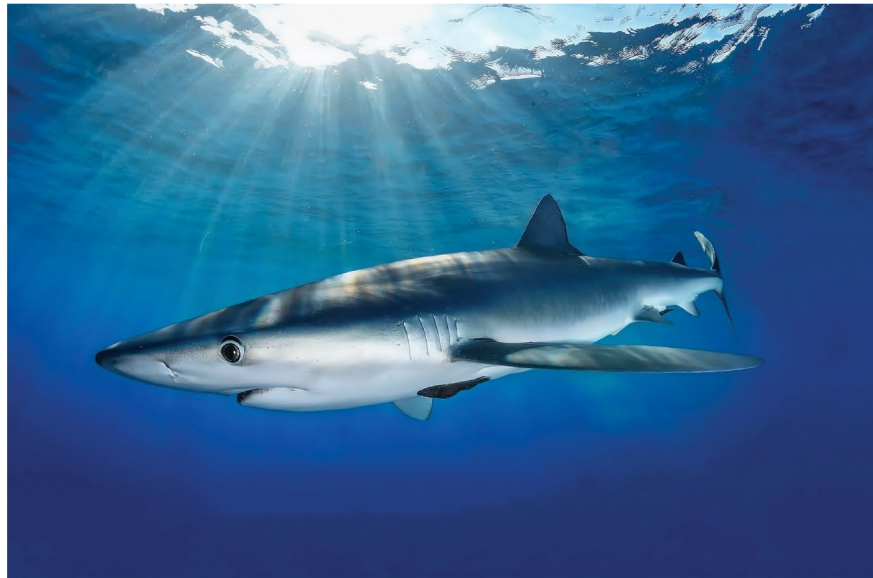




IMPACT STATEMENT:

Drone Fishing in South Africa.



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IMPACT STATEMENT: DRONE FISHING IN SOUTH AFRICA

WHAT IS DRONE FISHING?

'Drone fishing' by recreational anglers is where fishermen use unmanned aerial vehicles (UAV), unmanned aircraft systems (UAS) or remotely piloted aircrafts (RPAs), otherwise known as "drones", to increase their catching efficiency, by finding optimal fishing areas (i.e., aggregation sites or essential habitats) or by transporting baited lines to areas that are difficult to access.^{1,2}

HOW ARE DRONES USED FOR FISHING?

In South Africa, fishermen typically use drones to spot fish from the air and/or to transport and drop lures or bait offshore while still attached to a rod and positioned in the water. Drone fishermen have also been witnessed dropping lures or baits into the water, hooking a fish and then hoisting it out of the water.¹ Drones have created a mechanism to exploit areas which were previously out of casting range and ability of shore-based fishermen. These areas are often refuges for many linefish species, some of which species are threatened and exploited. Drone fishing, therefore, opens these refuge sites up to exploitation and places increased pressure on fish populations.²

THE USE OF THESE MOTORISED DEVICES FOR FISHING IS PROHIBITED IN SOUTH AFRICAN LAW:

A variety of motorised devices, such as, but not limited to, bait-carrying drones, bait-carrying remote-controlled boats and other remotely operated vehicles, as well as motorised electric reels used by recreational anglers to catch fish as well as sharks are prohibited for use for angling in terms of the Marine Living Resources Act (MLRA) (Act No. 18 of 1998) and its Regulations.³

WHAT IS THE IMPACT OF THE RECREATIONAL FISHING USING DRONES ON THE MARINE ECOSYSTEM:

There is anecdotal evidence suggesting that recreational drone fishermen have been dropping baits inside Marine Protected Areas (MPAs) from surrounding unprotected areas.²

1. There has been acknowledgement and expressions of the concerns surrounding drone fishing and its potential contribution to post-release mortality of elasmobranchs.⁴
 - Post-release mortality takes place after release and is often caused by any physical trauma following interactions with the fishing gear during capture, landing and handling, and/or because of physiological effects of capture stress, such as increased anaerobic muscular activity, barotrauma, air exposure, impaired respiration and reflexes.^{5,6,7,8} Animals that have retained hooks or sustained physical injuries may also be prone to infection,^{9,10} more susceptible to attack by predators and scavengers or experience physiological stress that may have prolonged effects on their feeding and swimming behavior, growth, their immune system or reproductive biology.^{5,6}
2. Depredation is where a predator consumes an animal caught by fishing gear (e.g., a shark predares on a teleost (bony fish) or where a larger shark preys on a smaller shark that has been caught by fishing gear).¹¹ There are various negative biological, economic, and social impacts from shark depredation, such as increased mortality of target species, loss of or damage to catch and/or fishing gear,¹¹ impacts on the fishing experience for recreational fishers, increasing hostile views towards sharks and retaliatory killing² and associated bycatch fishing mortality is a concern due to the poor conservation status of many shark populations.¹²
3. Drones have the potential to exploit areas which were previously out of casting range and ability of rock and surf anglers. These areas are often spaces of refuge where species that are targeted by anglers

are offered a level of protection. Drone fishing facilitates exploitation within these refuge areas, placing increased pressure on fish populations.²

