

By: Chief Fishery Officer

To: Kent and Essex Inshore Fisheries and Conservation Authority – 12 September 2016

Subject: **Thornback Ray fishery**

Classification Unrestricted

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**Summary:**

This paper will provide Members with information on the development of Thornback Ray management at a regional, national and international level over the last decade. The paper also suggests improvements and actions for future management of this stock.

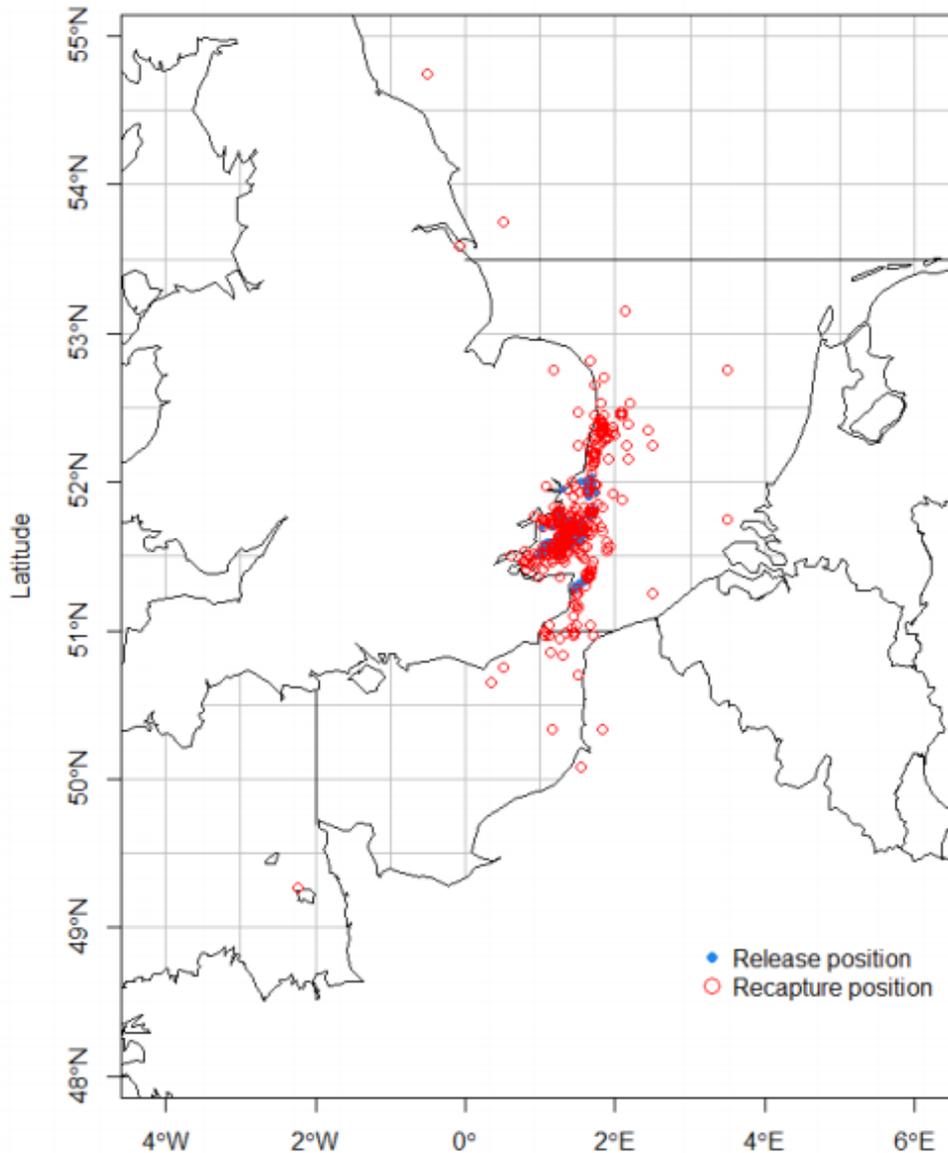
**Recommendations:**

- Write to the Minister/Defra asking for:
  - a. a review of the current Skate and Ray TAC system and requesting a thornback ray specific TAC; and
  - b. a commitment and time scale to develop an ICES thornback ray management plan
- Invite the minister to a meeting with local fishermen, Wm Morrison Supermarkets and CEFAS regarding the state of the thornback ray stocks and options for future management.

