

# Skate populations in Southwest waters



Cat Gordon | John Richardson



# Biology & Ecology



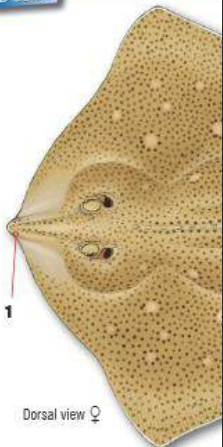
- When is a shark a ray?
- When is a ray a skate?
- Oviparous
- Demersal predators – ecosystem balance
- Prey on crustaceans, invertebrates, small bony fish
- Habitat preference – generally soft substrates (sand/mud) but some prefer rocky substrate

# Skate assemblage in SW waters



- 16 species reported in British waters
- Additional sp. rarely encountered
- High diversity in SW ~11 species

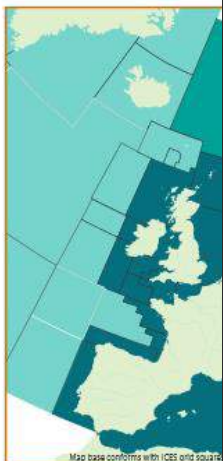





**Blonde Ray**

**SCIENTIFIC NAME**  
*Raja brachyura* (Lafont, 1873).

**DISTRIBUTION**  
Northeast Atlantic from Norway to western Mediterranean Sea<sup>8</sup>.




Map base conforms with ICES grid squares.




**Spotted**

**SCIENTIFIC NAME**  
*Raja montagui* (Fowler, 1910).

**DISTRIBUTION**  
Northeast Atlantic from the Shetland including the Mediterranean and



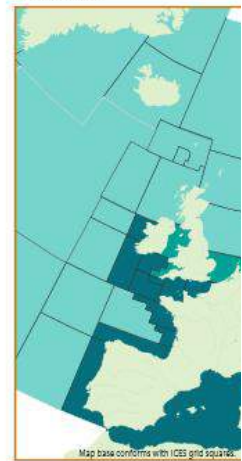
Map base conforms with ICES grid squares.




**Undulate**

**SCIENTIFIC NAME**  
*Raja undulata* (Lacepède, 1802).

**DISTRIBUTION**  
Senegal to the southern and western British Isles including the western Mediterranean and Canary Isles<sup>8</sup>.



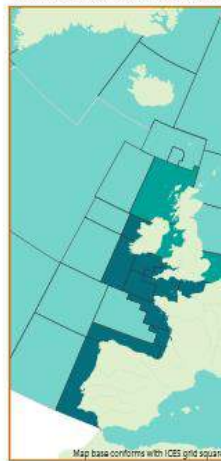
Map base conforms with ICES grid squares.



**Small-eye**

**SCIENTIFIC NAME**  
*Raja microcellata* (Montagu, 181

**DISTRIBUTION**  
Northeast Atlantic from the British Absent from North Sea and Mediterranean around the UK in the Bristol and E



Map base conforms with ICES grid squares.




**Thornback Ray**

Supported by:   

**SIMILAR SPECIES**

- Raja brachyura*, Blonde Ray, illustrated
- Amblyraja radiata*, Starry Skate, illustrated
- Raja asterias*, Starry Ray
- Leucoraja fullonica*, Shagreen Ray



Blonde Ray  
*Raja brachyura*

Colouration similar to Blonde Ray



Starry Skate  
*Amblyraja radiata*

Colouration similar to Starry Skate



Dark



Heavily patterned



Pale

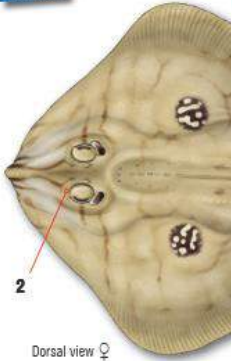
Thornback Ray page 1

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## Cuckoo Ray



Dorsal view ♀

### SCIENTIFIC NAME

*Leucoraja naevus* (Müller and Her

### DISTRIBUTION

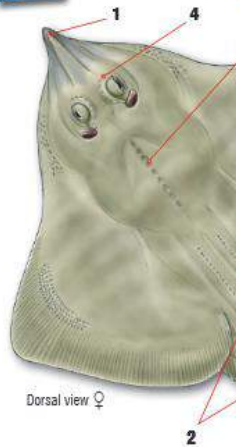
Northeast Atlantic from Norway to Mediterranean as far as Tunisia and



