Maritime Administrator Details Priorities for His Agency at Navy League Breakfast

Maritime Administrator Mark Buzby during his speech at Navy League on Aug. 21. Danielle Lucey/Navy League of the United States

ARLINGTON, Va. – The man in charge of the Maritime Administration (MARAD) laid out his priorities for the agency in a speech that included course corrections for the U.S. Merchant Marine Academy, shoring up the Ready Reserve Force and defending the Jones Act.

Maritime Administrator Mark Buzby, a retired Navy rear admiral, spoke Aug. 21 in Arlington at a breakfast hosted by the Navy League of the United States and his first priority was getting the U.S. Merchant Marine Academy "back on track."

> *Rear Adm. Mark Buzby on maritime strategy during his recent visit to Navy League. @CSPAN https://t.co/7tSUVw0EpU*
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> *— Seapower Magazine (@SeapowerMag) September 4, 2019*

Check out video from Mark Buzby's visit by clicking the C-Span link above. He said the academy had been on a "not good course for the last few years" with some leadership problems, including sexual harassment issues. He

said the new superintendent, Rear Adm. Jack Buono, and the new academic dean, John R. Ballard, were a “dynamic duo [that] really turned things around.”

Buzby added that the “culture has turned around” and that “the midshipmen have taken ownership of the issue.”

He said his second priority is to ensure that the Ready Reserve Force (RRF) is “ready to answer the call.”

The RRF is a fleet of sealift ships kept in a reduced operating status manned by a skeleton crew that can be activated for service normally in five days, though some are activated for use on occasion, including two serving today. No-notice activations are conducted each year to test the ability to get underway. Buzby is concerned that some of the RRF ships are so old that many parts are not even manufactured any more.

“Today, the RRF is at 76% readiness,” he said.

Buzby said programs are underway to modernize the RRF, including service-life extensions for some ships out to 60 years; buying newer used ships and modernizing them; and building new ships. The first two ships are being procured

with $61 million
by 2021.

The MARAD
administrator's third priority is to make a vigorous defense of the Jones Act,
a 99-year-old law – officially the Merchant Marine Act of 1920 – that in
general requires that cargoes carried between U.S. ports be carried on ships
that are U.S.-built, U.S.-crewed and U.S-owned.

The Jones Act
is "under attack on many, many fronts," he said.

There are
about 40,000 Jones Act-compliant vessels of all sizes in the United States but
only 99 are large, ocean-going vessels, he said, plus 81 are involved in
international trade. Together, those 180 ships proved the employment pool of
merchant mariners to provide crews for the RRF.

"We're about
1,800 mariners short," Buzby said, about 45 ships worth of crew members. "We
need more places for people to work in peacetime."

"If you took
the Jones Act away, those American jobs would, in all likelihood, go away," he
said. "You are talking about the majority of the ships that employ
unlimited-tonnage mariners, so it would have a tremendous impact on our
national security and our economic security."

One challenge with the RRF is that ship engineers with

experience with steam plants are increasingly fading away, but 24 of the 46 RRF ships are steam-powered. Buzby also said that MARAD expects to award $293 million early next year in a port infrastructure development program. MARAD typically spends $20 million each year for small shipyard initiatives and $7 million in marine highway grants.

See video of Buzby's Navy League speech here.

New Special Assistant to Navy Secretary Will Oversee Cybersecurity

ARLINGTON, Va. – The U.S. Navy is creating a new high-level position in the office of the Navy secretary to oversee information management policy, including cybersecurity.
The position will be the special assistant for information management and will be given authorities on the level given to the four assistant secretaries of the Navy.

A person has been selected for the position and that person's name will be announced in coming weeks, Navy Undersecretary Thomas B. Modly said when he spoke to reporters Aug. 16 at the Pentagon.

Navy

Secretary Richard V. Spencer commissioned an independent cybersecurity study last year in the wake of some significant cyberbreaches in the industrial base. Spencer sought the assessment to see how the Navy was doing in cybersecurity and how it should be organized to combat such threats.

“No one at a senior level had responsibility for this,” Modly said, noting that the CIO office was “more of a compliance shop, less for developing strategy.”

