

## **Future Platforms: Unmanned Naval Operations**

*War on the Rocks*

by Secretary of the Navy Ray Mabus

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This past summer, Chief of Naval Operations Jonathan Greenert and I stood on the flight deck of the aircraft carrier GEORGE H.W. BUSH, at sea off the coast of Virginia. We watched as the X-47B unmanned aircraft, a sixty-two foot wingspan demonstrator, made its first arrested landing onboard an aircraft carrier. It was a [historic moment](#) for naval aviation.

Every Naval Aviator knows landing on an aircraft carrier is about the most difficult thing you can do as a pilot. Recovering the X-47B safely aboard the ship, with the autonomous system landing independent of its human operators, was a vital step toward our future vision of a Carrier Air Wing. In less than a decade, this future air wing will be made up of today's F/A-18 Super Hornet strike fighters, MH-60 Seahawk helicopters, and advanced future platforms like the F-35C Lightning II Joint Strike Fighter and our next generation unmanned carrier aircraft.

The U.S. Navy and Marine Corps are America's "Away Team." We provide presence. We are where it counts when it counts, not just at the right time but all the time. We give the President and Combatant Commanders the flexibility they need to respond to any challenge. The platforms we buy to make up our fleet are an important part of our future. Unmanned systems are vital to our ability to be present; they lessen the risk to our Sailors and Marines and allow us to conduct missions that are longer, go farther, and take us beyond the physical limits of pilots and crews. Launching and recovering unmanned aircraft as large and capable as our manned fighters from the rolling decks of aircraft carriers is just one element of the future of maritime presence and naval warfare.

### **Helos Leading the Way**

While we are designing and testing our fixed wing unmanned aircraft, some of our helicopter squadrons have been operating unmanned systems – both in combat and maritime security operations – for years. The [MQ-8B Fire Scout](#) is our current unmanned helicopter system. It has been conducting missions including patrolling against illicit trafficking in the Pacific, counter-piracy operations in the Indian Ocean, and combat operations in Afghanistan and Libya. Since the Fire Scout's first deployments in 2009 our ships, helicopter squadrons, and Marine Corps units have been working together to refine and expand how we use the platform.

The next generation Fire Scout, the MQ-8C with its greater payload and longer range, made its [first flight](#) last year. It will deploy in support of our Littoral Combat Ships and Special Operations units. In the past year, we have stood up our first two Fire Scout squadrons in San Diego to train and organize the operators and maintainers who will work on these aircraft. Meanwhile the Marines continue to experiment and operate with the [Cargo Resupply Unmanned Aerial System](#) (CRUAS) which carries cargo to patrol bases and forward operating bases in combat areas such as Afghanistan, eliminating the need for dangerous convoys and potentially saving lives.

## **Under, On & Over the Sea**

The future of unmanned systems in the Navy and Marine Corps is focused on incorporating our people on manned platforms with unmanned systems to create an integrated force. A good example of this integration is the [Mine Countermeasures Mission Module](#) we are testing for the Littoral Combat Ship. This module includes a small remotely controlled submarine which tows a mine-hunting sonar to detect the mines, paired with a manned Seahawk helicopter which neutralizes the mines once they are found. The development team is also working with unmanned surface and air systems for autonomous mine sweeping, shallow water mine interdiction, and beach mine clearance. Nobody can argue with the idea that when clearing mines we should keep our Sailors out of the mine fields and let our unmanned systems take those risks.

Last spring we had the first test flight of the [MQ-4 Triton](#) unmanned maritime patrol aircraft, and earlier this month it passed the half-way point in its flight testing. Its 131-foot wingspan – 30 feet wider than the manned P-3C Orion maritime patrol planes we have flown for decades – makes it today's largest unmanned platform. Triton's long, slender wings allow it to stay in the air with its sensors for a day at a time, providing persistent maritime coverage to the warfighter. Combined with the aircrews and operators aboard our new [P-8 Poseidon](#) manned maritime patrol aircraft, Triton will identify and track targets as necessary, ensuring that the fleet has a complete picture of what is happening at sea.

## **The Future Airwing**

The X-47B is the culmination of an experimental program to prove that unmanned systems can launch and recover from the aircraft carrier. The program that follows this demonstrator will radically change the way presence and combat power is delivered as an integral part of the future carrier air wing. Known by the acronym UCLASS, for Unmanned Carrier Launched Airborne Surveillance and Strike system, it will conduct its missions over very long periods of time and at extreme distances while contributing to a wide variety of missions. It will make the carrier strike group more lethal, effective, and survivable. The end state is an autonomous aircraft capable of precision strike in a contested environment, and it is expected to grow and expand its missions so that it is capable of extended range intelligence, surveillance and reconnaissance, electronic warfare, tanking, and maritime domain awareness. It will be a warfighting machine that complements and enhances the capabilities already resident in our carrier strike groups.

Operating these platforms independently of a pilot, and with growing autonomy, greatly increases the possibilities for what we can do with them in the future. Unmanned carrier aircraft don't require flights to maintain pilot proficiency; the operators can maintain their skills in the simulator. The planes will be employed only for operational missions, saving fuel costs and extending the service life of the aircraft. They also create the opportunity to advance new ways to use our aircraft, like developing new concepts for swarm tactics.

We are finalizing the requirements that will lead to a design for the UCLASS. We aren't building them yet. We want to ensure we get the requirements and design set right before we start production in order to avoid the mistakes and cost overruns which have plagued some past

programs. Meanwhile our other unmanned systems like the Fire Scout and Triton continue their success.

### **The Future of Naval Operations**

Across the entire spectrum of military operations, an integrated force of manned and unmanned platforms is the future. The X-47B's arrested landing aboard USS GEORGE H.W. BUSH showed that the Navy and Marine Corps are riding the bow wave of technological advances to create this 21<sup>st</sup> century force. But it is our Sailors and Marines that will provide the innovative thinking and develop the new ideas that are crucial to our success. The unmanned systems and platforms we are developing today, and our integrated manned and unmanned employment methods, will become a central part of the Navy and Marine Corps of tomorrow. They will help ensure we continue to be the most powerful expeditionary fighting force the world has ever known.

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