**Background:**

The thornback ray fishery is one of the key commercial and recreational fisheries in the Kent and Essex district. Work undertaken by CEFAS suggests that the Thames Estuary is of significant importance to all life history stages (i.e. sexual aggregation of adults, spawning grounds, juvenile and nursery areas) for thornback ray in the Southern North Sea. Thornback rays range throughout the bottom of the North Sea and through the English Channel and were generally thought to migrate offshore, and out of the Thames, during winter months and inshore for the summer reproductive season. However, reports from fishermen suggest that the number of thornbacks remaining in inshore waters seems to be extending further into the winter months in recent years in the Thames estuary area, with some thought to be resident all year round. Over the last few years there have been consistent reports, from the commercial and recreational

sector, of sustained and significant catches of Thornback rays throughout the whole district.



### 1. Management of Thornback Rays

From 1997 the only significant management measure for Thornback rays in the whole of the southern North Sea was the KESFC minimum size of 40cm (wing-tip to wing-tip). In 2006 quota management was rapidly brought in for all skate and ray stocks. The inclusion of thornbacks rays into the quota management process has had a significant impact on the commercial fishing fleet over the last 10 years, as this is a key target fishery and income stream for the netting and trawling fleets.

In an effort to help better manage the thornback ray population and reflect its regional distribution, KEIFCA and local fishermen have worked with CEFAS on a number of projects to try and better understand its behaviour, biology and distribution. The latest project Shark By-Watch UK 2, aimed to use the Thames Estuary area as a test-case towards implementing regional ICES advice of

fishery-specific management measures for thornback ray in the North Sea'. The project produced some extremely useful data as well as conversations between stakeholders and developed the following outcomes:

- (i) fishermen agreed to explore alternative management approaches to achieve an increase in their TAC for Thames thornback ray;
- (ii) Defra felt that any proposed management measures that supported continued data collection and were dynamic in both space and time were likely to be viewed more favourably by the European Commission than voluntary area closures (which provide little evidence for assessment);
- (iii) KEIFCA, in the medium term wanted to understand discard survival of thornback ray for possible survival exceptions under the reformed CFP. In the longer term they wanted to explore a discrete, regional thornback ray TAC, distinct from the generic North Sea skate & rays TAC;
- (iv) Wm Morrison Supermarkets Plc wanted to support and build the supply chain of Thames Estuary thornback ray.

1.1 For the future, Cefas proposed a fisher-led initiative with short-, medium- and long-term components. The aim would be to provide the best immediate benefits to industry, whilst simultaneously building towards the evidence-base required to underpin full scientific assessment.

*Short-term:*

Lead by fishermen, and for the best immediate benefits to the under 10m fleet operating in the Thames Estuary, production of a consumer 'friendly' Thames thornback ray fishery publication. Highlight fisher engagement with science, data collection, and commitment to sustainable management. Material to be used in outreach work with NGOs, promoting underpinning science to retailers committed to sourcing sustainable seafood products.

*Medium-term:*

A fisher-focused pilot project, collecting fishery dependant thornback ray catch data at low cost, reporting in real-time. Gauge the suitability of real-time reporting and spatial/temporal avoidance. This would allow fishers to increase efficiency by either effectively filling quotas or by eliminating lost-time through discarding by avoiding aggregations. In addition, the fisher-led data collection would supply the evidence-base required for future assessments of the fishery.

*Long-term:*

Drawing on the fisheries-dependent catch and landings data collected over the course of the medium-term component of this initiative (above), plan and execute a full assessment of the Thames Estuary thornback ray population.

1.2 Unfortunately, a fundamental management issue kept on impacting any future proactive management discussions; the current quota set up for skates and rays. Unlike the vast majority of other species managed under the quota regime, thornback ray stocks are not managed as an individual species but are combined with all the other skates and ray species, and quota levels are set on this basis. The initial reason for this was due to concerns regarding the level of reporting of catches and misidentification of species, as prior to 2006 fishermen were not required to report landings of skates and rays at an individual species level. Ten years later we still have the same aggregated quota system but

thornback ray stocks are managed as an individual stock by ICES and stock advice is given at an individual species level. The difficulty is that although the ICES advice suggests the stock abundance has strongly increased in recent years, and quota levels have increased, the aggregated nature of the quota means that other stake and ray species whose populations might not be in such a good state bring down the overall quota.

