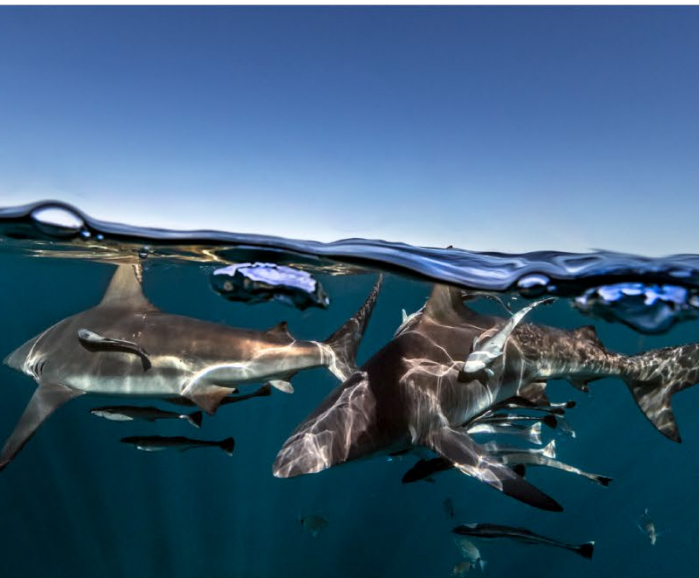




IMPACT STATEMENT:

Illegal gillnetting in South Africa, with a focus on sharks

IMPACT STATEMENT

ILLEGAL GILLNETTING IN SOUTH AFRICA, WITH A FOCUS ON SHARKS

WHAT IS GILLNETTING?

Gillnetting is a fishing method that uses a curtain-like net suspended vertically in the water, with floats along the top and weights anchoring or weighting down the bottom. Depending on the target species and fishing depth, gillnets can be designed to float or sink within the water column. The mesh size is specifically designed according to the size of the target species where they are trapped by their gills or body depth when they attempt to swim through. Most modern illegal gillnets, largely used in estuaries and freshwater, are made of monofilament, a nearly invisible material that increases their effectiveness.¹

WHERE THE USE OF GILLNETS FOR FISHING IS PROHIBITED IN SOUTH AFRICAN LAW:

The Marine Living Resources Act, Act no. 18 of 1998, (MLRA), defines a "driftnet" as "a gillnet or other net or a combination of nets, the purpose of which is to enmesh, entrap or entangle fish by drifting on the surface of or in the water, irrespective of whether it is used or intended to be used while attached to any point of land or the seabed or to any vessel." "Driftnet fishing activities" is referred to as "fishing with the use of a driftnet and includes any related activities, including transporting, transshipping and processing any driftnet catch, and the provision of food, fuel and other supplies for vessels used or outfitted for driftnet fishing."²

ILLEGAL GILLNET FISHERIES IN SOUTH AFRICA

Illegal gillnetting is unregulated, highly indiscriminate, and increasing at an alarming rate. Nets are frequently smuggled into the country and gillnetting operations are difficult to monitor as hidden, weighted nets that sink below the surface are used and are often left unattended. Illegal gillnets are widespread in estuaries and marine waters. Their expansion has led to overexploitation, high bycatch mortality, and the degradation of marine habitats, posing a direct threat to shark populations, threatening fisheries sustainability and conservation efforts.¹

WHAT IS THE IMPACT OF THE ILLEGAL GILLNETTING ON THE MARINE ECOSYSTEM AND SHARKS:

There are a variety of impacts illegal gillnet fishing could have on marine ecosystems. These impacts are of particular concern for threatened species, which are those listed as *Vulnerable*, *Endangered* or *Critically Endangered*, by the IUCN Red List of Threatened Species.³

1. Unregulated Shark Exploitation and Overfishing

Illegal marine gillnetting is increasingly targeting sharks, with estimated annual catches of 400–800+ tons along the Cape South Coast. These nets do not comply with legal size regulations, allowing for the capture of a wide range of species, including sharks, often before they reach reproductive age.¹ This pattern of removing juveniles from the population disrupts natural replenishment, threatening the long-term survival of shark species.^{1,4}

2. High Bycatch Mortality and Ghost Fishing

Bycatch in net-fisheries, particularly gillnet fisheries, is a global concern.^{4,5,6,7}

- Gillnets are inexpensive to purchase and operate, making them an attractive⁸ but unsustainable fishing method.^{1,9}
- Sharks are typically bycatch but may supplement economic yield derived from higher-value and more productive fish.⁶
- Gillnets catch both target and non-target species indiscriminately, often removing them before reproductive maturity.^{1,6}
- Bycatch mortality rates exceed 90%, meaning most marine life caught in these nets die before being released. Bycatch are often left to die in gillnets before fishers attempt to release them. This may be both intentional and unintentional, as the financial rewards for keeping large linefish far outweigh the low risk of monetary penalty.¹

