



PETTY OFFICER 3RD CLASS ANDREW BARRESI, U.S. COAST GUARD

THREATS COME IN WAVES

America's seaports are having to confront new risks with fewer resources. Economy riding on outcome.

Matt Alderton | Special for USA TODAY

Donald Trump made border security a major theme of his presidential campaign last year, and his signature promise was to build a wall along the entire U.S.-Mexico border. Regardless of where you stand on that proposal, the math is clear: The 1,933-mile Mexican border makes up just 16% of the perimeter of the contiguous USA. The Canadian border is 33%. The rest? Shoreline.

About half of America's border — some 5,000 miles' worth, not even counting Alaska and Hawaii — lies along the seacoast. And just as U.S. security forces pay special attention to the busiest land border crossings, so, too, does the government work overtime to protect the vital crossings on ocean borders — America's seaports.

Seaports process 11 million cargo containers and 11 million cruise ship passengers every year, according to Kurt Nagle, president and CEO of the American Association of Port Authorities. "The public doesn't really

know how important our ports are ... (but) securing and modernizing that infrastructure is critical to our economy," he says.

So maritime security isn't just about saving lives. It's also about saving livelihoods.

"American economic prosperity relies on the safe, secure and efficient flow of cargo through the marine transportation system," says Capt. Ryan Manning, chief of the Office of Port & Facility Compliance within the

A Coast Guard Maritime Security Response Team — a counterterrorism unit — patrols Boston Harbor during an international sailing event in June.

► **STORY CONTINUES ON 52**



More cuts may loom

► CONTINUED FROM 51

U.S. Coast Guard, which oversees port security along with port authorities, state and local law enforcement, U.S. Customs and Border Protection and other agencies. Manning says seaports support 23 million jobs and \$4.6 trillion in annual economic activity, representing 26% of the U.S. economy.

“Over a quarter of our economy is accounted for by the cargo activity moving through our ports,” Nagle echoes. “It’s something we need to continue to not only invest in, but also protect.”

Securing seaports has been a federal priority for nearly two decades, as evidenced by the Maritime Transportation Security Act and the Security and Accountability for Every Port Act. Passed by Congress in 2002 and 2006, respectively, those laws codified a spate of programs designed to increase seaport security.

“Since (the terror attacks of Sept. 11,

2001), there has been a significant, increased focus on security in and around our seaports,” Nagle says, adding that there has been a “dramatic strengthening and hardening of port facilities” in the past 16 years.

But those gains could be in jeopardy. Resources for port security have been shrinking and would be reduced even further in the president’s budget for fiscal 2018. Released in May, the budget calls for substantial cuts to federal programs on which ports rely to fund security infrastructure and improvements.

“We hear daily about new threats

from terrorists and other nefarious players throughout the world,” Nagle says. “As those threats continue to evolve, so do our needs for combating them.”

SINKING SUPPORT

Securing ports requires a combination of modern facilities, cutting-edge equipment and dedicated personnel. In the current budget environment, all three are in danger.

One of ports’ biggest concerns, for example, is the funding and staffing of

U.S. seaports handle 11 million cargo containers a year. The ports of Long Beach and Los Angeles, above, are the busiest on the West Coast.

► STORY CONTINUES ON 54



U.S. CUSTOMS AND BORDER PROTECTION

Ports short on officers

► CONTINUED FROM 52

Customs and Border Protection, according to Nagle, who says the agency has a shortage of 500 maritime officers, whose duties include screening passengers and cargo entering the USA by sea. Although the president's 2018 budget includes money to recruit, hire and train 500 new agents, that's of little comfort to ports, since the new personnel are supposed to be

assigned to the Mexican border; when CBP similarly received funding to hire 2,000 new staff in fiscal year 2015, fewer than 20 of the new people ultimately were assigned to seaports.

"A lot of (CBP's) resources are being shipped to the Southwest border, which is a very intense operation," says Mark Dubina, vice president of security at the Tampa Port Authority in Florida. "I'm not passing judgment on whether that's good or bad, but it impacts ports' ability to get resources."

Another resource on which ports have come to rely is the Department of Homeland Security's Port Security Grant Program. The program—which has funded patrol vessels, video sur-

veillance and access control systems, sonar equipment and many other security tools—once was funded at \$400 million per year. It's currently at \$100 million per year, and the president's 2018 budget would further reduce to \$47.8 million.

"The worst thing that could happen to ports that have made investments (with port security grants) is to lose that stream of funding," Dubina says. He says reduced funding could make it harder for ports to update and maintain equipment when it becomes outdated. If that happens, the progress ports have made with regard to security will erode "because ports ei-

The Mexican border appears to have top priority for border protection resources, leaving ports with unfilled security needs.