Map base conforms with ICES grid squares



## Shagreen



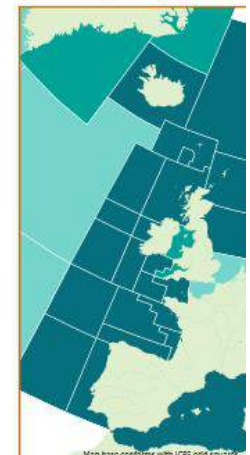
Dorsal view ♀

### SCIENTIFIC NAME

*Leucoraja fullonica* (Linnaeus, 1758)

### DISTRIBUTION

Northeast Atlantic from Russia and Madeira, including the Mediterranean



Map base conforms with ICES grid squares



## Sandy Ray



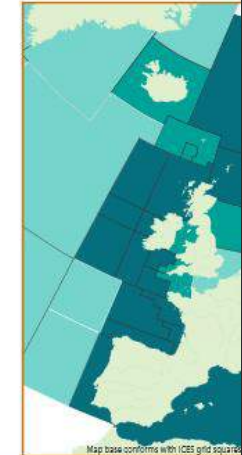
Dorsal view ♂

### SCIENTIFIC NAME

*Leucoraja circularis* (Couch, 1838)

### DISTRIBUTION

Northeast Atlantic from Morocco to Also found in the western Mediterranean



Map base conforms with ICES grid squares



## White Skate



Dorsal view ♀

### SCIENTIFIC NAME

*Rostroraja alba* (Lacepède, 1803)

### DISTRIBUTION

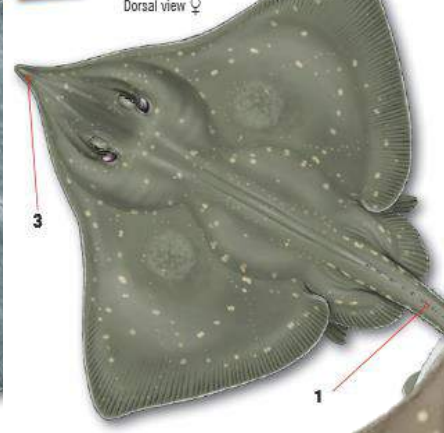
British Isles to South Africa and in Ocean', including the western Mediterranean



Map base conforms with ICES grid squares



## Common Skate



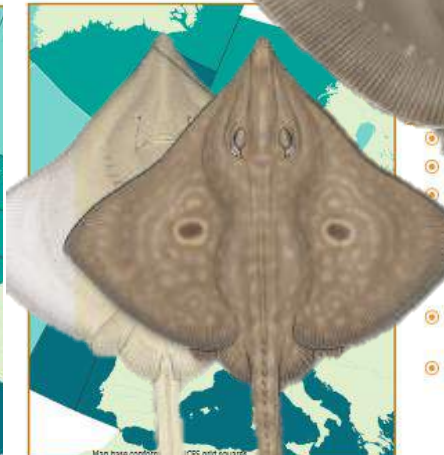
Dorsal view ♀

### SCIENTIFIC NAME

*Dipturus batis* (Linnaeus, 1758)

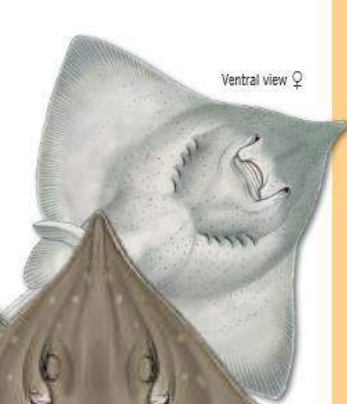
### DISTRIBUTION

Formerly widespread in Europe, northwest Scotland, Celtic Sea, rarely the western Mediterranean



Map base conforms with ICES grid squares

## *Dipturus batis*



Ventral view ♀

- Variations in color and dark blotches.
- Ventral surface of juveniles, grey in adults.