- Ghost fishing, which is where lost or discarded nets continue catching marine life, is exceptionally high, causing ongoing mortality among dolphins (Fig. 2), seabirds (Fig. 3), seals (Fig. 6), turtles (Fig. 7), sharks (Fig. 4, Fig. 5), rays and other species (Fig. 8).^{1,7,10,11,12,13}
- Shark, ray and skate species documented in gillnet catches on the south-west and West Cape coast of South Africa include biscuit skate, *Raja straeleni*; shortnose spurdog, *Squalus megalops*; *Vulnerable* broadnose sevengill shark, *Notorynchus cepedianus*; *Endangered* smoothhound shark, *Mustelus mustelus* and *Critically Endangered* species including the common eagle ray, *Myliobatis aquila* and Duckbill ray, *Aetomylaeus bovinus*.
 - Many southern African endemics are also caught in these regions, including spotted gully shark, *Triakis megalopterus*; pyjama catshark, *Poroderma africanus*, dark shyshark, *Haploblepherus pictus*; *Vulnerable* lesser guitarfish, *Acroteriobatus annulatus*, and *Endangered* puffadder shyshark, *Haploblepharus edwardsii*.⁵
- Juvenile *Critically Endangered* scalloped hammerheads, *Sphyrna lewini* and *Vulnerable* milk sharks, *Rhizoprionodon acutus*, have been reported in illegal gillnetting operations along the KwaZulu-Natal coast¹³ (Fig. 5).
- Based on catches found in illegal nets discovered by conservation authorities, it is estimated that 1200 critically endangered African penguins (Fig 3) and threatened cormorants are caught and killed in illegal gillnets each year.¹²

3. Degradation of Critical Nursery Areas and Shark Habitats

Illegal estuarine gillnetting is widespread, with estimated catches exceeding 2,000 tons annually, compared to only 100 tons taken legally in the Olifants Estuary.¹ Many of these fish are juveniles, highlighting the destructive impact of illegal gillnetting in nursery habitats. This is particularly concerning for juvenile sharks and rays, which rely on estuarine environments for early growth and survival.^{14,15}

WHAT IS THE SOCIAL AND ECONOMIC IMPACT: CHALLENGES AND PERSPECTIVES

1. Broader Ecosystem and Fisheries Implications

Illegal gillnets not only threaten sharks but also jeopardise entire fisheries and marine ecosystems. The legal harder/mullet gillnet fishery is already facing challenges due to exceeding Total Allowable Effort (TAE) limits, illegal competition, and the collapse of the St Joseph shark fishery. If illegal gillnetting continues unchecked, it could lead to further stock collapses and loss of livelihoods.¹

2. Conflicts with Other Fisheries

- Gillnets, especially those unmarked with buoys or deployed as drift nets, which are not anchored, become navigational hazards for fishing boats and other water users.¹
- Conflict between net-fishers and other users of inshore fish resources, particularly recreational and commercial linefishers, has occurred as far back as 1895 in South Africa. There has been long-standing political pressure by linefishers, who feel that gillnets are decimating linefish stocks.⁵

3. Expansion of Illegal Operations and Lack of Enforcement

- The growth of illegal gillnetting is unprecedented, driven by limited enforcement capacity and funding.
- There are no controls on the manufacture, importation, or ownership of gillnets, allowing illegal operations to thrive.
- Additionally, misidentification and underreporting of catches are widespread, making it challenging to accurately assess their true impact.
- Law enforcement faces challenges due to reduced conservation capacity, high risks to officials, and the involvement of local communities in illegal fishing activities.¹

CONCLUSION

Illegal gillnetting is a major source of shark mortality and ecosystem degradation.^{1,6} Its unchecked expansion threatens shark populations, biodiversity, and the sustainability of legal fisheries. Addressing this issue requires stronger enforcement, improved regulation and management, and increased sustainability pathways for affected communities to ensure the protection of South Africa's marine ecosystems.

CITATION

WILDTRUST, 2025. Illegal gillnetting in South Africa, with a focus on sharks. *WILDTRUST Impact Statement 3*. 6pp.