Modly said the Navy wanted to change the portfolio of one of its ASNs but that Congress did not like the idea. Like the other military branches, the Navy is limited by law to four assistant secretaries, three of whom must be an ASN for research, development and acquisition, an ASN for manpower and reserve affairs and one for financial management and comptroller. The fourth, an ASN for energy, installations and environment, is allowed by law but not prescribed.

Given the limitation to four ASNs, the Navy elected instead to create the special assistant, who will report directly to Modly and Spencer.

Modly has been acting as chief information officer for the Navy, a position with has been vacant for 20 months, to maintain “the elevation of the job.”

He said that

his meetings with the Defense Department's CIO and the CIOs of the other services convinced him of the need for the Navy to have an official to set policy for information management, especially for cybersecurity. The CIO position exists in the law.

The new special assistant, who also will be the Navy's CIO, will not require confirmation by the Senate. The position will be co-located with the department's chief management officer and will be at an echelon just below the ASNs. Modly said it would be an "E-ring office" in the Pentagon.

The special assistant will oversee two four directors: chief technology officer, chief data officer, chief of digital strategy, and chief information security officer. In addition, two officials, the deputy chief of naval operations for information warfare and the Marine Corps' deputy commandant for information, will be dual-hatted as deputies to the special assistant.

"We are intending to bring in people from the private sector to help us in this particular office, so we're scouring both internally and externally to find the right types of people to bring in, particularly in the digital strategy area and the data strategy area," Modly said. "There's a lot more expertise outside

this building that inside this building and we need to rely on the lessons
learned in the private sector to do that.”

He said that
a couple of functions of the chief management officer that would migrate to the
special assistant’s portfolio, including chief data officer.

Modly said the new office
would not involve adding a huge staff at the headquarters, just “moving pieces
around the chessboard,” and that he did not anticipate that additional funding
would not be needed.

Raytheon to Demo Unmanned Single-Sortie Mine Sweeping for Navy at ANTX 2019

An AQS-20C aboard an unmanned surface vehicle, which will be part of the single-sortie mine neutralization concept demonstration at ANTX 2019 the last week of August. The Raytheon Co.

ARLINGTON,
Va. — The Raytheon Co. is ready to demonstrate a single-sortie mine
neutralization concept using systems it developed or is developing. The
technology will be demonstrated at Newport, Rhode Island, during the last week

of August at ANTX (Advanced Naval Technology Exercise) 2019.

The Raytheon plan is to demonstrate “detect to engage” sea mines using unmanned systems, Andy Wilde, director of strategy and business development for Raytheon Undersea, said in an Aug. 15 interview with *Seapower*.

Wilde said that unmanned systems will “revolutionize” mine countermeasures (MCM) that currently take weeks or months to clear minefields and put minesweepers at risk. The Navy is developing an MCM mission package for the littoral combat ship (LCS) that will rely largely on unmanned systems.

https://www.youtube.com/watch?v=KF_46xNw5V0&feature=youtu.be
The concept for single-sortie mine neutralization is shown in this video. The Raytheon Co.
Raytheon will demonstrate its AQS-20C towed sonar, now in production, pulled through the water by a riverine craft acting as a surrogate for the Textron-built MCM unmanned surface vehicle (MCMUSV) that will be a component of the MCM mission package for the LCS.

Under the concept, an MCMUSV is launched from an LCS and deploys the AQS-20C. Once a possible sea mine is detected by the AQS-20C’s synthetic aperture sonar, a Barracuda expendable semi-autonomous mine neutralization unmanned undersea vehicle is — on the same pass — launched into the water from a A-size

sonobuoy launcher on the MCMUSV.

The Barracuda deploys a float that serves as an RF datalink to the CUSV and an acoustic data link to the Barracuda. The tactical mission plan is downloaded from the LCS to the Barracuda via the CUSV. The Barracuda starts a search track and, once it acquires a mine, it maintains position at the mine. The operator on the LCS confirms the object is s mine and commands the Barracuda to detonate the mine with a charge. The MCMUSV would then continue its mission on its planned track.

