

EU request on special management measures for skates and rays

History of the special request

In May 2013 the European Commission initiated an exploratory request with ICES on several issues related to the science and management of fisheries on skates and rays. The EC asked for an opinion on exploring management measures other than TACs for skates and rays (see Annex 1 – Special request from the European Commission, part 1 (May 2013)). After consultation with experts from the Working Group on Elasmobranch Fishes (WGEF), ICES found that it was not possible to provide a full response before specific case studies were carried out and analysed. ICES offered to further detail the resources and timeline for such studies once the Commission provided more specific scope and objectives. To help move the request forward, in July 2013 ICES provided the Commission with a short literature review and suggested a two-step process to fully deal with the request:

- (1) A generic response based on the review undertaken by WGEF (supported by the literature review); and,
- (2) Specific advice based on new studies relating to specific cases, based on the Commission's interests. The timeline for this would depend on the scope of the request, to be identified by inputs from the Commission.

In September 2013 the Commission sent ICES a second request (see Annex 2 – Special request from the European Commission, part 2) on this topic, asking for:

- (1) *The main sources (data and others) needed to provide such an advice (alternative measures others than TACs for managing these stocks), and*
- (2) *What is the state of knowledge of all those fisheries catching skates and rays, including a map of the more recent fishing activities, to the extent possible.*

The present document addresses both of EC's exploratory requests (Special request from the European Commission, parts 1 and 2) on issues related to the science and fisheries management of skates and rays. It does not formally constitute ICES advice. Instead, this document contains present knowledge on the subject and outlines how ICES might design studies that would forward the knowledge the Commission is looking for on this issue.

Summary of ICES response

ICES concludes that current scientific information provides some broad insights, but these are not sufficient to answer the initial EC request (Special request from the European Commission, part 1 – Annex 1) as it is formulated. Given regional differences in skate assemblages and fisheries, management measures would best be developed on a case-by-case basis with the participation of the fishing industry. ICES could, upon request, set up a process that includes scientists and stakeholders, outlining a scientific study that would take into account: (1) specific spatial and temporal closure options and other technical measures, (2) mixed-fisheries issues, (3) impacts of fleet behavior, (4) stakeholder input, (5) the biology and behaviour of the relevant skates and rays in the area, and (6) the additional scientific information required to inform such a request.

ICES provided the Commission with a short literature review in July 2013 in response to the initial EC request. This review, incorporated in the present document, demonstrates the scope of the issues involved and consolidates the available scientific knowledge on the subject. However, to fully answer the request, a specific study would be required, and in some instances, improved data collection may also be required. ICES could prioritize the data required and specific elements of such a study, if requested. Answering the request would benefit most from developing the work in collaboration with the RACs. ICES could potentially host a joint ICES–RAC meeting to develop management measures for a particular case study.

Special request from the European Commission, part 1. Opinion on exploring management measures other than TACs for skates and rays.

Request from the European Commission

Fisheries on skates and rays are currently managed under a common TAC, although this complex comprises species that may have different vulnerabilities to exploitation. TAC advice is based on the status of the main commercial species.

Demersal elasmobranchs are caught in mixed target and non-target fisheries. TACs alone, therefore, may not adequately protect these species as restrictive TACs may lead to high discarding.

At present, fisheries on rays and skates are managed by means of a generic, multi-species TAC, along with prohibitions and certain extra obligations for severely depleted species.

On the basis of the explained above, ICES is asked to provide advice on:

- *Exploring alternative and/or complementary management measures such as closed areas/seasons or effort restrictions which may better protect demersal elasmobranchs.*

In particular ICES is asked to comment on the functioning of the current voluntary closure in the Irish Sea and provide any recommendations on its operation.

Background

ICES was asked to provide advice on “*Exploring alternative and/or complementary management measures such as closed areas/seasons or effort restrictions which may better protect demersal elasmobranchs. In particular ICES is asked to comment on the functioning of the current voluntary closure in the Irish Sea and provide any recommendations on its operation.*”

At present, fisheries for skates (Rajidae) are managed under a common TAC, although the skate complex contains species that may have different vulnerabilities to exploitation. There are also prohibitions on fishing for, retaining, and landing some species, including the most severely depleted species.

Although there are seasonal target (trawl, gillnet, and longline) fisheries for skates in some areas, many skates are taken as an important bycatch in mixed demersal fisheries. TACs alone, therefore, may not adequately protect these species, as restrictive quotas may lead to high discarding in some fisheries. A proportion of these discards will not survive, with this proportion varying between fisheries and gears.

In 2012, ICES advice for skates stated that “*Management measures such as closed areas/seasons or effort restrictions may better protect demersal elasmobranchs. In particular, measures to protect spawning/nursery grounds would be beneficial. ICES could provide advice on such measures*” (ICES, 2012a). Furthermore, for some individual skate stocks, ICES stated that “*ICES does not advise that an individual TAC be set for this stock, at present. Additional measures should be identified that can regulate exploitation of this stock. Such measures may include seasonal and/or area closures, technical measures, and tailored measures for target fisheries. Such measures should be developed by stakeholder consultations, considering the overall mixed fisheries context*” (ICES, 2012b).

Management options

ICES considers that technical measures are suitable alternative or complementary management measures for skates, especially for those species occurring in shelf seas and coastal waters.

The selection of the most effective and pragmatic measures should be addressed for stocks/regions of concern. These should be developed for specific fisheries/regions in close cooperation with fishers, Regional Advisory Councils, and other stakeholders, especially to discuss and evaluate the viability of potential measures and subsequent uptake of, and compliance with, any measures.

ICES discussed options for management in an earlier report (ICES, 2003), and these are elaborated on below.

Output controls

Output controls can take the form of single- or multispecies TACs, and the latter is the main measure currently in place

for skates.

Advice on adjusting catch can be based on information on trends in stock abundance. However, only a limited time-series exists for species-specific landings data, and there are also concerns about the accuracy of some of these data. Hence, it has not been possible for ICES to advise on options for species-specific TACs for the main species in the skate complex.

Although some parts of the ICES area have a relatively low diversity of skate species (e.g. *R. clavata* is the main species in Division IVc, with lower numbers of *R. brachyura* and *R. montagui*), other areas may have a much greater range of species (see ICES, 2013b).