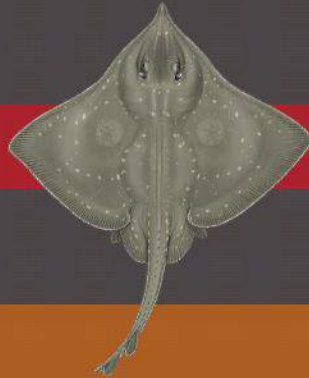
### SIZE AND SEX

- Born: 21-29cm, mature: ~150cm.
- Max TL: 285cm.
- Feed on a variety of crustaceans, teleosts and other skates.
- Longevity of 20-100 years.

# IUCN Red List status



Critically Endangered



Common sp. complex,  
White

Endangered



Undulate

Vulnerable



Sandy

Near Threatened



Blonde, Thornback,  
Small-eyed, Shagreen

Least Concern



Spotted, Cuckoo



# Life-history

- K-selected
- Site fidelity
  - Regional populations
- Static life-history phase
  - Great Eggcase Hunt
    - Broad distribution
    - Relative abundance





# Life-history



- Life history: vulnerability to overfishing
- Morphology: vulnerability to fishing gear
  - Populations take longer to recover
- Non-existent PR
- Conservation status – IUCN report (Dulvy *et al.* 2014\*)
  - Skates, rays and shark-like rays experienced greatest declines and are most at threat

\*Dulvy *et al.* 2014. Extinction risk and conservation of the worlds sharks and rays. *Elife*, 3, e00590



# Current situation



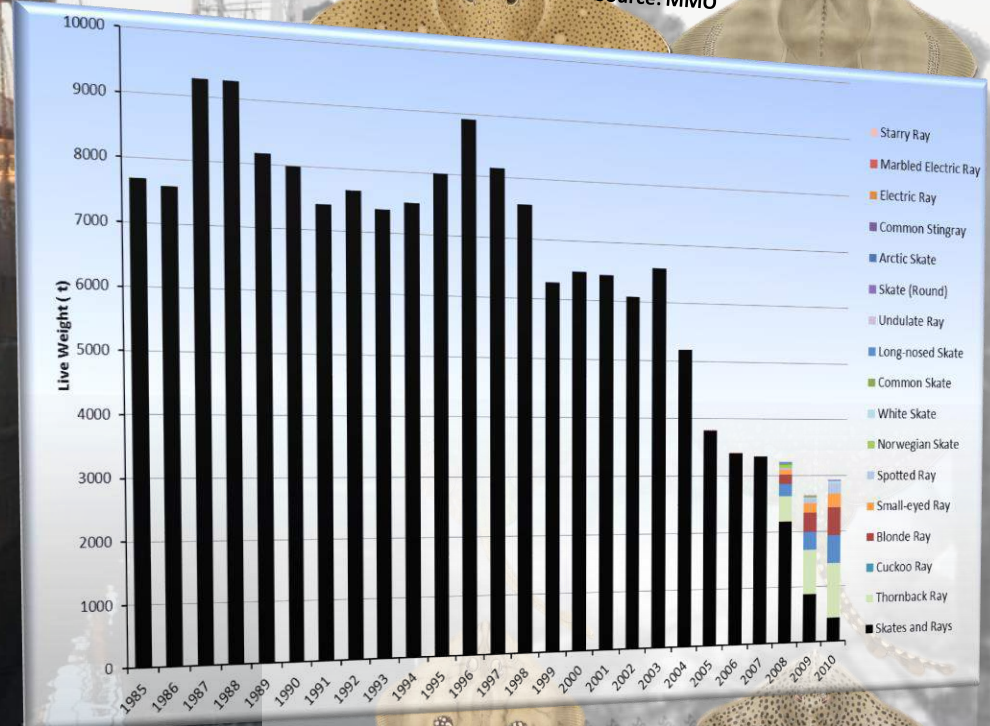
- Change in catch composition
- Previously went unnoticed as historically not landed by species but by 'skate and ray'
- Populations of large-bodied species depleted
- Smaller, more fecund species more abundant
- 2006 – Seafish Skate & Ray Group convened
- Species specific landings