Raytheon will have a time slot during ANTX 2019 in Narragansett Bay to run its MCM system through several geometric patterns, Wilde said.

He said his company is looking to take advantage of artificial and machine learning to optimize the performance of its systems.

He also said the MCM mission concept could be expanded to other missions, including by use of a B-size sonobuoy launcher with other payloads.

The AQS-20C sonar is now in production. Raytheon currently is developing the Engineering Development Models of the Barracuda and recently completed the Navy’s Preliminary Design Review.

Navy Issues Draft Request to Industry for Large USV

The medium unmanned surface vehicle prototype Sea Hunter moored at Joint Base Pearl Harbor-Hickam, Hawaii. The Navy has issued a draft RFP for a large unmanned surface vehicle, another of the vessels planned for its future surface fleet. U.S. Navy/Mass Communication Specialist 1st Class Nathan Laird

ARLINGTON, Va. – The U.S. Navy has issued a draft Request for Proposals for its planned Large Unmanned Surface Vessel (LUSV), one of the vessels planned for its future surface fleet.

"The LUSV will be a high-endurance, reconfigurable ship able to accommodate various payloads for unmanned missions to augment the Navy's manned surface force, the Aug. 9 announcement on the FedBizOps website said.

"With a large payload capacity, the LUSV will be designed to conduct a variety of warfare operations independently or in conjunction with manned surface combatants. The LUSV will be capable of semi-autonomous or fully autonomous operation, with operators in-the-loop (controlling remotely) or on-the-loop (enabled through autonomy)."

Naval Sea Systems Command (NAVSEA) intends to award multiple contracts for conceptual designs

from the defense industry. A final RFP is to be issued in the fourth quarter
fiscal 2019.

On July 16, the Navy issued an RFP for the Medium Unmanned Surface Vehicle (MUSV), another vessel planned to be part of its future fleet concept. That RFP calls for “a pier-launched, self-deploying modular, open architecture, surface vessel capable of autonomous safe navigation and mission execution.”

The Navy is expected to field the LUSV and MUSV as adjuncts to its future surface fleet that will include the future surface combatant and the new FFG(X) guided-missile frigate as well as Arleigh Burke-class guided-missile destroyers and the Independence- and Freedom-class littoral combat ships.

VCNO Bullish on Strike Fighter Readiness Goal

Cmdr. Brandon M. Scott, commanding officer of the “Gladiators” of Strike Fighter Wing, VFA-106, (right) discusses hangar conditions with Vice Chief of Naval Operations Adm. Robert P. Burke during a hangar tour at Naval Air Station Oceana. U.S. Navy/Mass Communication Specialist 3rd Class Mark Thomas Mahmod
ARLINGTON,
Va. — The vice chief of naval operations has praised the progress made by the
naval aviation F/A-18 Super Hornet strike fighter community in improving its
readiness and is optimistic that a readiness goal of 80% will be reached by Oct.

1.

In a blog post Aug. 12 on the Navy Live blog, VCNO Adm. Robert Burke wrote of his recent visit to the commander of Strike Fighter Wing Atlantic and Strike Fighter Squadron 106 (VFA-106) at Naval Air Station Oceana, Virginia, “to get a firsthand look at the changes to aviation maintenance practices and to gain insight on the challenges and priorities of aviators and maintainers,” he said. VFA-106 is the East Coast fleet replacement squadron for the F/A-18 community.

“It has been less than a year since the Navy set out to restore strike fighter readiness rates to 80%, and the one-year deadline of Oct. 1 is approaching,” Burke said. “For the aviation community, the endeavor to increase the mission-capable rate of F/A-18E/F Super Hornets posed a challenge that naval aviation leadership attacked with fervor.”

Burke was referring to the directive from then-Defense Secretary Jim Mattis to the U.S. Navy, Marine Corps and Air Force to increase the readiness rates of its fighter communities to 80% by Oct. 1. The services had been experiencing readiness rates lower that 50% that had negatively affected numbers of mission-capable aircraft, flight hours for pilots and pilot morale and retention.