If species-specific catch options were to become available, allowing for a move away from the single skate-complex TAC, then there would be potential issues in terms of quota reallocation and relative stability.

Input controls

Input controls include measures such as effort controls, licensing schemes, and restrictions on effective effort by particular gear types. Advice on effort controls could be given for assemblages of species.

Measures to regulate effective effort include restrictions on the number of hooks, soaking time, gillnet length, or hours trawled, and some of these measures can be used to regulate effort, and also to improve the survival of discarded fish.

For example, some inshore areas of the United Kingdom have local laws relating to the soaking time of gillnets. The survival of skates is thought to be relatively high when the soaking time is less than 24 hours, but decreases slightly when soaking time goes up to 48 hours. Such measures may be developed in inshore areas where soaking times are generally short. In contrast, the soaking time for gillnets on offshore fishing grounds can be higher, but the economic consequences of reducing soaking times or the ability to enforce such regulations are unclear.

Similarly, the survival of skates may be reduced in relation to haul duration (although the catch composition and weight may be the main factors influencing skate mortality). Once again, inshore vessels often have reduced haul durations and discarded skates are thus likely to be in better condition.

Hence, local measures to facilitate the survivorship of skates could be developed with the fishing industry, thereby allowing those skates not landed (including juveniles, prohibited species, or when quota is restrictive) to have a high chance of surviving.

Ideally, advice based on effort should be based on quantitative relationships between effort and fishing mortality, which requires that datasets of effort are available. Although there are now better estimates of fishing effort for some gears, accurate data may not be available for all gears and areas.

Technical measures

Technical measures can include mesh size regulations, constraints on landing sizes, closed areas, gear restrictions, and spatial restrictions.

Closed areas

There has been increased interest in spatial management for elasmobranchs (Bonfil, 1999; Stevens, 2002; Walker, 2004), and there are some examples of spatial regulations in other parts of the world (e.g. Carrier and Pratt, 1998). Closed areas to protect spawners or juveniles are expected to be effective because of the strong stock–recruitment relationships for rays (Agnew *et al.*, 2000; Gedamke *et al.*, 2009). In other words, measures to protect spawning-stock biomass can be expected to benefit recruitment. This is in contrast to most other marine species that are broadcast spawners, where stock–recruitment relationships are less well defined.

Data from fishery-independent surveys and observer programmes on commercial vessels, together with derived data from methods such as habitat preference or suitability modelling, could be used to identify ecologically important skate habitats, which could include grounds important for vulnerable species and/or particular life history stages (e.g. egg cases or juveniles, spawning females, mating grounds). If human activities on such grounds impact on the feature(s) of interest, then methods for mitigating or reducing impact could be developed.

Spatial planning and management may include a range of options, ranging from seasonal closures and gear restrictions to no-take zones. Close collaboration with the fishing industry, a good knowledge of fleet behaviour, and consequences of the various restrictions are vital if such approaches are to be effective, both for the stocks of concern and for other

ecosystem components. A technical measure that has been demonstrated to significantly reduce fishing mortality can then be appropriately implemented in the right place at the right time to achieve maximum conservation benefits and minimize potential adverse effects to the fishing industry.

Information on important areas of aggregation for various life history stages of elasmobranchs are available from scientific surveys (e.g. IBTS and other standard monitoring programmes); these could be collated and analysed, and then used to develop management measures. For example, spawning and nursery ground closures would benefit these species where stock–recruitment relationships are well defined. Also, for depleted species where zero-catch advice applies, closure of refuges would offer greater protection than the current provision to return them alive (i.e. discards). Discard mortality is not well documented but it depends on e.g. location, depth, fishing gear, duration of fishing, catch composition, deck handling, season, sea surface temperature, air temperature, etc., and varies greatly from study to study (STECF, 2013).

Mesh-size regulations

If the objective is to protect the juveniles and/or spawning stock, then mesh size regulations could be beneficial. Whereas this may be appropriate in some gillnet fisheries, such regulations for trawl fisheries may have greater impact on the selectivity and catches of the main target species. In such circumstances, other technical measures (e.g. grids such as Turtle Excluding Devices, or alterations to ground gears and the use of tickler chains) may have some merit, but would require further collaborative studies prior to implementation.

The use of square-mesh panels and other modifications to reduce the amount of abrasive material in the catch (e.g. rocks or echinoderms) that may compromise discard survival could also be considered.

Minimum landing size (MLS)

Such a measure can be used to protect juveniles, although it would only be beneficial if it reduced fishing effort on nursery grounds or if discard survival is high. Given the differences in the sizes of skates (whether L_{birth} , L_{mat} or L_{max}), there would need to be further studies to identify whether a generic skate MLS or species-specific MLS would be most appropriate. However, available literature information can be used to frame measures in the first instance. Such measures could be refined as better information becomes available, through additional sampling.

Maximum landing length (MLL)

Such a measure could be used to protect adults (e.g. mature females) and/or the larger-bodied species. Once again, such a measure would be most beneficial if it reduced fishing effort on particular grounds or if discard survival is high. For some elasmobranch species, females attain a larger size than males, mature at a greater length, and larger females likely produce more (and possibly larger) young.

Several studies have indicated that protecting the biomass of spawners is a useful management measure (Cortés, 1999; Simpfendorfer, 1999; Prince, 2005), although this would depend on whether it resulted in available quotas being redirected to other life history stages.

Prohibited listing

Inclusion of the most vulnerable species on the ‘Prohibited species list’ is an important option for the conservation of the most threatened species, for example *Rostroraja alba*.

However, other species may be locally and/or seasonally abundant and able to withstand some exploitation, and prohibiting the landing of such species may be controversial. For example, in 2010 *Raja undulata* was placed on the prohibited species list. This had not been recommended by ICES. Following a request from commercial fishers, the European Commission asked ICES to give advice on this listing. ICES reiterated that *R. undulata* would be better managed under local management measures and that there was no justification for placing it on the prohibited species list. However, to date, there has been no change in the listing of this species. Other comments on ‘Prohibited species’ can be found in an earlier report by the ICES WGEF (see Section 1.8 of ICES, 2010).

