

## Kerguelen Skate, *Bathyraja irrasa*

<b>Report Card assessment</b>	<b>Undefined Stock</b>		
IUCN Red List Australian Assessment	Least Concern	IUCN Red List Global Assessment	Vulnerable
Global Assessors	Dulvy, N.K., Bineesh, K.K., Cheok, J., Dharmadi, Finucci, B., Pacoureau, N. & Sherman, C.S.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Catches mainly in longline fisheries and declining though recently slightly increased; independent survey indicates declining catches; strictly managed and monitored.		

\*The Global assessment status is more recent than the Australian Shark Action Plan assessment and the Global VU is based on modelling the catches.

### Summary

The Kerguelen Skate is a common and medium-size deepwater ray that is possibly endemic to temperate waters of the Kerguelen Plateau and associated banks and includes the Kerguelen Islands (French Territory) and the Heard and McDonald Islands (HIMI) (Australian Territory). It is caught incidentally in the Patagonian Toothfish longline fishery and to a much lesser extent in the Mackerel Icefish trawl fishery. In Australian waters of HIMI, this species is the most commonly captured skate in the longline fishery with catch-per-unit-effort (CPUE) decreasing from 2006–2018 with slight increases in the subsequent two years. Catches are much lower in the trawl fishery and have remained fairly stable. An independent trawl survey outside the longline fishery area noted an increase in CPUE. Skates taken in the HIMI captured in good condition are released alive and in the longline fisheries, an average of 80% of skates are released, though post-release mortality is unknown. The species is subject to strict management in HIMI waters and catches are closely monitored. It has been assessed as at low risk from HIMI fisheries but the impact on the species of recent increases in longline catch require reassessment. It receives refuge in shallow depths and territorial waters around HIMI that are both not permitted to be fished, and in the HIMI Marine Reserve. The Kerguelen Skate is assessed as globally Vulnerable and in Australia as Least Concern (IUCN) (Kyne et al. 2021). However, due to the uncertainty in population trends, that is, mainly declining longline CPUE but increase in trawl survey CPUE, it is difficult to resolve the SAFS status and as such it is considered Undefined Stock (SAFS).



Source: Australian Fisheries Management Authority.

### Distribution

The Kerguelen Skate is possibly endemic to temperate waters of the Kerguelen Plateau and associated banks (Williams Ridge, Elan Bank, and BANZARE Bank), including Kerguelen Islands (French Territory) and Heard and McDonald Islands (Australian Territory) (Last et al. 2016, J. Cleland pers. comm. 2023).

## Stock structure and status

There is currently no information on population structure of Kerguelen Skate, however it is known to have limited movement and is a common species (Nowara et al. 2017, Kyne et al. 2021).

## Fisheries

The Kerguelen Skate is caught incidentally in demersal longline fisheries that target Patagonian Toothfish (*Dissostichus eleginoides*) in the northern French Exclusive Economic Zone (EEZ) of the Kerguelen Plateau. Within the Australian EEZ surrounding Heard and McDonald Islands (HIMI), it is incidentally taken in the demersal longline fishery that targets Patagonian Toothfish, and in the demersal trawl fishery that targets Mackerel Icefish (*Champsocephalus gunnari*). In the HIMI, the Kerguelen Skate accounts for approximately 87% and 9% of the skate incidental catch in the longline fishery and Mackerel Icefish trawl fishery, respectively (Australian Antarctic Division unpubl. data 2022). It is the most commonly captured skate in both the French EEZ and HIMI longline fisheries with decreasing catches from 2006–2014 in the HIMI longline fishery but estimated little change in catches in the French EEZ (Nowara et al. 2017). Modelling of the standardized longline catch-per-unit-effort (CPUE) from 2006–2014 for both longline fisheries over three generation lengths indicated a population reduction of 37% (Dulvy et al. 2020). Since 2014, the standardized CPUE from the HIMI longline fishery continued to decline until 2018 after which it increased slightly in both 2019 and 2020 (Australian Antarctic Division unpubl. data 2022). Catches were much lower in the trawl fisheries, which operate in shallower waters than the longline fisheries, and showed little change over time (Nowara et al. 2017, Australian Antarctic Division unpubl. data 2022). An independent trawl survey found an increase in CPUE, although this survey was outside the longline fishery area (Australian Antarctic Division unpubl. data 2022). In the HIMI, skates captured in good condition are released alive and can only be retained if hauled dead. In the longline fishery, a 10-year average of 80% of skates are released although post-release mortality is unknown and currently under investigation (Australian Antarctic Division unpubl. data 2022). The species is managed under the Australian Fisheries Management Authority that adopt the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) bycatch limits, move-on rules, and no fishing permitted above depths of 500 m (Dulvy et al. 2020). The species was assessed as at low risk from the HIMI fisheries mostly as total skate catches have been below the Total Allowable Catch but recent increases in longline catch was noted as a potential impact on this species and reassessment required (Bullman et al. 2018, Dell et al. 2019). Waters around the islands out to 13 nautical miles are closed to fishing and the HIMI Marine Reserve would provide additional refuge (Patterson et al. 2022).

## Habitat and biology

The Kerguelen Skate is demersal on the insular slope at depths of 150–2,133 m (Last et al. 2016, Nowara et al. 2017, Australian Antarctic Division unpubl. data 2022). Maximum size is at least 140 cm total length (TL) with males mature at an estimated 6 years and 71 cm TL and females at an estimated 8 years and 66 cm TL; age estimates are not validated and to be interpreted with caution (Last et al. 2016, Dulvy et al. 2020, Wong et al. 2022).

Longevity and maximum size	Longevity: unknown Max size: at least 120 cm TL
Age and/or size at maturity (50%)	Males: 6 years, 71 cm TL Females: 8 years, 66 cm TL

**CAAB Code:** 37 031049

**Link to IUCN Page:** <https://www.iucnredlist.org/species/161659/124523337>

**Link to page at Shark References:** <https://shark-references.com/species/view/Bathyrāja-irrasa>

#### References

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