### History of advice, catch and management

**Table 6.3.52.5** Thornback ray in Subarea IV and Divisions IIIa and VIId. History of ICES advice and ICES estimates of landings. Weights in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	ICES species-specific landings:– minimum estimate based on reported landings
2006	Zero catch	0	
2007	Zero catch	0	
2008	No new advice, same as 2007	0	
2009	<i>Status quo</i> catch		
2010	No new advice, same as 2009		
2011	<i>Status quo</i> catch		
2012	No new advice, same as 2011		1536
2013	No TAC, species-specific measures needed, catch could increase by max. 20%.	-	1863
2014	No new advice, same as 2013	-	1874
2015	No new advice, same as 2014	-	
2016	Precautionary approach	2110*	
2017	Biennial	2110*	

\*Landings only advice as catches are unquantified.

This has two significant effects, first it means that species which might need more protection are not receiving it through artificially high quota levels and secondly it means that efforts to better manage thornback ray stocks through regional initiatives are less likely to work as any benefits derived by better stock management will always be offset by the health of other stocks.

### 6.3.52 Thornback ray (*Raja clavata*) in Subarea IV and Divisions IIIa and VIII (North Sea, Skagerrak, Kattegat, and eastern English Channel)

#### ICES stock advice

ICES advises that when the precautionary approach is applied, landings should be no more than 2110 tonnes in each of the years 2016 and 2017. Discarding is known to occur, but is variable and the quantities of dead discards have not been estimated.

#### Stock development over time

The stock abundance has strongly increased in recent years. This increase should be viewed in relation to longer-term changes in distribution (see below).

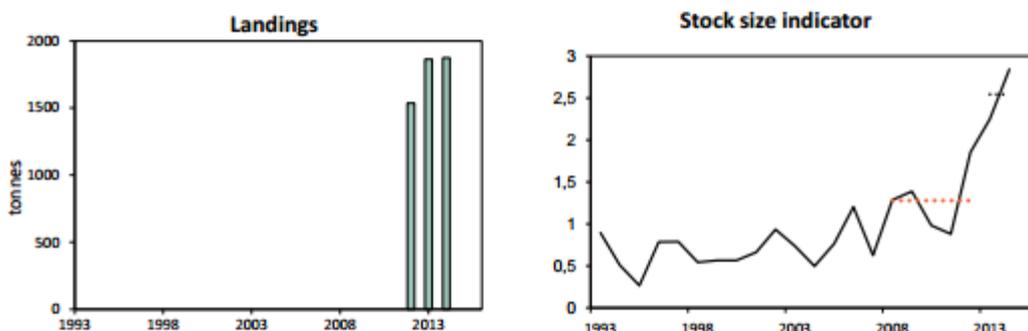


Figure 6.3.52.1 Thornback ray in Subarea IV and Divisions IIIa and VIII. Left: ICES estimates of species-specific landings of *R. clavata* since 2012. Right: average of survey indices of abundance ( $n \text{ h}^{-1}$ , relative to time-series mean) from trawl surveys (IBTS Q1, IBTS Q3, CGFS, UK-7d-BTS). The dotted horizontal lines show the mean stock indicators for 2013–2014 and 2008–2012.

#### Stock and exploitation status

Table 6.3.52.1 Thornback ray in Subarea IV and Divisions IIIa and VIII. State of the stock and fishery relative to reference points.

	Fishing pressure			Stock size		
	2012	2013	2014	2012	2013	2014
Maximum sustainable yield	$F_{MSY}$ ?	?	?	MSY	?	?
Precautionary approach	$F_{pa}$ ?	?	?	$B_{pa}, B_{lim}$	?	?
Management plan	$F_{MGT}$ -	-	-	$SSB_{MGT}$	-	-
Qualitative evaluation	-	?	?	-	↗	↗
			?		↗	↗
			Undefined		?	Undefined
			Undefined		?	Undefined
			Not applicable		-	Not applicable
			Unknown		↗	↗
					↗	Increasing

## Additional Recommendations from Shark By-Watch UK 2

### 2. Development of a sustainable supply chain:

A further hurdle to a sustainable under 10m fleet fishery in the southern North Sea, is the low price (sometimes as low as £1/kg) obtained by fishermen. During the CEFAS workshops, Wm Morrison Supermarkets Plc explained that from a market perspective, proactive management measures, even if poorly evidenced, can be viewed and marketed favourably.

Working with NGOs such as the Marine Conservation Society and the Shark Trust can engage customers, lowering the barriers to consumers buying skates and rays, in turn raising the market value, making the economics more favourable for a sustainable supply chain. The social aspect of the supply chain must also be considered, engaging with fishing communities to proactively engage with the supply chain, such as the fish processor.

It was suggested that the sustainable supply chain approach described above should form the basis of an independent, buyer-led (e.g. Wm Morrison Supermarkets Plc.) pilot project focussing on Thames Estuary sourced thornback ray.

**Recommendations:**

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