# skate fisheries in the Southwest



- Commercial species
- Mixed fisheries
- North Devon
- Decrease in landings
- Reporting



all illustrations © Marc Dando



# commercial landings: 2012

Western English Channel | Division VIIe

Small-eyed Ray 29.9t

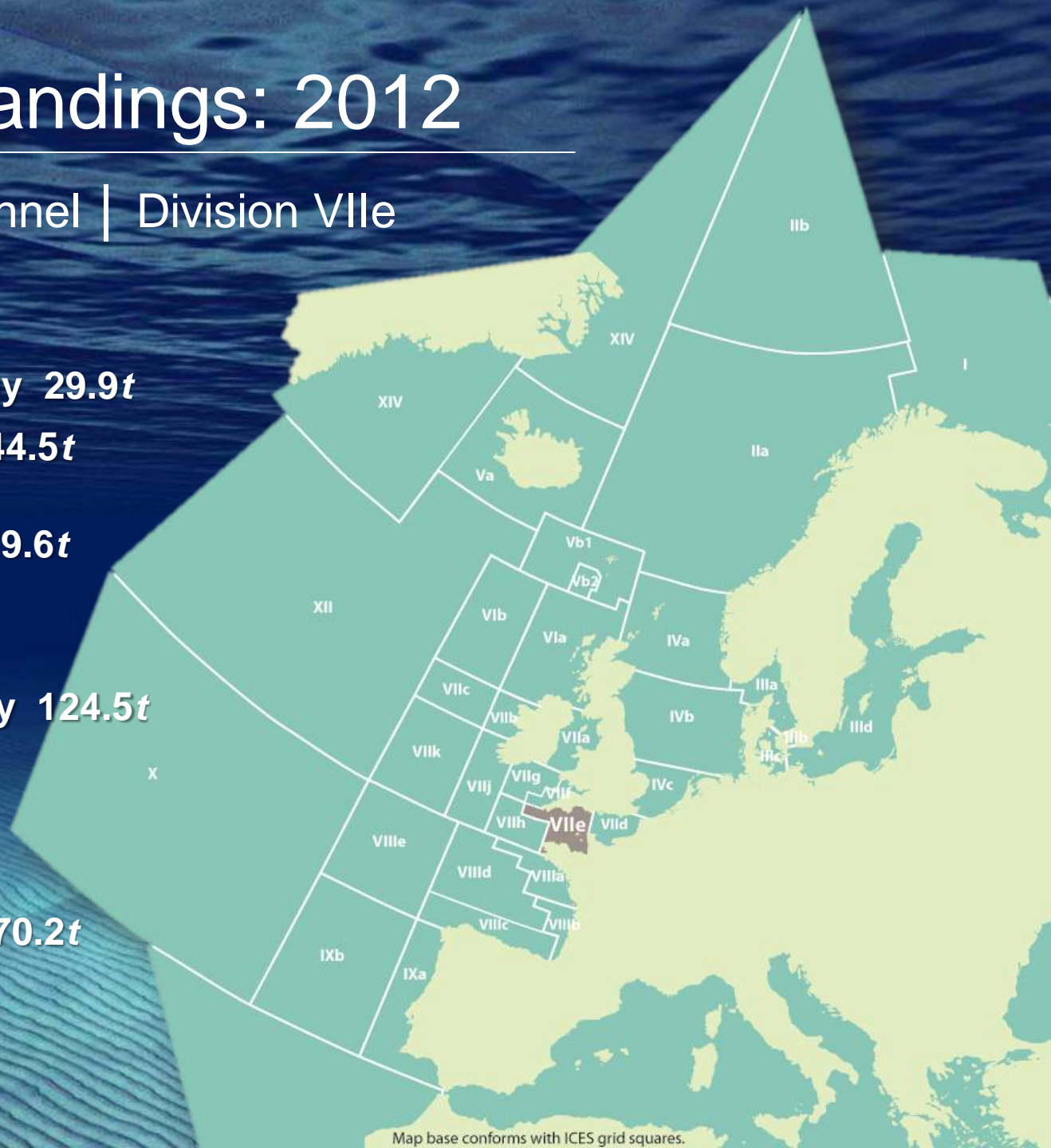
Spotted Ray 44.5t

Cuckoo Ray 79.6t

Thornback Ray 124.5t

Blonde Ray 170.2t

457.9 t



Map base conforms with ICES grid squares.



# commercial landings: 2012

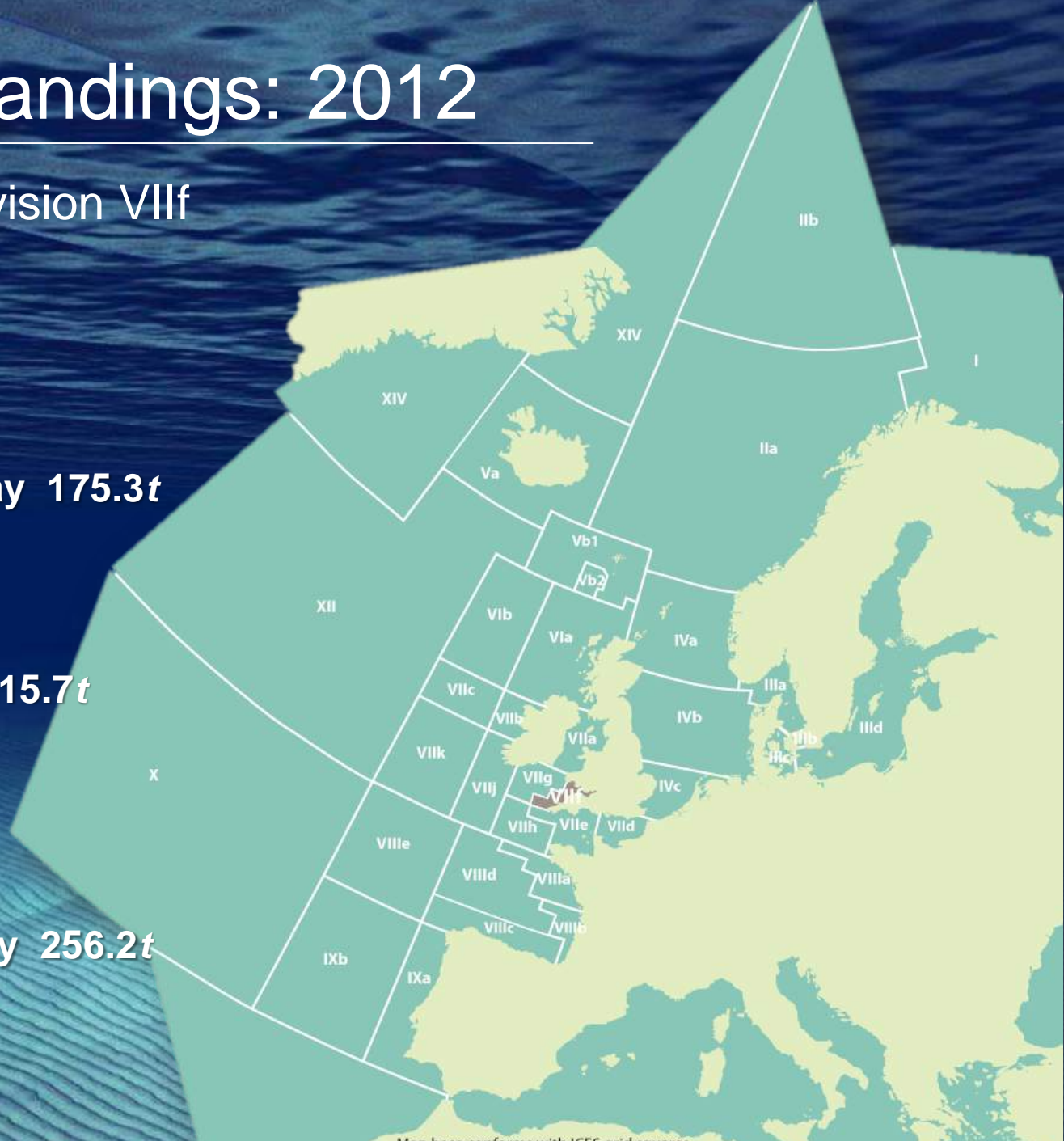
Bristol Channel | Division VII<sub>f</sub>