READY RESERVE FORCE PREPARED TO DEFEND PORTS

U.S. seaports host thousands of vessels every year. In the event of a national emergency, however, America's security could hinge on just a few dozen of them: the 46 vessels that constitute the U.S. Department of Transportation's Ready Reserve Force.

Berthed at ports around the country, Ready Reserve Force vessels are government-owned ships manned by merchant mariners and managed by the DOT's Maritime Administration, which keeps them on "stand-by" in case they're needed to support U.S. missions at home and abroad. They're typically used to transport military equipment and supplies to overseas troops, including those in Iraq and Afghanistan, whom RRF vessels supported 118 times between 2002 and June 2008. But they also are a strategic asset domestically, where they are used in training exercises by educational institutions, government agencies, and the Department of Defense.

One such training exercise took place on June 7 and 8, when the FBI's Weapons of Mass Destruction Directorate hosted a multiagency field exercise on and around two RRF vessels in Alameda, Calif.

Dubbed "Operation Seasick," the two-day exercise simulated crisis response and evidence recovery in the wake of a large-scale attack on a U.S. port facility with weapons of mass destruction. If such an attack actually occurred, the Ready Reserve fleet likely would be among the first resources activated to respond.

Matt Alderton

► STORY CONTINUES ON 56



U.S. CUSTOMS AND BORDER PROTECTION

5 attacks per second

► CONTINUED FROM 54

ther aren't willing to or can't fund some of the very strategic projects that have been put in place over the years."

Also on the chopping block in the president's budget is the Department of Transportation's TIGER grant program, which last year awarded U.S. ports \$61.8 million in infrastructure grants for dock, rail and road improvements, many of which have made ports more resilient to potential threats.

"From an overall modernization standpoint ... we're concerned there's

not enough funding being provided at the federal level," Nagle says.

THE NEXT BIG THREAT: CYBER

One reason federal budget cuts are so concerning is the ascendance of new threats, especially cyber threats.

"After Sept. 11, a lot needed to be done to harden ports' physical security. Now, threats are not only physical in nature, but also digital," Nagle says. Some large ports, he says, have seen an average of five attempted assaults on their digital systems *per second* — or up to 15 million intrusion attempts per month.

Like other businesses, ports increasingly run on wireless networks. Unsecured electronics — computers, printers and mobile devices — give bad actors a backdoor into those networks, where they can steal sensitive information; interrupt and intercept electronic communications, including

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Chris O'Rourke,
CEO of Soteria, a cybersecurity consultancy

those with incoming vessels; and even hijack port systems, equipment and machinery.

"Our ports are the gateway to this country," says Chris O'Rourke, founder and CEO of Soteria, a cybersecurity consultancy. "If you stop the ports, you stop America."

While companies like Soteria can help ports secure their wireless networks, their services aren't free.

"A lot is being done, but threats evolve by the minute. That's why port security grants are so vital," Nagle says.

Investments in network security are key, but so are communication and education, which have been major themes for the Coast Guard since it began protecting U.S. ports from cyber threats in 2002. In 2015, it introduced a new cyber strategy involves estab-

U.S. Customs and Border Protection shows off its large-scale X-ray scanner, capable of examining entire shipping containers, at an event in South Florida.

► STORY CONTINUES ON 58

Port execs still upbeat

► CONTINUED FROM 56

lishing best practices for identifying, communicating and mitigating risks. Among the bodies executing that strategy are 43 Area Maritime Security Committees through which federal, state and local stakeholders collaborate on matters of port security. Manning says 20 of those committees have established cybersecurity subcommittees to increase information sharing.

Meanwhile, the Coast Guard also has partnered with the National Institute of Standards and Technology to create a series of profiles outlining cybersecurity recommendations for port and vessel operators.

“We’re developing non-regulatory solutions that ... facilities can implement to ensure they’re hardened, so to speak, from a cyber perspective,” Manning says.

A POSITIVE PROGNOSIS

Threats may be increasing, and funding decreasing, but the prognosis for secure seaports remains positive, Nagle says.

“We do think there’s a need for additional resources,” he says, “but the fact is: There’s a very strong level of layered security throughout the supply chain, including both into and out of our ports.”

Despite fiscal challenges, therefore, port security professionals remain confident in their ability to secure America’s marine borders. “We can always use more resources,” Dubina says. “The reality of the economics, however, is that you’ve got to be smart about how you deploy the resources you’ve got ... and that’s what we’re doing.”



FRANK ELTMAN, AP

Uncle Sam can draft cargo ships

Commercial vessels in the Maritime Security Program are on-call in times of trouble

At any given moment, there are 178 commercial cargo vessels worldwide with American flags atop their masts. And the U.S. Department of Transportation can activate up to 60 of those vessels to help the military secure the nation in times of war or national emergency.