Proposed management plan for rays and skates in Subareas VI and VII

In 2011, as a result of the potential consequences of skates and rays being classified as data-limited stocks by ICES, the Irish Fishing Industry proposed to work on a long-term management plan for skates and rays. This work progressed through the North Western Waters Regional Advisory Council (NWWRAC), which established a Focus Group on Skates and Rays (NWWRAC, 2012).

Initial discussions included options for managing skate fisheries by genus or species, instead of at the family level, with separate TACs and management for *Raja* spp., *Leucoraja* spp., and *Dipturus* spp. Such an approach may have allowed more targeted fisheries and bespoke management measures for some of the various species. The plan also aimed to have separate management for *Dipturus batis* (cf. *flossada*) and *Dipturus* cf. *intermedia*; ICES had advised on the ability to provide species-specific advice for this complex. This plan has not been evaluated by ICES.

Subsequently, at a meeting of the NWWRAC Focus Group in September 2012, the Irish Fishing Industry put forward a proposal for a pilot closure of a number of areas where skates and rays are known to occur in high abundance, especially the spawning and nursery grounds in the southern Irish Sea. It is widely acknowledged that the protection of juveniles is a useful tool in stock recovery. Protecting areas where spawning females are found is also considered a useful tool to protect the SSB.

Initially two closed areas, one in the Irish Sea and another one in the Celtic Sea, were proposed. The proposals came from a combination of fishers' knowledge and results from IBTS and beam trawl surveys in the relevant areas. The proposed areas would be closed to any fishing activity that would catch skates or rays from the 1st of April to the 30th of June each year. This time period was chosen based on the perceived spawning times of skate species in the Celtic Seas ecoregion. The closure in the Celtic Sea was eventually rejected by the NWWRAC, due to concerns over the potential impact on existing fishing activity. The proposed Irish Sea area would be closed on a voluntary basis as a first step in 2013, with a review of the effectiveness of the closure later in the year. In 2013, this closed area was observed voluntarily by all Irish vessels. No UK or Belgian vessels are known to have fished in this area either. The plan was intended to be part of a process to expand the area to appropriate dimensions to include spawning and nurseries known to occur in the southern Irish Sea, subject to a request to ICES. However, the plan was not finally established and the request to ICES did not materialize in 2013.

The coordinates of the Irish Sea closure area are provided below:

53° 11.50' N, 05° 57.00' W	53° 11.50' N, 05° 38.50' W
52° 58.00' N, 05° 38.50' W	52° 48.00' N, 05° 51.50' W
52° 36.00' N, 05° 58.50' W	52° 36.00' N, 06° 00.00' W
52° 38.50' N, 06° 00.00' W	53° 11.50' N, 05° 57.00' W

ICES has not evaluated the aforementioned plans from the NWWRAC, although some ICES scientists have contributed to drafts. ICES notes that in order for voluntary closures to be effective, any future plans should continue to have stakeholder input.

Future spatial/temporal closures will also require a monitoring component to review the effectiveness of these measures over an appropriate time-frame.

Summary of information and process regarding management measures

Management measures would benefit from being framed in a mixed-fisheries context, considering the overall behaviour of demersal fleets and the drivers of such behaviour. When the TAC for a species is exhausted, catches may continue to take place, but they are discarded. In order to achieve optimal harvesting of the commercial species, and to assist in the recovery of depleted species, a suite of measures should be put in place.

Skate and ray focus groups have been initiated at various points, for example within the NWWRAC. Such groups can help bring together fishers, producer organisations, processors, fishery scientists, managers, and other groups, which can lead to improved communication between stakeholders and facilitate the discussion of management options.

An appropriate knowledge of the spatial ecology of skates is required in order to inform on options for regional management. Some skate species have been subject to conventional and/or electronic tagging programmes (e.g. *Raja clavata* in the southern North Sea, *Dipturus intermedia* west of Scotland), or are sampled in trawl surveys and other programmes. Such data can be used to inform on spatial management. However, current scientific understanding of some other species (e.g. *R. brachyura* and *R. undulata*) is more limited. Those species that have more discrete distributions or high habitat specificity (in terms of bathymetry, substrate, and seabed topography) may be more suitable candidates for spatial management than species that are more wide-ranging and occur on a broad range of habitat types.

Many elasmobranchs are known to aggregate, and such aggregation may be 'behavioural' (i.e. they aggregate, possibly by sex and/or size, in large numbers anywhere within their overall range) or 'geographical' (i.e. they aggregate on discrete grounds at certain times of the year to, for example, mate, spawn, feed, or overwinter). This has different implications for management options, with spatial management considered to be more effective for the latter type of aggregation.

Options for future case studies

From the several possible options across the ICES area, ICES suggests the following areas as case studies to better evaluate specific, regional management options for skates.

Undulate ray (*Raja undulata*) in the Northeast Atlantic

There have been several field studies to better understand the dynamics of *R. undulata* since the prohibition on landing this species (Ellis *et al.*, 2012; Delamare *et al.*, 2013; Stéphan *et al.*, 2013; Serra-Pereira *et al.*, 2013; Leblanc *et al.*, 2013). Although this species has a patchy distribution (which may confer a risk of localized depletion), historical information from the 1800s suggests this may have been the case for a long time. The use of tags (e.g. pop-off electronic tags) to better understand the movements and connectivity of this species in ‘hot spots’ across 6–7 sites in its European range (southwest Ireland; Isle of Wight; Normano-Breton Gulf; Bay of Biscay; Galicia and parts of Portugal) could usefully be undertaken.

Thornback ray (*Raja clavata*) in the southern North Sea

This is possibly one of the best known skate stocks in European seas and forms an important target species for local inshore fisheries and bycatch for larger vessels operating in Division IVc. Hence, this stock could provide a useful case study for the development of a regional management plan.

Skates in the Normano-Breton Gulf

Several little-known skate species are locally important in the Normano-Breton Gulf, including *R. brachyura*, *R. microocellata*, and *R. undulata*. This area is fished primarily by France, England, and the Channel Islands.

Skate fisheries in the Irish Sea, northeastern Celtic Sea, and Bristol Channel

Targeted fisheries for skates and rays in the Irish Sea and Bristol Channel tend to be seasonal. There are known spawning and nursery areas, although fishers’ information can refine these. A combination of seasonal and spatial management can be used to protect juvenile and spawning stocks. Current studies through the MYFISH EU project on skate and ray populations and habitats in the Irish Sea may provide further information and management options for these stocks. Existing management plans should be regularly evaluated to ensure their continuing effectiveness.

