander of 32nd Army Air and Missile Defense Command and a former Joint Integrated Air and Missile Defense Organization (JIAMDO) director, told a Center for Strategic and International Studies forum.

From the view of the military commanders, "we don't have what we need," in theater air and missile defenses, he said.

While serving in the joint command, "I saw the same interest from a Marine leader as an Air Force leader" for integrated air and missile defenses, Coward said.

But Coward questioned if the services have the right procedures, the right framework to set the conditions for truly integrated air and missile defense.

Col. Sean Gainey, the current JIAMDO director and deputy director for force protection on the Joint Staff who previously led an Army air and missile defense command in the Indo-Pacific, said because of the capabilities shortage, "we had to prepare to fight with what we had."

To do that, the services took capabilities like the Aegis ballistic missile defense systems and the TPY-2 radars on the Navy's warships and synergized them with the Army's Patriot and Terminal High-Altitude Area Defense system, Gainey said.

But he asked how the services will get the joint "sensor-shooter interface" they need to synergize all the separate capabilities in the theater.

In a second panel, four retired officers, all of whom had served as directors or as the technical director at JIAMDO,

noted the deep cuts in funding, staffing and authority that have hit the joint organization and argued that the military cannot get to truly integrated air and missile defenses without someone able to force the services to buy the systems and create commands that put the overall requirements ahead of their own priorities.

Retired Air Force Col. Richard Glitz, who served as JIAMDO technical director for nine years, cited the drop in annual funding from \$100 million to \$20 million while the missile threat to the U.S. homeland from Russia, China and North Korea has increased.

Retired Navy Rear Adm. Archer M. Macy Jr. emphasized the new threats from hypersonic weapons and electromagnetic effects, which reduce the time to respond from hours to minutes and seconds. Macy and others on the second panel said the nation needed an organization directly under the Joint Chiefs chairman or vice chairman who could force decisions on research and procurement to meet the greater threats, instead of what each service believes it needs.

"The only ones interested in SHORAD are the Army and Marines," said retired Air Force Brig. Gen. Kenneth Todorov, referring to short-range air defense systems the ground services are seeking. And the services also see the threat from cruise missiles differently, he added.

Gainey suggested the joint staff is "starting to touch the fringes of global force integration," but may need to force the combatant commanders "to accept some tough risks" in allocation of resources across the threat.

Because any major conflict is likely to involve more than one of the regional combatant commands (CoComs), it will take the chairman to ensure "there are "no seams between the CoComs."

Southeast Asian Nations Wary of Choosing Sides in Rift Between U.S., China

WASHINGTON — Although China is exerting pressure on the nations in Southeast Asia to side with it in the growing global struggle with the United States, most of them want to avoid having to choose, preferring to maintain strong economic ties with both while seeking close security relations with America, a panel of Asian experts said Nov. 19.

But the lack of a strong and steady military presence in the region, partly due to a shortage of Navy ships, and inconsistent demonstration of interest from Washington have caused some Southeast Asian countries to question U.S. staying power, the four think tank scholars and former government officials told a Hudson Institute forum.

Some of the panel members argued that America weakened its influence in the region when President Donald Trump decided to abandon the Trans-Pacific Partnership, which allowed China to take the lead in forming a version of the trade agreement that excludes America from the economically growing region.

The experts also expressed concern that fear of antagonizing their powerful and aggressive regional neighbor has prevented the 10 members of the Association of Southeast Asian Nations (ASEAN) from reaching unified positions on regional issues, allowing China to seek to influence them individually, which is its preferred tactic. The ambivalence also threatens the viability of the association itself, they said.

Noting the sharp differences in proposed visions for the

region expressed by Chinese president Xi Jinping and U.S. Vice President Michael Pence at an ASEAN conference last week, "the long-standing concern in the area that they would be forced to choose is at an all-time high," said Amy Searight, director of the Southeast Asia Program at the Center for Strategic and International Studies.

"Clearly, they do not want to be forced to choose. They want strong economic ties with both, but want strong diplomatic, security ties with the U.S., but not at the expense of economic ties with China," Searight said.