Small-eyed Ray 175.3t

Blonde Ray 215.7t

Thornback Ray 256.2t

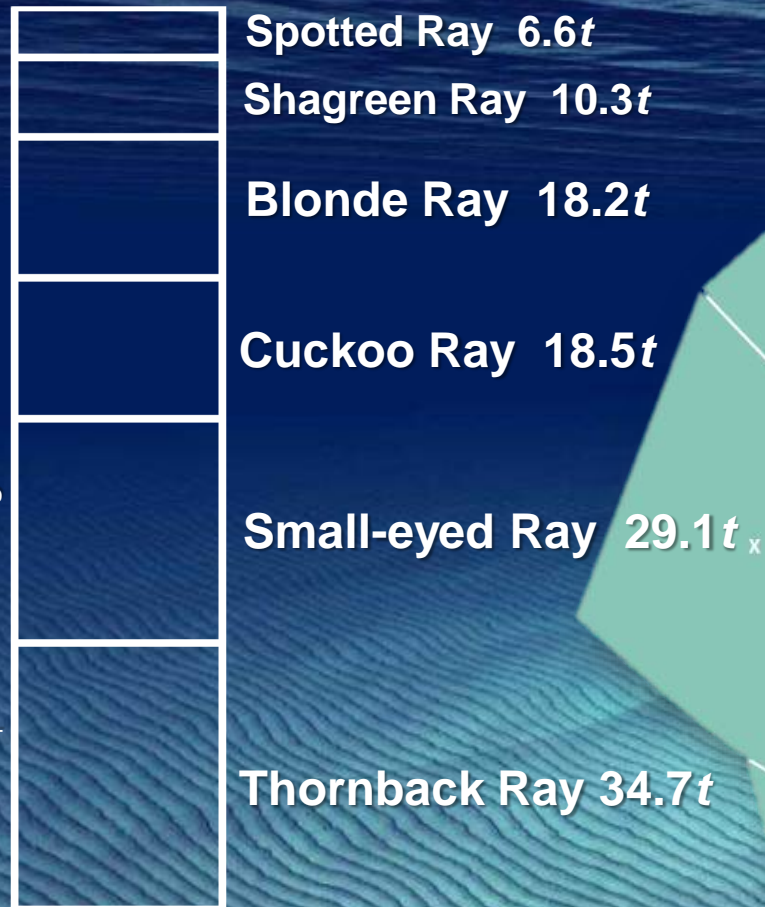
705.6 t



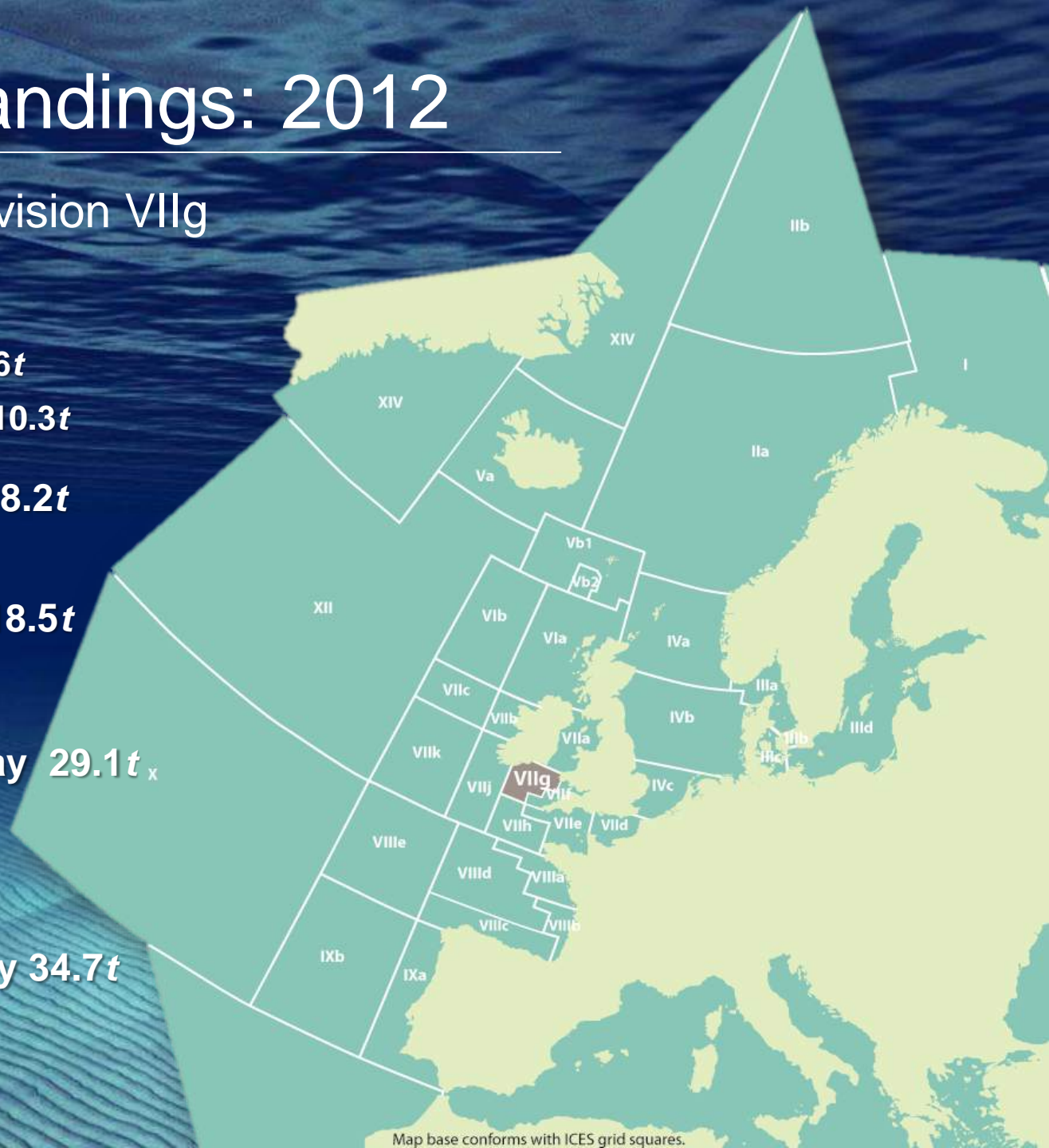


# commercial landings: 2012

Celtic Sea North | Division VIIg



**119.6 t**



Map base conforms with ICES grid squares.