Blonde ray (*Raja brachyura*) in Iberian and adjacent waters

Blonde ray is a frequent but patchily distributed species in the coastal areas off western Galicia, Portugal, and Gulf of Cadiz, and it appears to concentrate on specific habitats. The implementation of a tagging programme, using inshore commercial vessels, would provide a useful opportunity to better understand the spatial dynamics of this species in relation to habitat type. It would also help in identifying the most practical management units for this species in Iberian waters, and potential connectivity with other areas, such as the Bay of Biscay.

Common skate west of Scotland

Flapper skate (*Dipturus intermedius*) can still be found in localized areas of abundance, where the species forms an important basis for ‘catch-and-release’ recreational fisheries. A recent electronic tagging programme has been completed and there is wider information on the distribution of the species from IBTS and other surveys. Hence, this area could be a useful case study for the development of a regional management plan.

Special request from the European Commission, part 2. The state of knowledge on fisheries and data sources on fisheries for skates and rays.

Mapping

In July 2013, ICES sent a draft response to the initial EC request (Special request from the European Commission, part 1 – Annex 1). The subsequent EC request in September (Special request from the European Commission, part 2 – Annex 2) asked for maps of existing skate and ray fisheries (question 2). Due to the limited timing associated with this additional request, it was not possible to obtain such information from each country. However, some countries have provided further data and maps of catch and/or effort. These are provided below.

It was hoped that data could be compiled from STECF of ray landings across Europe, but these were found to be incomplete.

Further information has been provided by Ireland, the Netherlands, the United Kingdom (England and Wales), France, Spain, and Portugal. Figures 11.2.1.3.1–11.2.1.3.6 show more detailed information.

Ireland

VMS data from Irish vessels are available. These data have been combined with logbook data to produce fine-scale catch information for various species, including skates and rays. Figure 11.2.1.3.1 illustrates landings and the changes in trends of landings of skates and rays by Irish vessels.

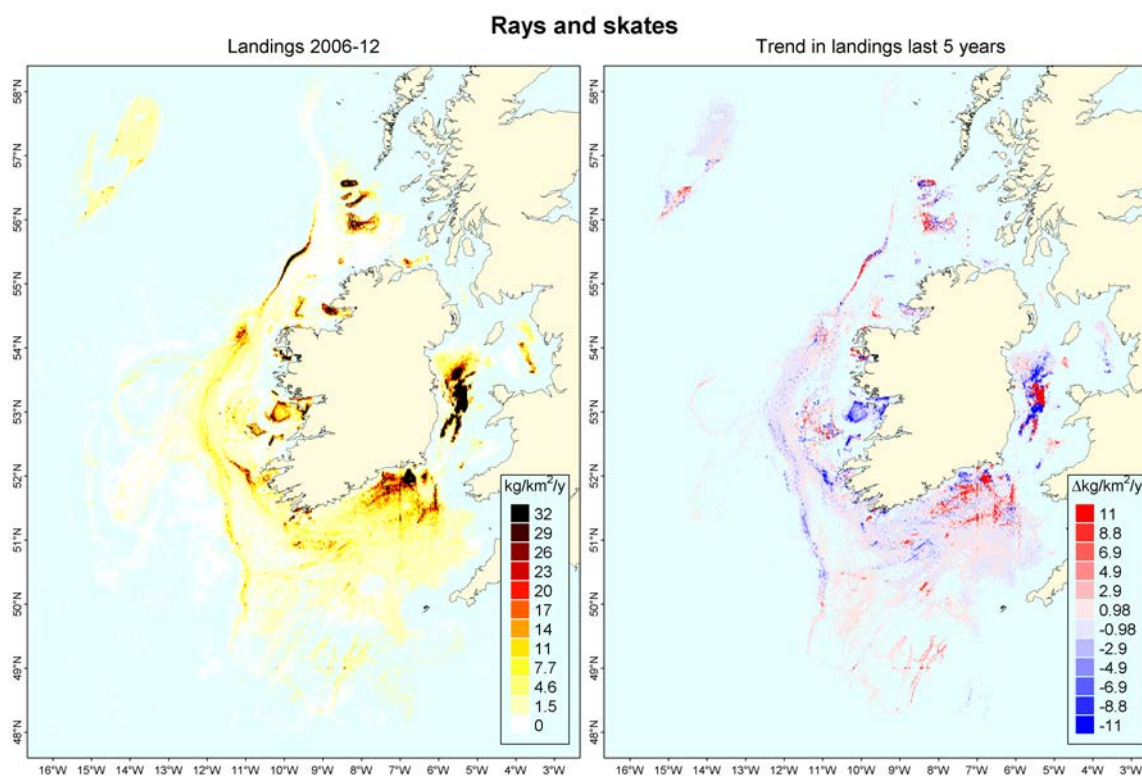


Figure 11.2.1.3.1 Landings by Irish fishing vessels in 2006–2012 of rays and skates ($\text{kg km}^{-2} \text{yr}^{-1}$) and changes in trend of landings from 2008 to 2012. Source: Irish Marine Institute.

The Netherlands

The Netherlands skate and ray fisheries take place in the southern North Sea and English Channel. Landings information is available by ICES statistical rectangle (Figure 11.2.1.3.2). Effort data are also available for further analysis.