"China is very good at trying to create false binary choices ... creating the sense that the countries have to choose," she said. That is strengthened by China's claim that "America is part of the past, while China is part of the future," and if the Southeast Asian nations are partners with the United States they cannot have close ties with China.

"That reinforces the strategic choices China is trying to make them make," she said.

Searight and John Lee, a senior fellow at Hudson, argued that it was not wrong for the ASEAN countries to avoid a sharp choice between the competing powers if they would make unified stands on the principles they stand for.

"Refusal to choose a set of principles allows China to do what it wants," Lee said. Although the ASEAN countries want to remain neutral, "that only works when the major powers agree. China clearly wants to change the international order in Asia," which is not in the interest of the ASEAN countries, or the United States and its regional partners Japan and Australia, he said.

Having recently returned from a trip to the region, Patrick Cronin, director of the Southeast Asia Program at the Center for a New American Security, said there is a "real fear" that the China-U.S. tension could lead to economic disruption.

Although the smaller countries want the money China offers for infrastructure and other purposes, they are suspicious of the frequently onerous conditions the loans carry, Cronin said.

"But they are uncertain about America's staying power," he said, repeating a statement made by Eric Brown, a Hudson senior fellow who moderated the program.

Cronin noted that the United States could use its maritime power to increase its influence in the region, but he and Searight said that potential has not been realized because there has been little evidence of a U.S. military buildup in Southeast Asia, despite the recent jump in defense spending.

Cronin said the number of ASEAN countries who have requested Navy port visits has increased, but "the problem is the strength of the Navy. It needs more ships."

CSBA: Layered Defense, Mix of Weapons Needed to Fend Off "Salvo" Attacks

WASHINGTON — Despite decades of investing in missile systems to defend the homeland and forward-deployed forces, the military is not prepared to protect its overseas bases against the "salvo" attacks with multiple types of precision weapons that Russia and China could throw at them.

"Despite these investments, the U.S. military still lacks the ability to defeat large numbers of ballistic missiles, cruise missiles, unmanned aircraft and other emerging guided weapons threats. Indeed, tangible progress toward fielding high-

capacity air and missile defenses has been, to date, barely noticeable," the Center for Strategic and Budgetary Assessment (CSBA) said in a new study released Nov. 14.

That dangerous condition has to change because the U.S. military must be able to operate forward to reassure and defend its allies and partners, which puts its airfields, seaports and land bases in the western Pacific and Europe within range of swarms of Russian and Chinese guided munitions, many of which are relatively cheap, the CSBA report warned.

Attempting to counter those "salvo" attacks with the current defensive missile systems, such as the Army's land-based Patriot and Terminal High Altitude Area Defense (THAAD) and the Navy's Aegis Weapon System/Standard Missile, is impractical due to the limited numbers and high cost per shot of those kinetic weapons, the report said.

The CSBA study shows "that salvo attacks cannot be defeated by kinetic weapons alone," said Mark Gunzinger, co-author of the report with Carl Rehberg.

Both are retired Air Force colonels with years of additional service in Pentagon offices.

Instead, they recommend a layered defense using a mix of kinetic and non-kinetic weapons with an emphasis on high-energy solid-state lasers and high-powered microwave devices, which can produce virtually unlimited shots at a tiny fraction of the cost per shot of defensive missiles.

Because those directed-energy weapons have relatively short effective range, the study recommended they be put on manned and unmanned aircraft in the outer defensive ring, along with ground-to-air and air-to-air missiles. They also would be part of the close-in defenses and, because they are comparatively mobile, could be a valuable part of the Marine Corps' and Air Force's plans to distribute their forces over a number of

smaller expeditionary bases to complicate the enemy's strike planning and reduce the risk of a debilitating strike.

Those weapons would be particularly useful against unmanned aerial vehicles, cruise missiles and smaller air-launched munitions, they said.

That focus on directed-energy systems was echoed by Michael Griffin, the undersecretary of defense for research and engineering, in a Nov. 13 speech. Griffin said "usable" laser weapons could be fielded "in no more than a few years," although lasers powerful enough for ballistic missile defense would take longer.