4. Drones provide fishermen with the ability to target larger individuals. Removing a cohort of a specific life-history¹³ and which may have evolutionary implications for their population.¹⁴
5. There is concern over the potential loss or failure of fishing tackle by drone anglers, who often get their terminal tackle stuck in rocky habitats or when their line breaks while fighting large fish such as sharks.² This results in hundreds of meters of fishing line being left in the ocean, posing various threats to marine life, such as the entanglement of birds, marine mammals and turtles^{15,16} and pollution of the environment.¹⁷
6. The majority of drone fishing is for targeting sharks, and although illegal in our MPAs, it is a common practice within MPAs as well as along the KwaZulu-Natal (KZN) coastline.¹⁸
 - South Africa is a top five global biodiversity hotspot for shark and ray diversity with approximately 194 species, and a high level of endemism. However, almost half of all shark species and a third of all ray species found in South African waters are threatened with extinction. This means that they are listed as either “Vulnerable,” “Endangered” or “Critically Endangered” by the International Union for the Conservation of Nature (IUCN).¹⁹
7. Risk of drone fishing to pregnant raggedtooth sharks, *Carcharias taurus*, in KZN
 - Raggedtooth sharks undertake an annual breeding migration where mating occurs in southern and central KZN between August and November.^{20,21,22} Pregnant females then move northwards along the coastline, passing popular fishing spots like Tugela Mouth, Mtunzini and Richards Bay, and into the warmer waters of the iSimangaliso MPA and Southern Mozambique. Females use these warm nearshore waters to rest and gestate for approximately 4-6 months, before returning southwards to the Eastern Cape where they give birth to no more than two pups.²⁰
 - Pregnant females congregate on certain reefs along the northern KZN coast and appear to spend most of their pregnancy in this area making the role of the iSimangaliso MPA imperative to their conservation.²³
 - There is concern around shore and drone anglers targeting raggedtooth sharks during their breeding migration along the northern KZN coast from October to April. Pregnant females need to preserve as much energy as possible to support the development of embryos and maximise the chances of producing healthy pups. Capturing a pregnant female may reduce her much-needed energy reserves and may negatively impact on the breeding process of this critically endangered species.²³

WHAT IS THE IMPACT ON SAFETY AND PRIVACY:

Drones are being used to transport baits long distances out to sea (up to 500m) and in so doing are in contravention of the South African Civil Aviation Authority (SACAA) regulations which prohibit recreational drones carrying and dropping a payload. They also present a considerable danger to manned aircraft flying at low altitude along the coast, especially light sport aircraft. Some drone anglers (especially along the KZN coast) have been observed operating their drones within a 10km radius of an aerodrome or in prohibited, restricted or controlled airspace.¹

Eighty-one incidents, near-misses and accidents have been reported world-wide, with a mid-air collision of a drone and an aircraft having potentially dire consequences. Although in South Africa, only three widely known cases are on record, it is likely that most are unreported. Several aviation authorities globally have investigated

the potential risks of drones to a manned aircraft. Further, there is an impact on users of public beaches (i.e., imposition of privacy and safety).¹

WHAT IS THE SOCIAL IMPACT – CONFLICTS AND PERCEPTIONS:

- The ethics of drone fishing is debated online extensively among fishing groups and is not supported by all fishermen, including the South African Shore Angling Association (SASAA). Some of these anglers argue that it is a detached way to harvest fish and that it takes the 'sport' out of sport-fishing. Drone fishing is seen by some to change the way people are learning to read the environment, and it takes away from the challenge and skill of angling and fishing.¹
- Although not all fishermen are in support of drone fishing, it is being observed both within and outside of protected areas.¹⁸ Furthermore, fishing gear sales online globally contribute substantially to the angling tourism industry and the cost of fishing drones range from ~R8,000 upwards. From an economic point of view, this is an eco-tourism niche market, with online distributors based in South Africa selling drones to over 100 countries.²⁴

PUBLIC KNOWLEDGE:

On 24 February 2022, a public notification was issued highlighting that it had come to the Department of Forestry, Fisheries and the Environment's (DFFE) attention that bait-carrying drones, bait-carrying remote-controlled boats and other remotely operated vehicles and devices were being used by recreational anglers to illegally catch fish and sharks. The DFFE's public notice reemphasised that these devices are prohibited when angling recreationally and a warning was issued that enforcement action would be taken should anglers be found using these devices.

In March 2022, drone manufacturers, suppliers, operators, and other interested parties (Gannet Works, IARC CC, Unmanned SA (Pty) Ltd, CDS Angling Supplies CC, CEG Projects (Pty) Ltd) challenged the authority of the DFFE and their decision to ban the use of drones to fish for marine species. After the ban, suppliers of the equipment noted an almost immediate decline in sales, and due to the threat it posed to their businesses, they wanted the DFFE to withdraw the Public Notice.

On 12 April 2022, this application was dismissed, and the Pretoria High Court upheld the ban imposed by the DFFE as they remain concerned about the conservation status of several shark and fish species targeted by these illegal methods. The DFFE further provided justification for the ban in the Public Notice by highlighting that "motorised devices give anglers a huge advantage over those that confine themselves to traditional angling methods as provided for by the law. With the aid of these devices, anglers can catch large breeding fish with a much higher success rate than when confined to manual methods and in so doing unduly increase the pressure on already threatened species."

The appellants then approached the Supreme Court of Appeal. The Supreme Court of Appeal, on 16 July 2024, in Case no: 492/2023, dismissed the appeal and ruled that, "Firstly, the Marine Living Resources Act and its regulations not only specify the type of fishing activity, but also the method to be used in performing such fishing activity. Secondly, lawful fishing can only be authorised by means of a valid permit and that, once an angler has this permit, they must adhere to the daily bag limits and the fishing methods specified in the regulations. Any deviation from these authorised limits and methods is unlawful."

CITATION

WILDTRUST, 2025. Drone Fishing in South Africa. *WILDTRUST Impact Statement 2*. 6pp.

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