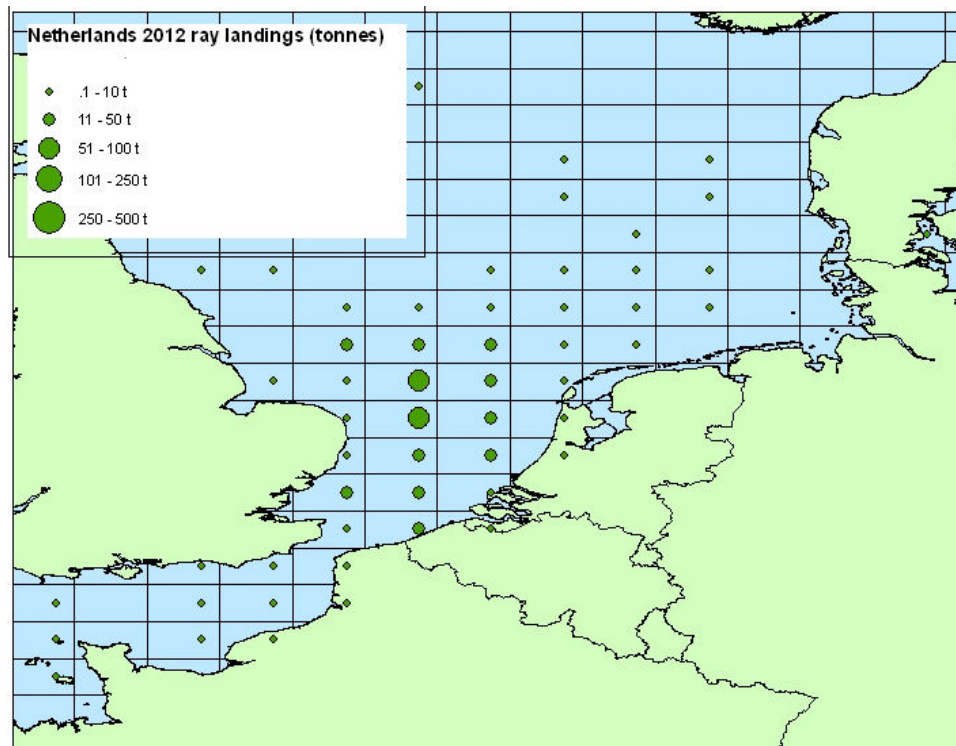


Figure 11.2.1.3.2 The Netherlands 2012 ray and skate landings (tonnes) by ICES statistical rectangle. Source: IMARES, Wageningen UR.

United Kingdom (England and Wales)

Landings data are available by rectangle (Figure 11.2.1.3.3) and these data are also available by month, gear, and species, so fine-scale information is available to inform on regional fisheries. Species-specific reporting has been subject to a review, and regional species compositions seem consistent with what would be expected. Data are also available from discard observer programmes. In terms of effort data, VMS information is available, which can be informative for offshore trawlers, but comparable information for offshore gillnetters will indicate areas of ‘activity’ rather than effort *per se*. Furthermore, effort data for smaller, inshore vessels will be limited, and such vessels can be involved in locally important coastal fisheries taking skates and rays.

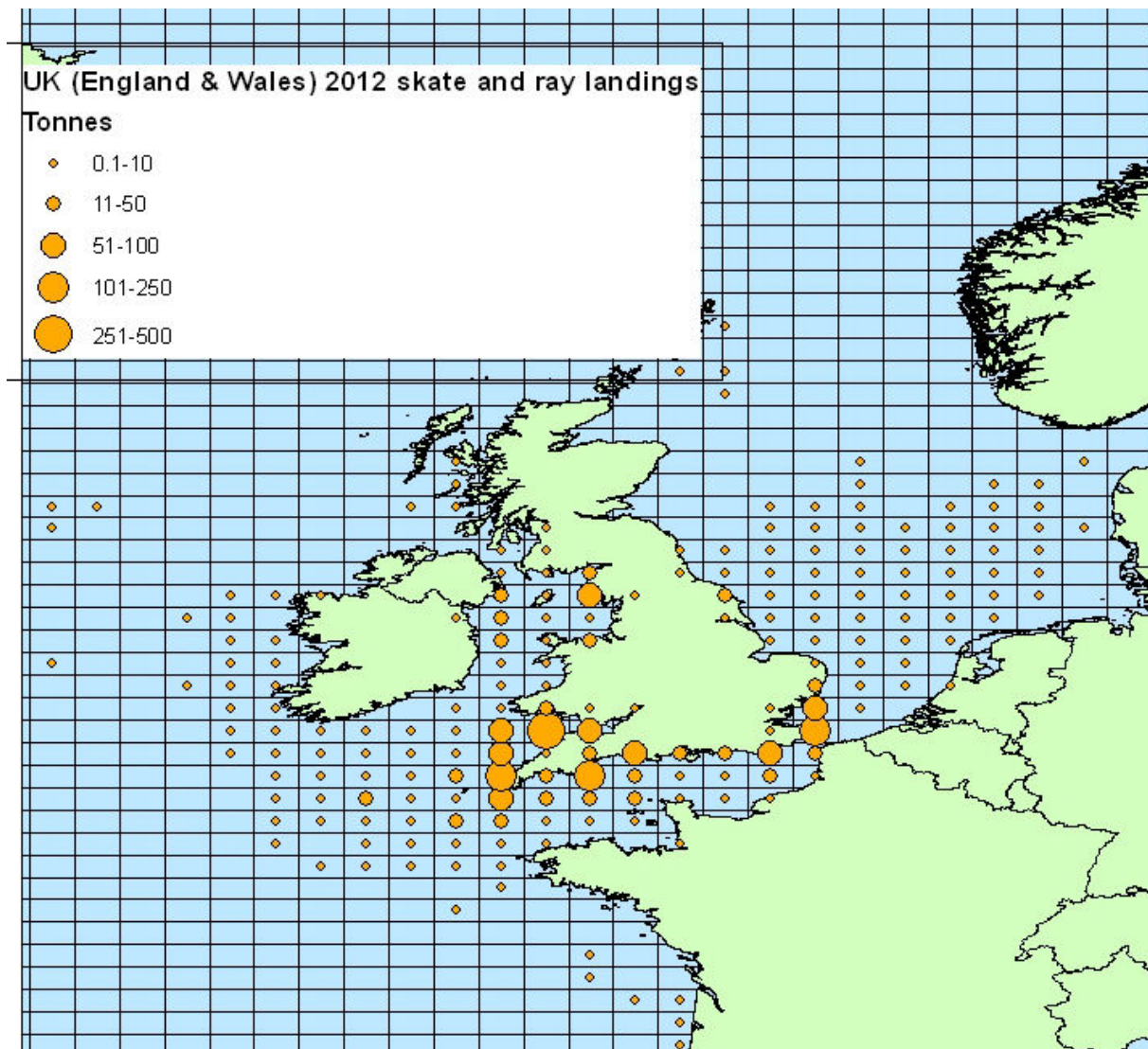


Figure 11.2.1.3.3 United Kingdom (England and Wales) landings of skates and rays in 2012, by ICES statistical rectangle. Source: Cefas.