# commercial landings: 2012

Celtic Sea South | Division VIIh

Shagreen Ray 19.0t

Cuckoo Ray 63.1t

87.7 t




Map base conforms with ICES grid squares.



# fisheries management



- TACs and Quotas
- Data Limited Stocks
- Reporting
- Prohibited Species



## White Skate

*Rostroraja alba*

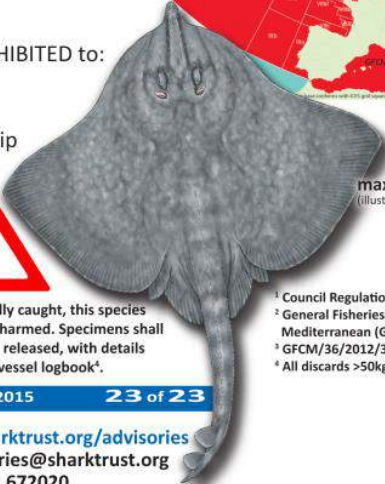
**RJA**

Designated a PROHIBITED SPECIES for all EU and third country vessels in EU waters of ICES areas VI, VII, VIII, IX and X<sup>1</sup>.

Also PROHIBITED for GFCM<sup>2</sup> Member and Cooperating non-Member vessels in GFCM (Mediterranean) waters<sup>3</sup>.

It is PROHIBITED to:

- ▶ Target
- ▶ Retain
- ▶ Tranship
- ▶ Land




max length: 200cm  
(illustration © Marc Dando)

If accidentally caught, this species shall not be harmed. Specimens shall be promptly released, with details recorded in vessel logbook<sup>4</sup>.


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[www.sharktrust.org/advisories](http://www.sharktrust.org/advisories)  
✉ [enquiries@sharktrust.org](mailto:enquiries@sharktrust.org)  
☎ 01752 672020


supported by:  
Department for Environment Food & Rural Affairs



Prohibited Areas




Shagreen, stock size/spawn stock biomass



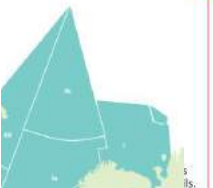
Thornback Ray  
*Raja clavata*

RJM RJC

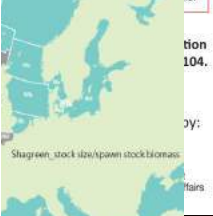
Thornback Rays must be promptly released in area VII




ions



tion 104.



ry:



airs



# Shark Trust engagement in skate fisheries



- Pragmatic approach
- UK
- EU
- Industry
- Fisheries Advisories
- ID materials

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED
NE	DD	LC	

Starry Skate *Raja clavata*

Thornback Ray *Raja clavata*

**SCIENTIFIC NAME**  
*Raja clavata* Linnaeus, 1758.

**DISTRIBUTION**  
Throughout the northern Atlantic, Mediterranean Sea, Black Sea and western Baltic Sea. Also off southern Africa.

**IDENTIFICATION**

- 1 Dark/light banding on tail.
- 2 Scattered dorsal darker thorns, occasionally ventral.
- 3 Wholly spinose dorsal surface.
- 4 Rows of 25–50 thorns on midline.

**COLOUR**

- 1 Dorsal surface dark brown to grey.
- 2 Patterning highly variable from extensive yellow mottling to few light spots.
- 3 Ventral surface creamy white with darker margin.

**BIOLOGY AND SIZE**

- 1 Bore 33–132cm. Males: 68–85cm ♀: 68–110cm c.p.
- 2 Max TL 130cm ♀: 100cm c.p.
- 3 Juveniles feed on small crustaceans, adults on larger crustaceans and a variety of fish.
- 4 Segregate by size and sex, juveniles more often found inshore (< 30m).



thanks for listening

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[www.sharktrust.org](http://www.sharktrust.org)