Congress granted the DOT that capability in 1996, when it created the Maritime Security Program to bolster the nation’s sealift capability at a relatively low cost. Managed by the DOT’s Maritime Administration, the Maritime Security Program fleet consists of “active, commercially viable, militarily useful, privately-owned vessels that operate in the

foreign commerce of the United States.” In exchange for subsidies, operators of those vessels have agreed to make their ships and crews military-ready so the Pentagon can call on them when it needs their capabilities, at home or abroad.

“U.S.-flagged vessels are a critical component in our domestic commerce, moving \$467 billion worth of goods between ports in the U.S.,” Transportation Secretary Elaine Chao said in March, when she welcomed a new ship, Liberty Global Logistics’ M/V Liberty Passion, into the program. “In addition to these robust economic contributions, a healthy U.S. maritime industry

crewed by American merchant mariners is also a vital part of our national security at ready call to support the armed forces and carry military equipment and supplies to the frontlines.”

The U.S.-flagged merchant fleet makes up only a tiny portion of world cargo ship capacity — about 0.4% in 2016, according to the Bureau of Transportation Statistics. Last year, there were more than 41,000 commercial cargo vessels on the world’s seas, the bureau says. The U.S. share has been shrinking for decades. In 1965, there were 2,376 U.S.-flagged cargo ships, about 13% of the world total of 18,329.

Midshipmen march on the campus of the U.S. Merchant Marine Academy in Kings Point, N.Y. The academy trains officers for U.S.-flagged commercial ships as well as the U.S. military.



PORT TAMPA BAY

A security checkpoint controls access to Port Tampa Bay by land. On the seaward side, a sophisticated radar system keeps track of all vessels approaching the port.

HIGH-TECH SEAPORTS DO MORE WITH LESS

New tools, systems make agencies' dollars go farther

Matt Alderton | Special for USA TODAY

Like many government entities, those tasked with running seaports face a growing set of responsibilities and shrinking budgets with which to meet them. For most officials, that's a challenge. For Lisa Beth Brown, however, it's an opportunity.

"I don't spend time thinking about or worrying about what could be," says Brown, the U.S. Customs and Border Protection port director at the Port of Savannah in Georgia. "I focus on what is."

CBP says it has a shortfall of 500 officers at seaports nationwide. The result is a gap not only in port operations, but also in port security. To fill it, leaders like Brown are investing their limited resources in tools that offer maximum security with minimum manpower.

"We increasingly are using ... technology to complement our layered enforcement strategy so we're not reliant on having people on the ground," Brown says.

X-RAYS AND RADIATION SCANS

In Savannah and ports like it, investments have included large-scale mobile X-ray machines and radiation portal monitors. The latter are necessary to comply with federal requirement that all cargo containers passing through the nation's busiest seaports be scanned for radiation.

"As technology gets better, we continue to get more and better images" from X-ray machines, Brown says. Of the radiation monitors, she says, "That technology is continuing to get better and better to help us sort out the natural-occurring radiation from the radiation that is a real threat."

Technological advancements aren't

limited to cargo scanning. At Port Tampa Bay, for instance, a sophisticated radar system helps identify and monitor approaching vessels.

"Radar systems in the old days were very expensive and very complicated. Now there are radar system solutions on the market that are very achievable for seaports," says Mark Dubina, vice president of security at the Tampa Port Authority.

Traditionally, Dubina says, seaports tracked vessels using radios: Incoming vessels would call in, identify themselves and state their intentions. Although most small ships aren't equipped to do so, large ships subsequently began broadcasting automated radio signals to notify ports of their presence and position. With radar, however, ports can identify *all* ships—regardless of size or intention or whether they identify themselves. "Radar helps you identify possible incursions or activity around areas where there shouldn't normally be activity. That's something we were blind to in the past. Now we have a lot better ability to understand what's going on around our facilities."

A SHARED INFORMATION MAP

Among the biggest innovators in port security is the Port of Long Beach in California. In 2014, it used federal port security grants to develop and launch Virtual Port, a web-based application that pulls real-time informa-

tion from 60 data sources — including more than 300 cameras across the port, radio signals from incoming vessels and social media, just to name a few—and presents it in the form of an integrated map shared with the CBP, the Coast Guard, and local police and fire agencies, among others. Having a shared picture of what's going on helps coordinate faster and better responses to potential threats and actual emergencies.

"It would be impractical to gather and disseminate all this information manually. Virtual Port allows us to collect all this data and disseminate it in real time so that all our partners are aware of what is happening here in the complex," says Noel Hacegaba, chief commercial and operations officer at the Port of Long Beach. "It's all about keeping everyone in the security community informed."

In a world of constrained resources, that's what technology does best: It unlocks information and shares it to generate more value with fewer dollars.

"We are constantly looking for ways to maximize the resources at our disposal and leverage those with the resources of our security partners," Hacegaba says. "The more data we can harness, and the more collaboration we can facilitate across the security network that we operate in, the better the position we'll be in to secure our ports."