France

French landings of skates and rays come from a wide area. Landings information is available from France by statistical rectangle (Figure 11.2.1.3.4; landings outside the ICES area not illustrated in the figure). All members of the orders Torpediniformes and Rajiformes are combined.

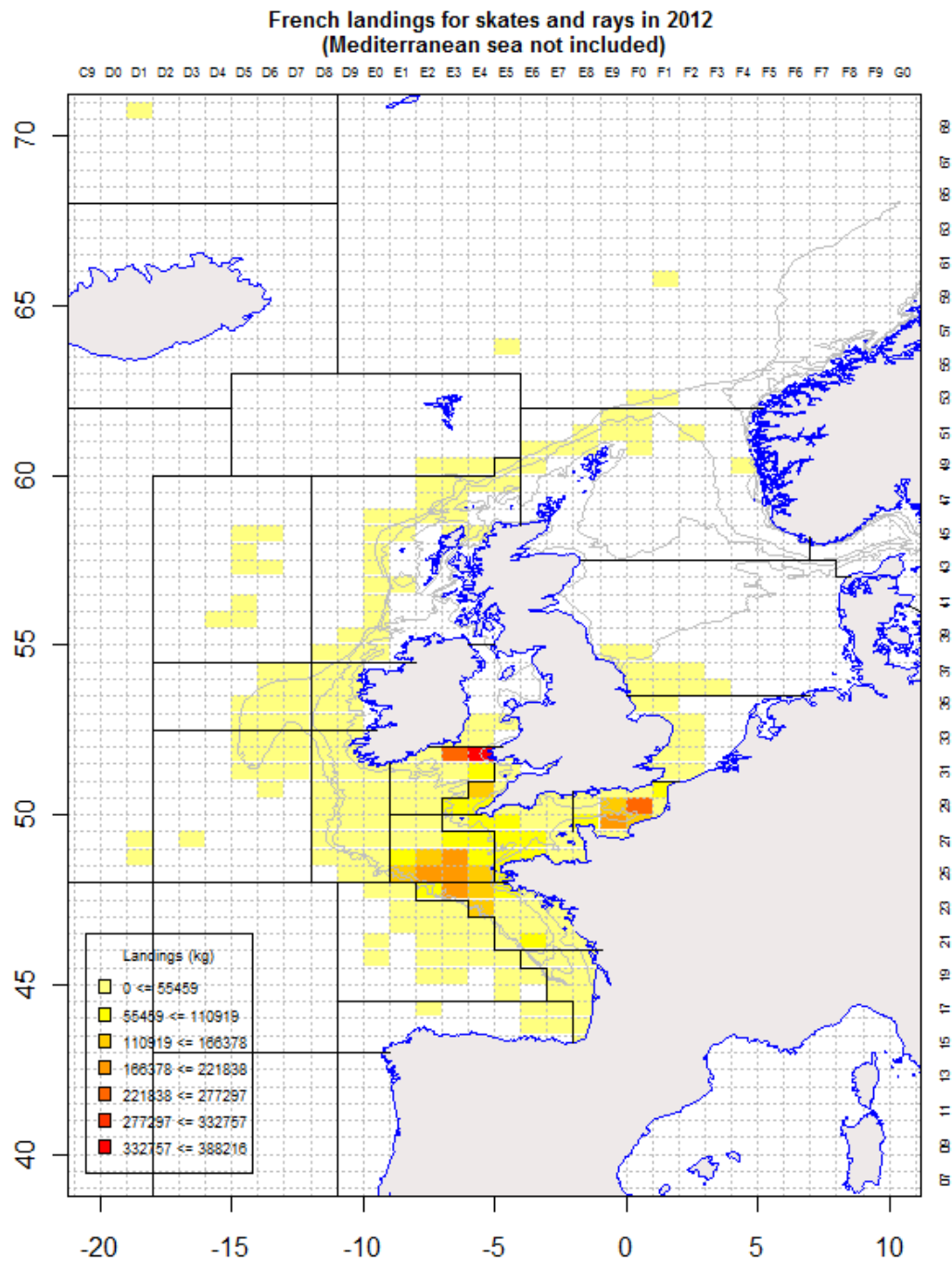


Figure 11.2.1.3.4 2012 French landings of rays and skates (kg) by ICES statistical rectangle. Source: Ifremer.

Spain (Basque country)

Spain (Basque country) landings and cpue are available by statistical rectangle. This illustrates that a fishery exists in the southern Bay of Biscay that is not obvious from the STECF data in Figure 11.2.1.3.5.

