

23 White skate *Rostroraja alba* in the Northeast Atlantic

23.1 Stock distribution

White skate *Rostroraja alba* is distributed in the eastern Atlantic from the British Isles to southern Africa, including the Mediterranean Sea (Stehmann and Bürkel, 1984). As such, the species distribution covers parts of ICES subareas 7–9, and may possibly have extended into the southern parts of subareas 4 and 6.

The stock structure within the overall distribution area is unknown, therefore ICES provide advice for the whole ICES area.

23.2 The fishery

23.2.1 History of the fishery

R. alba is thought to have been subject of targeted exploitation for much of the 19th and early 20th centuries, with targeted fisheries in the English Channel, Brittany and possibly the Isle of Man (Irish Sea). It was viewed as a highly marketable skate due to its large size and thickness of the wings (Ellis *et al.*, 2010).

In 1964, 59 tonnes of *R. alba* were landed in the port of Douarnenez (Brittany) from a target long-line fishery (Du Buit, *pers. comm.*). After this, the fishery and local stock collapsed. The use of the landing name 'Raie blanche' (white skate) is now discontinued in French fish markets and only known by the oldest fishermen and fish-market workers. Up to 2009, only occasional individuals were landed in France, often under the name '*Dipturus batis*'. It was estimated that 13 ± 10 individuals (117 ± 89 kg) were landed in 2005 in France under the name '*D. batis*'. During a sampling programme of large skates in French ports (2006–2007), only one *R. alba* specimen was positively identified from the 4110 skates examined (Iglésias *et al.*, 2010). Prior to the inclusion of *R. alba* on the EU prohibited list, individuals were recorded occasionally in Portuguese landing ports (Serra-Pereira *et al.*, 2011).

In recent decades, *R. alba* may be a very occasional bycatch in some trawl and gillnet fisheries, although as a prohibited species, individuals caught should be released promptly. In 2013, there was an authenticated record of an individual caught (and released) in the English Channel (J. Ellis, *pers. comm.*). Nowadays, as the species is largely unknown by fishermen and does not have highly conspicuous morphological characters for its identification, individuals might occasionally be mixed with other skates, in particular those with long snout including *Dipturus* spp. and *Leucoraja fullonica*.

23.2.2 The fishery in 2022

No new information.

23.2.3 ICES Advice applicable

In 2014, ICES advised “on the basis of the precautionary approach ... there be no catches of this species. Measures should be taken to minimize bycatch to the lowest level”. ICES (2014) also stated that

“Rostroraja alba is designated on the EU prohibited species list in the entire ICES area. This is a high-level, long-term conservation strategy aimed at very depleted and vulnerable species. ICES supports this listing, having reviewed it in 2010”.

In 2016, ICES advised that *“when the precautionary approach is applied, there should be zero catches of this species in each of the years 2017, 2018, and 2019.”*

In 2019, ICES advised the precautionary approach with zero catches of this species in each of the years 2020, 2021, 2022, and 2023.

23.2.4 Management applicable

Council Regulation (EC) 2017/127 continues to prohibit European Union vessels to fish for, to retain on board, to tranship or to land *R. alba* in Union waters of ICES subareas 6–10. Council Regulation (EC) 2018/120 also states that *“when accidentally caught, species...shall not be harmed”* and *“specimens shall be promptly released”*. This prohibited status has been in force since 2009.

Regulation (EU) 2015/812 requires that all white skate caught and discarded should be reported. *R. alba* is legally protected in UK waters, being listed on the Wildlife and Countryside Act.

23.3 Catch data

23.3.1 Landings

R. alba became increasingly rare in landings prior to the requirements for species-specific recording (Ellis *et al.*, 2010), and so there is great uncertainty on historical levels of exploitation.

Some of the nominal landings reported for *R. alba* are thought to refer to either other large-bodied skates (*Dipturus* spp.) or shagreen ray *Leucoraja fullonica*, as this species also has a sharply pointed snout. In addition to possible misidentifications, there are likely input errors, especially as the FAO code for Rajidae (RAJ) could easily be input as RJA (*R. alba*).

Landings from around Scotland are assumed to refer to *L. fullonica*, and landings from other areas outside the former distribution have been assigned to Rajiformes (see ICES, 2016). Other nominal landings of *R. alba* (Table 23.1) may still be unreliable.

Landings from France under the FAO code RJA, *Rostroraja alba* are corrected into RAJ as those landings data refer to a mixture of species such as *Amblyraja radiata*, *Rajella lintea*, *Bathyraja spinicauda*, *Rajella fyllae* and *Amblyraja hyperborea*.

23.3.2 Discards

Limited data are available. The discard observer programme for the English and Welsh fleets did not record any *R. alba* (Silva *et al.*, 2012). The Portuguese Pilot Study for Skates recorded single specimens of *R. alba* (47 and 62 cm LT) in two trips using trammel nets, from a total of 20 fishing trips and a total sample of 667 skates. There is uncertainty in the reliability of some nominal records of *R. alba* recorded in other national observer programmes.

One specimen was by-caught in a monitored crayfish fishery in the south-west of Ireland in 2020.

23.3.3 Quality of catch data

Both landings and discard data for *R. alba* are very limited and may be confounded with other species. The nominal landings presented are considered unreliable.

23.3.4 Discard survival

There are no species-specific data on the discard survival of *R. alba*. Discard survival of skates has been examined for a range of other skate species, with at-vessel mortality low in some in-shore fisheries, but more limited data available for post-release mortality (Ellis *et al.*, 2017). The two specimens recorded in the EU/PNAB observer trips were considered in “good” health condition (following Enever *et al.*, 2009).