Burke said that VFA-106 was the most recent squadron “to initiate reforms under the Naval Sustainment System (NSS), starting in April of this year. VFA-106 has the largest inventory of Super Hornets on the flight line, as they are responsible for training newly winged aviators for the fleet.

“In short, this squadron is the largest contributor to the strike fighter readiness recovery,” he said. “Since VFA-106 maintenance performance impacts overall Super Hornet readiness status more than any other squadron, the recent implementation of NSS procedures had a significant impact on the overall goal. … VFA-106 learned from the FRS squadron [VFA-125] at NAS Lemoore who completed early iterations of NSS changes. This rapid learning and improvement drove VFA-106 to reduce maintenance turnover timeframes, raise the average mission capable (MC) aircraft numbers, and return several long-term down aircraft to a flying status.”

Burke said he spoke with two junior Sailors who were plane crew chiefs to ask their opinion of the NSS process.

“With pride, they both spoke of ownership, of learning the whole aircraft, well outside of their rating expertise, and of true teamwork,” he said. “This is a great

example of U.S. Navy Sailors being given tremendous responsibility – and
running with it!”

Burke said
that VFA-106 “is reaching the point where lack of MC aircraft is no longer a
limiting factor to pilot production, even when supporting operations in
multiple locations or underway on the aircraft carrier.

“These are powerful results that will ensure we have enough instructors and pilots in the future,” he said. “Success at VFA-106 is one example of how the Naval Aviation Enterprise is working together to achieve our 80% readiness goal,” Burke said.

“Because NSS addresses all elements of aviation maintenance – people, parts and processes – to make permanent changes that increase aviation readiness and lethality, we are seeing improvements that are sustainable for the future. Through collaboration and a whole-of-aviation approach, the Naval Aviation Enterprise is on its way to achieve and sustain its readiness goal.”

Navy Confirms Pilot Died in F/A-18E Crash

ARLINGTON,
Va. – The commander of Naval Air Forces confirmed that the pilot of the F/A-18E
Super Hornet strike fighter that crashed July 31 in Southern California died in

the crash.

“At approximately 10 a.m. PST on July 31, a F/A-18E Super Hornet assigned to the ‘Vigilantes’ of Strike Fighter Squadron (VFA) 151 based at Naval Air Station Lemoore, California, crashed approximately 40 miles north of Naval Air Weapons Station China Lake, California,” CNAF said in a release. The aircraft was on a routine training mission in the area at the time. The cause of the crash is currently under investigation.”

The F/A-18E was on a low-level flight through a feature called Star Wars Canyon in Death Valley National Park when it crashed near a popular overlook that aviation photographers and other tourists visit to watch jets streak through the canyon. The crash caused minor injuries to seven civilian tourists at the overlook with fire and flying debris.

The Super Hornet that crashed is only the fourth Navy aircraft to be lost in a crash so far in fiscal 2019, according to records.

This fiscal year, prior to the F/A-18E loss, aerial mishaps claimed an F/A-18F Super Hornet, an MH-60R Seahawk helicopter and a T-45C Goshawk training jet.

Until the July 31 mishap, no Navy aviators had been killed in a mishap this year.

F/A-18E Loss Only Fourth Navy Crash This Fiscal Year

ARLINGTON, Va. — The U.S. Navy jet that crashed July 31 in Southern California is only the fourth Navy aircraft to be lost in a crash so far in fiscal 2019, according to records.

The F/A-18E Super Hornet strike fighter, assigned to Strike Fighter Squadron 151, according to a source, and based at Naval Air Station Lemoore, California, was on a low-level flight through a feature called Star Wars Canyon in Death Valley National Park when it crashed near a popular overlook that aviation photographers and other tourists visit to watch jets streak through the canyon. The crash caused minor injuries to seven civilian tourists at the overlook with fire and flying debris.

As of mid-day Aug. 1, the pilot of the single-seat Super Hornet was still missing. The Navy had launched helicopters to participate in the search for the pilot.

So far this fiscal year, aerial mishaps claimed an F/A-18F Super Hornet, an MH-60R

Seahawk helicopter
and a T-45C Goshawk training jet. Until the July 31 mishap, no Navy aviators
had been killed in a mishap this year.