Effectively defending forward bases would require an integrated, extended-range network of sensors, which would include space-based assets, manned and unmanned aircraft and forward-deployed Navy warships. It also would require an integrated command and control (C2) network to link the early warning and defensive systems.

The CSBA authors suggested that in the Pacific the C2 network could be built around the already operational Naval Integrated Fire Control-Counter Air system.

Although the Navy's growing fleet of missile-defense capable cruisers and destroyers could be part of the defensive shield for forward-based facilities, Gunzinger said tying down those warships for that purpose would not be a good use of those multimission, mobile platforms.

Expeditionary Warfare Director: 'We're Going to Do Sea Control in Different Ways'

WASHINGTON — The Marine general in charge of the Navy's expeditionary warfare programs said his mission was not just "reinvigorating expeditionary warfare," but to get Marines "back to naval warfighting" after two decades of primarily land combat.

Maj. Gen. David Coffman sketched out a plan to institute a program to strengthen and modernize mine warfare, which he called "an historically under-resourced and neglected capability," then focusing on increasing the size and lethality of the amphibious fleet to enable the naval expeditionary forces "to go anywhere, anytime, and take what we need with us."

Addressing a forum at the Hudson Institute, Coffman, director of expeditionary warfare on the Navy staff, said: "We need a next-generation expeditionary warfare that can operate across the range of military operations." That means the ability to "fight tonight, fight tomorrow," across all domains, combatant commands and the full range of military operations.

"Our goal is to reinvigorate naval expeditionary forces" to meet the "enduring need for power projection," which will require the ability to gain sea control by new means including the historic Marine mission of seizing and defending expeditionary advanced bases, he said.

He also cited efforts to arm amphibious ships and to deploy on them Marine weapons that could help the naval forces fight through adversary's defenses. "We're going to do sea control in different ways," he said.

Coffman said he would be focusing on the mine warfare programs this year, which apparently referred to fiscal 2019, and turning next year to "the maturation of the amphibious force," addressing "what makes that part of the Navy more lethal, more capable."

He said history shows that since World War II the Navy has tended to neglect its mine warfare capabilities until it periodically "comes up and bites you," citing the frustrated amphibious landing at Wonsan during the Korean War and the two Navy ships damaged by mines during Operation Desert Storm.

Coffman said his office was working a mine warfare master plan that would seek to sustain the legacy mine countermeasure (MCM) force of Avenger-class MCM ships and MH-53E helicopters, while developing future MCM capabilities that could keep up with evolving technology.

That future force would not have single-mission MCM ships, but would use Littoral Combat Ships and other platforms to deploy unmanned air, surface and undersea vehicles to find and neutralize mines, he said. The MH-53s would be replaced by MH-60s and the MQ-8 UAVs.

Turning to the amphibious force, Coffman said, "we have a great path to 38 amphibious ships," which is the goal in the Navy's plan for a 355-ship battle fleet. That amphibious force would include 12 "big-deck" amphibious assault ships of the Wasp and America classes, the 13 San Antonio-class amphibious transport docks, and the modified version that will replace the aged dock landing ships.

"My personal belief is, we have the right hulls," he said, while conceding the path to 38 amphibs was clouded by "fiscal trade space" challenges, a reference to the Navy's shipbuilding priorities that put amphibious ships below submarines, carrier and surface warships.

Coffman also complained that inadequate command and control technology on the older amphibs, particularly the big decks, prevents the embarked Marine Air-Ground Task Forces (MAGTFs) from taking full advantage of its capabilities, such as the F-35B strike fighter with its fifth-generation sensors and data processing capabilities.

"We have to embark a fifth-generation MAGTF on a fourth-generation ship," he said.

Due to the growing threat that Russia, China and maybe Iran could use long-range defenses to keep naval expeditionary forces away from a crisis zone, Coffman said there were considerations of putting more defensive and offensive weapons on the amphibs and the Marines employing their own long-range weapons from the ships or from expeditionary bases to help in the sea control fight. He did not provide any details.