

# MPA NEWS

Published on *MPA News* (<https://mpanews.openchannels.org>)

## Perspective: Six factors to consider when deciding whether to use drones to enforce your MPA

By Jayson Horadam and Emma Doyle

**Editor's note:** Jayson Horadam is the senior consultant at MPA Enforcement International, a firm that advises MPAs on enforcement programs, management, and leadership, particularly in the Caribbean region ([www.mpaenforcement.com](http://www.mpaenforcement.com)). Emma Doyle is a consultant to the Gulf and Caribbean Fisheries Institute ([www.gcfi.org](http://www.gcfi.org)) on its support to MPAs in the Caribbean.

In recent months, several MPA managers in the Caribbean region have been approached by various firms that produce drone technology. These firms have marketed the potential benefits of air- or sea-based drones to MPA management, particularly with regard to enforcement. (We acknowledge that drones may also be of use in environmental monitoring of MPAs, but we focus here on the enforcement implications.)

Drones remain a relatively new technology, and few MPA managers have direct experience with them yet. In this light, some of the MPA managers who have been approached asked us for our input on the value of drones. We are providing our advice here in hopes that it may be of use to the broader MPA community, beyond just the Caribbean.

To assess the value of drone technology for MPA enforcement it is important to consider the following:

1. **Drones can be a useful tool in your enforcement toolbox but they will not meet all your enforcement needs.** Drones can contribute to one aspect of enforcement: surveillance to detect violations. However, MPA enforcement is more than just surveillance. Enforcement encompasses the full range of actions that can be taken to promote compliance with MPA rules and regulations. These include education, communications, community alert networks, intelligence gathering, and the procedures for responding to violations (e.g., search/inspection and arrest, evidence gathering, and case preparation).
2. **To incorporate drones into an MPA surveillance strategy, the costs for investment, maintenance, training, and potential loss should be evaluated.** The cost of drones (including their acquisition, operation, and potential loss) should be weighed against their usefulness just as for any investment in MPA vessels, motors, communications equipment, GPS, cameras, binoculars/night vision, uniforms, and safety gear. We suggest that MPAs prioritize investment in basic infrastructure and equipment needs ahead of drone technology. Suitable vessels and well-equipped officers serve multiple purposes in enforcement. In contrast, drones are an additional piece of technology with a single benefit.
3. If drones are incorporated into surveillance based on the expectation that they will improve the detection of violations, **the MPA must also increase its capacity to respond effectively to those drone-detected violations.** In other words, the investment in drone technology needs to be complemented by an increased investment in staff, supporting equipment, and training. Beyond the MPA, there should also be a complementary increase in case-processing capability by authorities and the judiciary, which is typically out of the hands of the MPA manager. If an increase in detection capability is not matched by increases in officer response capability and in prosecutions, the result will be significant frustration and unmet expectations about enhanced effectiveness.
4. Navies and other enforcement authorities (e.g., Coast Guard or fisheries enforcement) often play an important supporting role in MPA enforcement, so it may be important to **determine whether there are any plans by your country's navy for the application of drone technology.** Similarly, it is important to examine whether the navy will have the increased capability required to respond effectively to MPA violations detected by drone.
5. In the case of air-based drones, **aviation regulations may be applicable in some jurisdictions** and these regulations are evolving in response to the technology. Be aware of current aviation rules and permitting processes pertaining to drone use. Privacy regulations may also be applicable and could limit drone use near communities adjacent to MPAs.
6. **Potential negative environmental impacts associated with the use of drones in MPAs should be evaluated.** Caribbean MPAs, for example, often provide important habitat for seabirds and migratory waterfowl. The appropriateness of drone use (and its attendant noise in the case of airborne drones) near important bird areas should be carefully considered.

In summary, while the application of drones may be appealing to some MPAs, we believe the fundamental aspects of an enforcement program must first be in place and operating effectively to fully underpin MPA compliance.

**For more information:**

**Jayson Horadam**, MPA Enforcement International. Florida, US. Email: [j.horadam@mpaenforcement.com](mailto:j.horadam@mpaenforcement.com)

**Emma Doyle**, GCFI. Email: [emma.doyle@gcfi.org](mailto:emma.doyle@gcfi.org)

**Source URL:** <https://mpanews.openchannels.org/news/mpa-news/perspective-six-factors-consider-when-deciding-whether-use-drones-enforce-your-mpa#comment-0>