CNO Nominee Gilday: Ford Weapons Elevator Problems a ‘Navy Failure’

Senate Armed Services Committee Chairman Sen. James Inhofe (R-Neb.) questions Vice Adm. Michael M. Gilday during Gilday’s confirmation hearing to become the next CNO. C-SPAN3

WASHINGTON –
The nominee for the next chief of naval operations said the U.S. Navy is
ultimately to blame for the ongoing problems with the weapons elevators on the
aircraft carrier USS Gerald R. Ford.

“Ultimately,
sir, that’s a Navy responsibility,” Vice Adm. Michael M. Gilday said,
testifying July 31 at his confirmation before the Senate Armed Services Committee
in response to a question from Sen. Tim Kaine (D-Va.), about which entity made
the decision not to test the weapons elevator ashore.

“We own the
risk and the risk-mitigation strategy to keep that ship on time. So ultimately

I would consider that a failure of the Navy."

"Of the 23 new technologies that we introduced to Ford, [the staff of the secretary of the Navy] did not consider the [weapons] elevator system to be high-risk, and so it wasn't prototyped ashore," Gilday said.

"I think money was a factor … but I don't think it was the overriding factor," he added. "I think that as the engineers took a look at the existing design, that they saw the risk as lower, they saw the risk as acceptable."

Gilday said that three of the major new systems introduced on the new carrier – the Electromagnetic Aircraft Launch System (EMALS), the Advanced Arresting Gear and the Dual-Band Radar – are demonstrating "significant improvements in the reliability of the systems" and that the remining major issue with the ship's systems is the continuing problem with the weapons elevators.

He said the reliability of the Dual-Band Radar is now close to 99 percent.

Regarding the EMALS, "We've had almost 800 launches, and for [each of] three successive days, it's right at the level we see in the existing Nimitz class," Gilday said. "We think we are on a good path with respect to the reliability in sortie-generation rate."

However, Senate Armed Services Chairman Sen. James Inhofe (R-Neb.) cited a report from the Operational Test and Evaluation Force saying that about every 75 launch cycles there was a critical failure, noting that the Navy's own requirement on the EMALS is for a failure of once for every 4,000 launches and for the AAG of once every 10,000 recoveries.

"I want to make sure that we [do not] continue to operate where we have the failures, the premature deployment [of immature systems]," Inhofe said. "I want to make sure that the record is going to reflect beyond just the elevator, and those problems having to do with the arresting gear, having to do with the catapult, and the radar."

CNO Nominee Gilday Names AI as Top Tech Priority

Vice Adm. Michael M. Gilday, the nominee to become the next CNO, testifies July 31 before the Senate Armed Services Committee. C-SPAN3

WASHINGTON –

The newest nominee for chief of naval operations listed his top three technology priorities to the Senate Armed Services Committee during his July 31 confirmation hearing, with artificial intelligence coming in as No. 1.

"On the top of the list I would put artificial intelligence," Vice Adm. Michael M. Gilday said in response to a question from Sen. Joni Ernst (R-Iowa).

MORE FROM THE CNO NOMINEE: **Gilday says weapons elevator problems aboard the USS Gerald R. Ford are a "Navy failure."**

"I think that
that there are capabilities resident in industry that we can harness to our
advantage. What I am particularly interested in is how we use data in a more
innovative way to give us a quicker flash to bang, from decision-making to
action. There is a lot of information at our fingertips every single day; it's
getting the right information to the right people at the right time so you can
make the right decisions faster than your opponent."

"I think
there is great promise there," Gilday added. "We are doing some experimenting
now that I'm very excited about."

Gilday said
that hypersonics – his second technology priority – "is a must that we have to
get after quickly. Industry is our best partner as we work through this."

His third
technology priority is unmanned systems.

"That is the future," he said. "We have to look more deeply at how we would operate with unmanned vessels, whether they are on the sea, or under the sea, or in the air."

Gilday said he "would take a look at wargaming, concept development and with experimentation. We've almost doubled the number of exercises we're doing in the next year from 97 to 171. We're going to look at these new technologies. If they're going to fail, they can fail fast. If it's something we want

to invest in, then we put heat on it and field it quickly.”