23.4 Commercial catch composition

No data available.

23.5 Commercial catch and effort data

No data available.

23.6 Fishery-independent information

R. alba is encountered very rarely in trawl surveys, which may reflect the low abundance of the species and/or poor spatial overlap between surveys and refuge populations and/or their favoured habitats. Existing surveys are not considered appropriate for monitoring the status of this species.

Although not taken in English trawl surveys (Ellis *et al.*, 2005), occasional individuals have been captured in the Irish Groundfish survey along the west coast of Ireland, in the Spanish survey at Porcupine and in the Portuguese Groundfish survey in recent years. One egg-laying female (185 cm L_T) was caught in the Portuguese Groundfish Survey in 2007.

23.7 Life-history information

Although taken periodically along the west coast of Ireland (Quigley, 1984), the biology of this species in northern European seas is largely unknown. It has been better studied in the Mediterranean Sea (Capapé, 1976; 1977). Kadri *et al.* (2014) examined specimens from the Mediterranean: the smallest mature fish were 110 cm (male) and 120 cm (female). The youngest mature female in this study was estimated to be 17 y, and the oldest fish 35 y.

R. alba egg cases are occasionally found in Galway Bay and Tralee Bay in the West of Ireland (G. Johnston, pers. comm.).

French fishers consider this species to live preferentially on harder substrates, and so it may have been caught more frequently in static set nets and longline fisheries (Iglésias, pers. comm.).

Recent acoustic monitoring collected information on movement patterns of three *R. alba* within a protected area in the West coast of Portugal (Sousa *et al.*, 2019). A mature female (138 cm) stayed in the area for 20 months while the two others, which were immature, moved from the area after three to four months. The three skates displayed daily patterns of activity being more mobile at sunset and sunrise with a relatively low activity during day light. They also seem to spend more time in deeper water but the mature female was also detected at shallower depth during spring and summer.

23.8 Exploratory assessment models

No exploratory assessments have been undertaken.

23.9 Stock assessment

No formal stock assessment has been undertaken. The perceived stock status is based on the comparison between recent and historical trawl survey catch data.

Historically, trawl surveys around the British Isles reported *R. alba* (Rogers and Ellis, 2000), whereas it has now disappeared from parts of their former range. Similar longer-term declines was also reported for the Bay of Biscay (Quéro and Cendrero, 1996).

WGEF considers that the comparison of historical data with the near-absence in recent data sources (historical landings, surveys, observer programmes) is sufficient to consider the species to be severely depleted and near-extirpated from various parts of the Celtic Seas and Biscay-Iberian ecoregions.

23.10 Quality of the assessment

No formal stock assessment has been undertaken.

23.11 Reference points

No reference points have been proposed for this stock.

23.12 Conservation considerations

R. alba is listed as Critically Endangered on the IUCN Red List (Gibson *et al.*, 2008; Nieto *et al.*, 2015). It is listed on the OSPAR List of Threatened and Declining Species (OSPAR Commission 2010). It is protected on the UK's Wildlife and Countryside Act.

R. alba is listed as a prohibited species for which there is a prohibition to fish for, retain on board, tranship, land, store, sell, display or offer for sale Union waters of ICES subareas 6-10 in Regulation (EU) 2019/1241, this regulation has been consolidated the 01/01/2021.

In 2020, WKSTATUS reviewed and updated the OSPAR status assessments of *R. alba*. Experts specified that there is no information suggesting an improvement in the status of this stock since 2010, the year of the last assessment. Therefore, the species continues to justify inclusion in OSPAR List (ICES, 2020).

23.13 Management considerations

Since ICES advised that this species should receive the highest protection possible, it has been listed as a prohibited species on EC fishery regulations.

Given the low abundance of this species and its high conservation interest, WGEF recommend that (i) any data on *R. alba* collected from national observer programmes be verified whenever possible (e.g. photographed) and (ii) that ongoing national observer programmes collect information on the health state (e.g. lively, sluggish, dead) of any discards of this species.

Dedicated, non-destructive surveys of areas of former abundance would be needed to inform on current habitat and range.

Given the perceived low productivity of this species, any population recovery would take a decadal time frame.

As this species could be overlooked in catches of mixed skates, improved identification material could usefully be developed.

Although, regulation requires any catch to be reported, it is highly probable that fishers cannot identify this species as they rarely encountered it.

23.14 References

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Table 23.1. White skate in the Northeast Atlantic. Nominal landings of *R. alba* in the ICES area. Some national data reported as white skate have been reassigned to Rajiformes (indet.) or *L. fullonica* (see ICES, 2016). The accuracy of remaining data (below) is unclear, due to possible input errors for the codes RAJ (Rajidae) and RJA (*Rostroraja alba*).

Year	France	Ireland	Portugal	UK	Total
2005	1	-	4.65	-	5.65
2006	-	-	5.51	-	5.51
2007	1.52	-	-	-	1.52
2008	0.73	-	-	0.95	1.68
2009	59.35	-	-	0.09	59.44
2010	10.65	-	-	0.06	10.72
2011	29.16	-	-	-	29.16
2012	12.1	-	-	0.22	12.32
2013	14.92	-	-	0.01	14.93
2014	11.29	0.26	-	0.1	11.65
2015	7.47	0.02	-	-	7.48
2016	4.25	0.12	-	-	4.36
2017	3.9	-	-	0.13	4
2018	7.1	0.4	-	-	7.5
2019	-	0.12	-	-	0.12
2020	-	-	-	0.08	0.08
2021	-	-	-	0.07	0.07