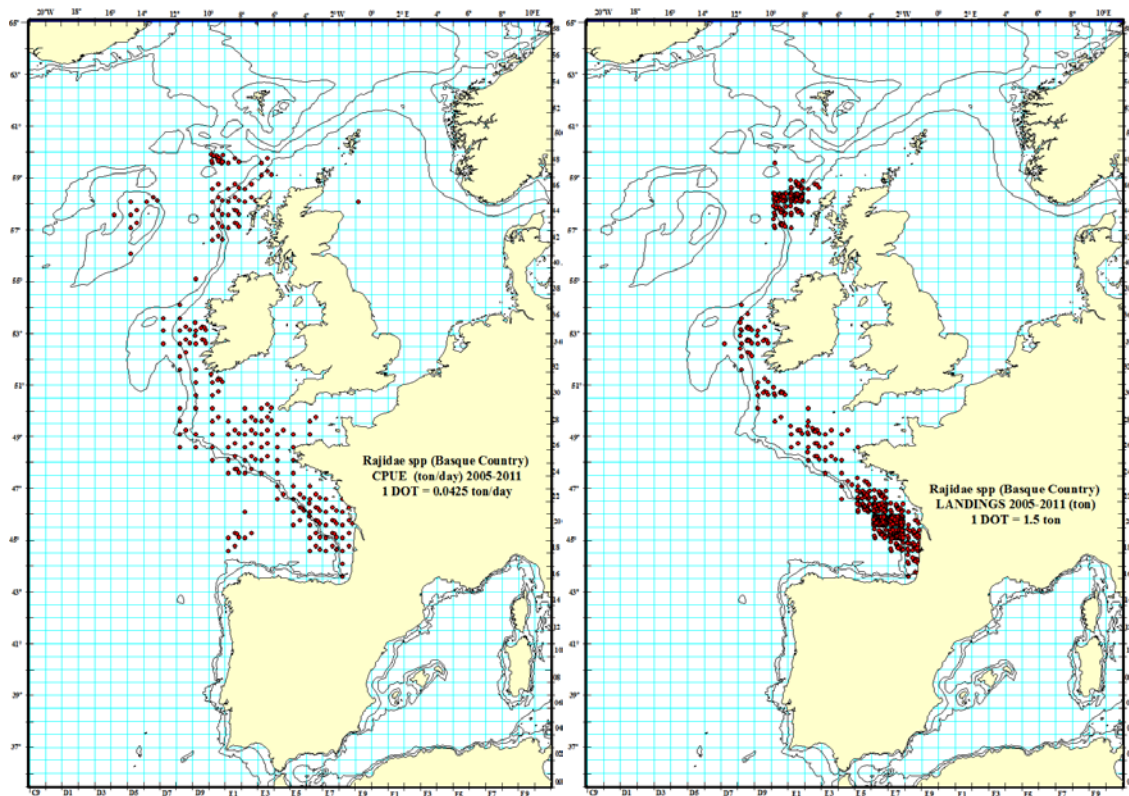


Figure 11.2.1.3.5 Cpue (tonnes/day) and landings (tonnes) of Spain (Basque Country), 2005–2011. Combined rays and skates by ICES statistical rectangle. Source AZTI.

Portugal

In Portuguese waters (ICES Division IXa) skates and rays are caught by vessels belonging to either polyvalent or trawl segments. However, the ICES rectangles do not give sufficient spatial resolution to provide appropriate spatial information on either landings or effort data, particularly for the polyvalent fleet, which includes small vessels that operate over very restricted areas. Furthermore, for some of the vessels in the polyvalent segment, particularly the smaller vessels, logbook use is not mandatory. To circumvent these deficiencies, the Portuguese Institute for the Sea and Atmosphere (IPMA) has carried out an EU Pilot project aimed at discriminating the landings by species and obtaining information on the fishing grounds of vessels that land skates and rays.

Vessels belonging to the polyvalent segment can use several fishing gears and operate on different fishing grounds. Based on information on fishing grounds and fishing effort gathered up to now by the EU Pilot project, maps were constructed in which the total landings of skates and rays are assigned to the centroid of the fishing areas.

In Figure 11.2.1.3.6 the centroid for trawl was calculated using the spatial information contained in the logbooks and the sampling units correspond to the ICES rectangles. The total landed weight was also determined based on information gathered by the EU Pilot project and the maps were constructed by assigning the total landings to the centroids.

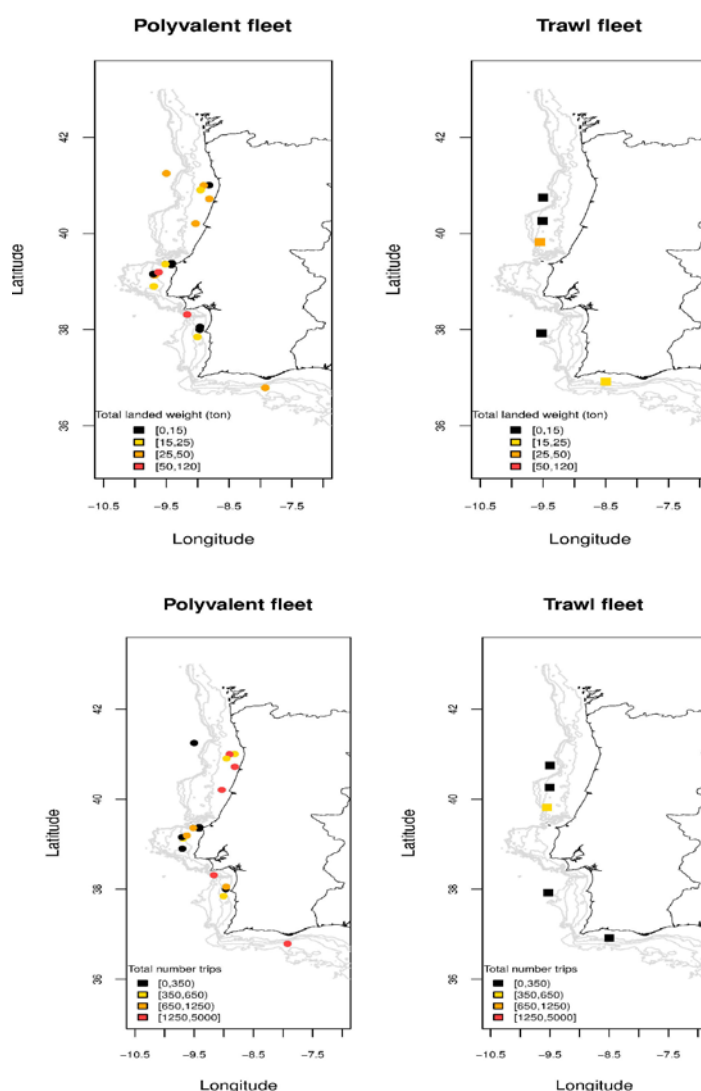


Figure 11.2.1.3.6 Landings (tonnes) and number of trips by Portuguese polyvalent and trawl fisheries for skates and rays, 2012 pilot programme. Source: IPMA.

Conclusions on fisheries (question 2 of request, Annex 2) and sources needed to provide advice (question 1 of request, Annex 2):

Figures 11.2.1.3.1–11.2.1.3.6 confirm that the main skate and ray fisheries take place in the Irish Sea, the eastern Celtic Sea (Divisions VIIe–g), the southern Bay of Biscay, the Iberian coast, and the English Channel/southern North Sea. Smaller fisheries take place elsewhere, but cannot be distinguished at the spatial resolution of the ICES rectangle.