Latent Lethality: Offensive Mine Warfare Sees Renewed Focus in Era of ‘Great Power Competition’

A Mark-63 Quickstrike Mine is mounted on a P-3 Orion aircraft. U.S. Navy/Mass Communication Specialist 2nd Class Jakoeb Vandahlen

The focus of the U.S. Navy’s efforts in mine warfare over the last two decades has been mine countermeasures (MCM) – locating and neutralizing hostile mines. New airborne systems such as the Airborne Laser Mine-Detection System and the Airborne Mine Neutralization System were developed, and the MCM Mission Package for the littoral combat ships includes new systems, some unmanned, to “take the man out of the minefield,” as proponents call the overall focus of the effort.

The efforts are well-needed: Since World War II, mines have sunk more U.S. Navy ships than any other weapon.

Check out the full digital edition of *Seapower* magazine here.

With

MCM modernization efforts well underway, the changing world geopolitical
situation is bringing new emphasis of the other aspect of mine warfare –
offensive mining – that has not seen such attention since the end of the Cold
War. The rise of Russia and China and the modernization of their navies has
marked the return of an era of “Great Power Competition” has brought offensive
mining from a dormancy to renewed emphasis and development of new sea mines.

Sea
mines – sometimes called “weapons that wait” – have a strong deterrent effect
on shipping. With sensitive magnetic, acoustic or contact fuses and hiding in
waters where they are difficult to detect, their covertness and lethality have
a strong effect on the morale and effectiveness of ship crews and can shut down
harbors and transit lanes from shipping more effectively than other methods,
effecting a blockade.

Sea
mines are an ancient technology, but came into widespread use in World War I,
when 235,000 sea mines were laid by the belligerents’ ships and submarines. During
World War II, between 600,000 and a million sea mines were laid by the
belligerents. During World War II, aircraft, finally powerful enough to carry a
payload of mines, became the dominant mine-laying platform.

The

United States’ use of aircraft to conduct offensive mining achieved some extraordinary successes during World War II. U.S., British and Australian aircraft mined the Yangon River in Burma, inflicting severe losses on Japanese merchant shipping in February 1943. Navy TBF torpedo bombers mined the harbor of Palau in March 1944, closing the harbor for 20 days and bottling up 32 ships, which were sunk or damaged by airstrikes.

Aviation Ordnanceman 1st Class Sam Money (left) instructs Sailors in identifying the components of an MK 62-63 Quickstrike training mine in the forward magazine aboard the aircraft carrier USS George Washington (CVN-73). U.S. Navy/Mass Communication Specialist Seaman Apprentice Justin E. Yarborough

The most successful aerial mining offensive was Operation Starvation, the campaign to cut off the Japanese homeland from food and other supplies brought by shipping. Beginning in March 1945, 160 U.S. Army Air Force B-29 bombers were used to lay 12,000 mines in and near Japanese waters. At a cost of 15 B-29s lost in the operation, 293 Japanese merchant ships were sunk by the mines.

According to the U.S. Strategic Bombing Survey, one in 21 air-laid mines struck a ship, compared with one in 12 submarine-laid mines. Even though the submarine-laid mines were more effective, the aerial mining proved to be 10 times less expensive per tonnage sunk.

The U.S. Navy used offensive mining to good effect during the latter stages of the Vietnam War. During Operation Pocket Money in May 1972, President Richard Nixon ordered the mining of Haiphong Harbor to cut off the seaborne flow of supplies to North Vietnam. Four Navy A-7E and three Marine Corps A-6A aircraft laid mines that bottled up 32 ships in the harbor for more than 10 months. The mining operations continued through the rest of 1972, resulting in the laying of more than 8,000 mines in the coastal waters of North Vietnam and 3,000 in rivers and inland waterways.