REFERENCES

1. WILDTRUST, 2022. Policy influencing South African sharks and rays. Management: legal and illegal gillnetting. WILDTRUST Policy Brief, number 1. 7pp.
2. RSA (Republic of South Africa). 1998. Marine Living Resources Act (MLRA) (Act No. 18 of 1998) (Notice 747). *Government Gazette* 18930:395. 27 May 1998.
3. International Union for the Conservation of Nature (IUCN) Red List of Threatened Species. <https://www.iucnredlist.org/>.
4. Stevens, JD, Bonfil, R, Dulvy, NK and Walker, PA. 2000. The effects of fishing on sharks, rays, and chimaeras (chondrichthyans), and the implications for marine ecosystems. *ICES Journal of Marine Science*, 57(3): 476-494.
5. Hutchings, K and Lamberth, SJ. 2002. Bycatch in the gillnet and beach-seine fisheries in the Western Cape, South Africa, with implications for management. *South African Journal of Marine Science*, 24(1): 227-241.
6. Best, LN, Attwood, CG, da Silva, C and Lamberth, SJ. 2013. Chondrichthyan occurrence and abundance trends in False Bay, South Africa, spanning a century of catch and survey records. *African Zoology*, 48(2): 201-227.
7. Kroetz, AM, Mathers, AN and Carlson, JK. 2020. Evaluating protected species bycatch in the US Southeast Gillnet Fishery. *Fisheries Research*, 228, p.105573.
8. Lobyrev, F and Hoffman, MJ. 2023. A method for estimating fish density through the catches of gillnets. *Fisheries Management and Ecology*, 30(1): 24-35.
9. Kiszka, JJ, Moazzam, M, Boussarie, G, Shahid, U, Khan, B and Nawaz, R. 2021. Setting the net lower: a potential low-cost mitigation method to reduce cetacean bycatch in drift gillnet fisheries. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 31(11): 3111-3119.
10. Gilman, E, Suuronen, P, Hall, M and Kennelly, S. 2013. Causes and methods to estimate cryptic sources of fishing mortality. *Journal of Fish Biology*, 83(4): 766-803.
11. Žydelis, R, Small, C and French, G. 2013. The incidental catch of seabirds in gillnet fisheries: a global review. *Biological Conservation*, 162: 76-88.
12. Dr Stephen Lamberth. Department of Forestry, Fisheries and Environment (DFFE). Personal Communication. August 2024.
13. Dr Stephen Lamberth. Department of Forestry, Fisheries and Environment (DFFE). Personal Communication. March 2025.
14. Elston, C. and Murray, TS. 2024. Multi-method approach identifies a South African estuary as an important elasmobranch habitat and potential nursery ground. *African Journal of Marine Science*, 46(2): 91-102.
15. Osuka, KE, Samoilys, MA, Musembi, P, Thouless, CJ, Obota, C and Rambahiniarison, J. 2025. Status and characteristics of sharks and rays impacted by artisanal fisheries: potential implications for management and conservation. *Marine and Fishery Sciences (MAFIS)*, 38(1): 21-39.

PHOTOGRAPHS OF BYCATCH SPECIES CAUGHT IN ILLEGAL GILLNETS IN SOUTH AFRICA



Figure 1. Humpback whale with gillnet entangled on flipper. Cape Columbine, West Coast, South Africa. (Image supplied Stephen Lamberth - DFFE)



Figure 2. Southern African endemic Heaviside's dolphin entangled and killed in gillnet. Dwarskersbos, West Coast, South Africa. (Image supplied Stephen Lamberth - DFFE)



Figure 3. *Critically Endangered* African penguin entangled and killed in gillnet. False Bay, South Africa. (Image supplied Stephen Lamberth - DFFE)



Figure 4. *Vulnerable* broadnose sevengill shark entangled and killed in gillnet. False Bay, South Africa. (Image supplied Stephen Lamberth - DFFE)



Figure 5. *Critically Endangered* juvenile scalloped hammerhead sharks and *Vulnerable* milk sharks entangled and killed in gillnets. Richard's Bay, KwaZulu-Natal, South Africa. (Image supplied Stephen Lamberth - DFFE).



Figure 6. Cape fur seal entangled in illegal gillnet. St Helena Bay, West Coast, South Africa. (Image supplied Stephen Lamberth - DFFE)



Figure 7. *Endangered* Green turtle, entangled and killed in a gillnet. KwaZulu-Natal, South Africa. (Image supplied Stephen Lamberth - DFFE)

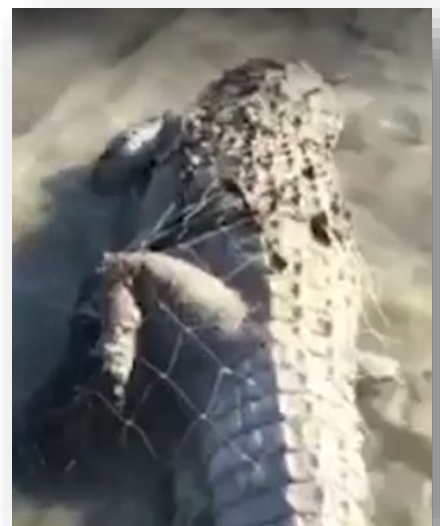


Figure 8. Nile crocodile, entangled in a gillnet. KwaZulu-Natal, South Africa. (Image supplied Stephen Lamberth - DFFE)