Landings data are not generally available at a spatial resolution finer than the ICES statistical rectangle. For vessels larger than 12 metres, VMS data can be used to increase resolution, but collated international data are not always available to ICES or national laboratories. Access to VMS data would facilitate the increased resolution required to better define fishing grounds for rays and skates. For smaller vessels, alternative approaches would need to be implemented. Small vessels may have important fisheries on those skate and ray species that occur in coastal waters.

The European Commission or STECF may be able to provide VMS data that are not readily available to all national laboratories.

Species-specific data

There has been great progress in recent years in the provision of species-specific landings data for skates and rays caught in the ICES area. These data are generally available by month, gear, and ICES rectangle. As such, more detailed delineation of the skate complex taken in fisheries in various parts of northern Europe is now available. Such data, however, are at too coarse a resolution along parts of the Atlantic seaboard, where a single ICES rectangle can cover a broad bathymetric range and very different fishing grounds that cannot be articulated at this resolution.

Data that are more site-specific are also available from other sources for some areas, ranging from discard/observer programmes, research vessel surveys, and scientific projects conducted in conjunction with local fishing industries. Some additional data that could inform management (e.g. sex ratio, size composition, location of nursery grounds and spawning grounds) are also available for some areas, or could be collected in regional studies. Regional studies are likely to require additional funding outside the existing Data Collection Framework (DCF) or the future Operational Programme of the Seafood Development Plan.

Recommendations

- Finer-scale, spatially and temporally explicit data, including effort, gear, catch, landings, etc. should be made available to ICES.
- ICES recommends that any future plans for scientific and management studies continue to have stakeholder input and consensus, especially to discuss and evaluate the viability of potential measures and subsequent uptake of and compliance with any measures.
- Any spatial/temporal closures or alternative measures also require a monitoring component to review the effectiveness of the measures over an appropriate time-frame.
- More regional management of skate fisheries should be considered, given the reform in the Common Fisheries Policy. This will allow more tailor-made advice/management that takes better account of contrasting life histories and local abundances of the constituent skate species over a more appropriate spatial resolution.
- ICES could convene a series of regional workshops to better develop management for skates at an individual species- and/or genus-level. Such workshops, with good participation from the fishing industry and scientists, could act as a suitable forum to provide a common perspective on the regional skate assemblage, description of the fisheries, and to identify data needs and potential management options.
- Given that the distribution and structure of skate assemblages in northern European seas is not considered to be ideally represented by ICES ecoregion or division, and that some species may straddle multiple regions, potential regional workshops could address the Atlantic European waters within e.g.:
 - (i) Central and northern North Sea and northwest of Scotland (Subarea VI and Divisions IVa–b),
 - (ii) Southern North Sea and Eastern Channel (Divisions VIId and IVc),
 - (iii) Western Channel (Division VIIe),
 - (iv) Irish Sea (Division VIIa),
 - (v) Bristol Channel and northern Celtic Sea (Divisions VIIf–g),
 - (vi) Southern Celtic Sea and west of Ireland (Divisions VIIf–g),
 - (vii) Bay of Biscay (Divisions VIIa,b),
 - (viii) Cantabrian Sea (Division VIIc), and
 - (ix) Iberian waters (Division IXa).

- An initial ICES workshop should be convened as a trial for one area and, depending on the success of the workshop, subsequent workshops could be conducted by ICES in order to answer the EC request in full.

ICES suggests that one of the following areas be chosen for an initial workshop:

1. **Divisions IVbc and VIIId (Southern North Sea and Eastern Channel)**

This area has a UK fishery that mainly catches two species of ray (thornback and blonde ray), with low numbers of three or more other species. Dutch fisheries also catch significant numbers of spotted ray in the area. Data are only required from a limited number of nations, namely France, the Netherlands, and England to facilitate this work. The region is quite well-studied, with greater amounts of data available than for other regions. Furthermore, with the exception of undulate ray in Division VIIId, there are no limited, severely depleted, or controversial stocks in the area.

2. **Division VIIe (Western Channel)**

Fisheries here catch a greater number of ray and skate species than in the southern North Sea. However, they are fished by only a very limited number of nations, mainly France, England, and the Channel Islands. This would simplify future management processes. That said, if fisheries for undulate ray in this area were to be resumed, further study of the fisheries and management measures would be needed. Currently, undulate ray is on the Prohibited Species List of the EU TAC regulations. This remains a controversial decision and would need to be revisited by any new management structure in the area.

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ICES request form

Request from (organisation)	European Union (European Commission, DG MARE, Unit C2)
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Request announced	21 May 2013
Request received	21 May 2013
Answer deadline client	31 July 2013
Request code (client)	
Request code (ICES)	
Request	<p>Opinion on exploring management measures other than TACs for skates and rays.</p> <p>Background</p> <p>Fisheries on skates and rays are currently managed under a common TAC, although this complex comprises species that may have different vulnerabilities to exploitation. TAC advice is based on the status of the main commercial species.</p> <p>Demersal elasmobranchs are caught in mixed target and non-target fisheries. TACs alone, therefore, may not adequately protect these species as restrictive TACs may lead to high discarding.</p> <p>At present, fisheries on rays and skates are managed by means of a generic, multi-species TAC, along with prohibitions and certain extra obligations for severely depleted species.</p> <p>On the basis of the explained above, ICES is asked to provide advice on:</p> <ul style="list-style-type: none"> Exploring alternative and/or complementary management measures such as closed areas/seasons or effort restrictions which may better protect demersal elasmobranchs. <p>In particular ICES is asked to comment on the functioning of the current voluntary closure in the Irish Sea and provide any recommendations on its operation.</p>
Planning ICES	
Request (budget) accepted	Date:
ICES contact person Name/ Email/ Telephone	
WG(s) involved	
Preparation timing	
Review group	
Advice drafting group	
ACOM Webex	
Release date	

Grey cells to be filled in by ICES

Annex 2

Special request from the European Commission, part 2 (September 2013)

Received in mail from EU on 3 September 2013:

“In view of the generic approach of the draft reply, we would welcome a complement of that advice, as clarified informally by the end of July by phone (Graham Johnston from the Marine institute), with a more detailed analysis specifically built in the following two directions:

- 1) Which are the main sources (data and others) needed to provide such an advice (alternative measures others than TACs for managing these stocks).*
- 2) What is the state of knowledge of all those fisheries catching skates and rays, including a map of the more recent fishing activities, to the extent possible.”*