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# The Threat Posed by Unmanned Surface Vessels

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## SYNOPSIS

*Unmanned surface vessels have arrived. As they proliferate, misuse will happen as was the case with an earlier development, the unmanned aerial vehicle. To deal with this problem, the countermeasures devised for aerial drones can be adapted for unmanned surface vessels. Public education and awareness will be essential to manage this potential security threat.*

## COMMENTARY

The November sinking of two Russian naval ships in Crimea by unmanned surface vessels (USVs) has cast the spotlight again on sea drones. Used by the Ukrainians in an earlier attack on Russian ships in August this year, these explosive drone boats have made it possible for small vessels to strike at much larger ones.

But as sea drones proliferate, one should recall what happened previously when malicious actors got their hands on aerial drones. Flown by malicious operators, these drones – commonly known as unmanned aerial vehicles (UAVs) – have intruded into restricted airspaces around government buildings, airports and even prisons. Rogue commercial drones have even been used in assassination attempts.

Besides drones in the air, law enforcement agencies (LEAs) must now deal with a new security threat, the unmanned surface vessel. Confirming the seriousness of this new threat, LEAs from countries around the world converged in Riyadh, Saudi Arabia, earlier this month to address the problem.

## Proliferation of USVs

Often called “sea drones” or “drone boats”, USVs are remotely piloted vessels that operate in the water. These uncrewed vessels can vary greatly from a couple of metres to more than 30 metres in length. Operation-wise, they can be remotely piloted by a human operator or be fully autonomous, if powered by artificial intelligence (AI).

First used in World War II, USVs have come a long way. Besides being more high-tech, they have become more common as LEAs, militaries and commercial enterprises around the world find more uses for them. One reason for the rapid adoption of USVs is that they can undertake dangerous tasks without human involvement. A USV, for example, can sail into a storm to collect data or to map the ocean floor while the crew piloting it remotely are safe on land.

State-of-the-art USVs can even be autonomous. They just need a basic set of instructions and will be capable of executing them on their own. With the help of AI, USVs are capable of operating autonomously at sea over vast distances for long periods of time. For now, only some states have these systems. But this is bound to change as the private sector finds more uses for USVs.

Crucially, USVs – like UAVs before them – are getting into the hands of private operators and this development has major security repercussions. To be sure, USVs are a boon to maritime security when they are used by responsible parties. But when they fall into the hands of private users, they will almost certainly be misused as we know from earlier experiences with aerial drones.

## An Emerging Threat

In the case of aerial drones, we know that they have been used by malicious actors to shut down busy airports, transport drugs and even to injure people on the ground. Similarly, USVs in the wrong hands can be used to breach seaports, smuggle contrabands and attack mercantile shipping.

Drug cartels are known to smuggle narcotics, firearms, and people across the ocean. Some of the vessels used by them are fairly sophisticated. Since a USV has no crew for LEAs to arrest, question and charge, it is easy to understand why these cartels would be interested in getting their hands on USVs.

Of greater concern to LEAs at the moment is how USVs can be used by malicious actors to target critical infrastructure and commercial ships transporting chemicals and crude oil. Once these vessels are rigged with explosives, they are capable of causing extensive destruction as had happened when Ukrainian USVs attacked Russian ships in the ongoing Ukraine war.

## Tackling USV Misuse

What can be done to deal with the misuse of USVs? Fortunately, we can take a leaf from existing UAV regulations to counter rogue sea drones.

For instance, most countries now require owners of aerial drones to register them. Some are even looking into remote identification for these systems. These requirements should also be applied to sea drones. At the least, they should be mandatory for USVs over a certain size or capacity.

To prevent malicious operators from using the cover of darkness to mask their unlawful activities, Japan bans the flying of recreational drones at night. This policy should similarly be extended to USVs as smugglers often use the cover of darkness to move contrabands over water.

For security reasons, many countries now bar commercial UAVs from flying into the airspaces around key installations and major mass events, among others. Likewise, imposing USV exclusion zones will go a long way to protect ports, sea lanes and dams from rogue sea drones.

## The Past is Prologue

The threat posed by rogue USVs is serious and LEAs already have their sights on this challenge. There is no question that these sea drones pose a big problem in the hands of malicious operators.

As challenging and complex as the threat may be, we do have the benefit of drawing from our experience tackling UAVs. This time round, we have a clearer idea about where the gaps are, what works and what more can be done. More importantly, the authorities know of the need to get tough before rogue USVs can cause serious harm.

On the other hand, hostile elements and malicious users of unmanned high-tech vehicles are also innovating their modus operandi to outwit the policing and regulatory authorities. Therefore, more public education and awareness of the threat posed by USVs (and UAVs) is an important part of national defence and homeland security.

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