The only U.S. use of mine-laying since was during Operation Desert Storm in January 1991. According an email from Sean P. Henseler, a professor and deputy dean of the College of Maritime Operational Warfare at the Naval War College and former intelligence officer of one of the two participating squadrons, four A-6E aircraft conducted mine-laying, each armed with 12 500-pound Destructor mines (general-purpose bombs fitted with Snakeye retarding fins and mine fuzes), of the Iraqi port of Umm Qasr. One A-6E was shot down and its two-man crew was killed.

Renewed Interest

The

capability for offensive mining has remained intact – though low-key – in subsequent years. But over the last two years, the Navy has shown more interest in offensive mining and has accelerated improvements in its mining weaponry.

"Mines provide an effective means of achieving sea control and sea denial," a Navy official said in an email provided by Navy spokesman Lt. Cmdr. Kevin Chambers. "Mining creates an additional factor that must be taken into account by our adversaries' decision-making."

According to the Navy official, "munitions requirements are determined based upon COCOM [combatant commander] requirements and input, coupled with fiscal considerations. War-gaming is a useful tool to determine numbers."

Today, naval mines can be deployed from a variety of aerial and subsurface platforms, including attack submarines, Navy F/A-18 strike fighters and P-3 maritime patrol aircraft, and Air Force B-52, B-1 and B-2 bombers.

Until recently, the Navy's mine inventory was limited to the Mk62, 63 and 65 Quickstrike air-delivered mines and the Submarine-Launched Mobile Mine. The Mk62 and Mk63 Quickstrike mines are blast/fragmentation 500-pound Mk82 and 1,000-pound Mk83 bombs, respectively, equipped with influence

target-detection devices for use in shallow water. The Mk65 is a thin-walled casing with a 2,000-pound warhead equipped with a target-detection device for magnetic, seismic and pressure detonation.

For these air-delivered mines, the Navy ordered new target-detection devices and adapters from Sechan Electronics Inc. during the last quarter of fiscal 2018.
The Navy also has adapted the Joint Direct-Attack Munition (JDAM) guidance kit for the Quickstrike weapons, allowing for more precise seeding of the mines.
This capability was demonstrated in Exercise Valiant Shield in 2018. In addition, an extended-range version of the JDAM Quickstrike – through installation of a wing kit – will be tested during the third quarter of fiscal 2019.

One indication of the growing importance of naval mines is that one of the items on the Navy's 2020 unfunded priorities list was $71 million for the Quickstrike JDAM-ER, which a Navy spokesman said "provides a means to deliver increased capability to the COCOMs."

The Submarine-Launched Mobile Mine is a modified Mk37 torpedo armed with a target detection device. This shallow-water mine can be covertly launched into a harbor, anchorage, shipping lane or other area to interdict ship and

submarine traffic.

The Navy now is developing the Clandestine Delivered Mine (CDM), Capt. Danielle George, the Navy's mine warfare program manager, said Jan. 17 at the Surface Navy Association convention in Arlington, Virginia. The Navy is conducting testing of the new cylindrical-shaped mine, including end-to-end testing during the second quarter of fiscal 2019. Initial deliveries are scheduled for 2020. George said she was not at liberty to reveal the delivery platform(s) for the CDM.

Another new mine program, started in 2018, is the Hammerhead, an encapsulated torpedo designed to lie in wait for submarines. The capsule for the torpedo would be anchored to the ocean floor, much like the Mk60 CAPTOR mine of Cold War vintage that housed a Mk46 antisubmarine torpedo. (The CAPTOR was withdrawn from the Navy's inventory in 2001.) The Hammerhead will be designed to have modular architecture to allow for technology insertion. The Navy expects to issue a classified request for information for the Hammerhead this year, George said.

"The initial payload for Hammerhead is planned to be the Mk54 torpedo," a Navy official said. "The vision for the program is to use existing technologies,

where possible, while seeking opportunities to upgrade and expand the capability as new technology becomes available.”

One thing that has changed offensive mining in recent years is the GPS.

“GPS technology has opened up additional possibilities for increased precision and longer-range delivery,” a Navy official said.

GPS also will aid in the post-war mine clearance, in that “the location of minefields must be carefully recorded to ensure accurate notification and facilitate subsequent removal and/or deactivation,” the official said.

The Navy’s chief of naval operations has a mine warfare plan under development.