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Putting electric fishing to the test against the precautionary approach and the ecosystem approach[1]

by

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Introduction

Three years ago, we turned our attention to electric fishing carried out by Dutch fishermen in accordance with a derogation from Article 31 of EU Regulation 850/98 on technical measures in fisheries[3], an Article which strictly prohibits this fishing technique. Initially, it was mainly out of curiosity to understand the reasons for the controversy that was swelling at that time over this technique. As we had noted in the paper, we had written on the issue at the beginning of 2018[4], our attention had been attracted at the time by an article in the newspaper *Le Marin* of August 17, 2017, which had reported on the lack of transparency in the procedure which had led to this exemption[5]. What had prompted this journalist's remarks when the applicable procedures within the EU are well defined? Were these throw away comments to draw in the reader? What really lay behind them?

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[2] Advice available on the STECF website https://stecf.jrc.ec.europa.eu/reports/plenary , *Plenary meeting November 2006*, pp. 58-59.

[3] Council Regulation (EC) No 850/98 of 30 March 1998 for the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms, regulation commonly known as the 'technical measures' regulation.

[4] *Case Study on Dysfunctions of the European Union: The Example of Electric Pulse Fishing* published on this website as Working Paper 2018/3.

[5] ''*Son autorisation s'est faite en toute discrétion, expédiée comme une lettre à la poste, sans débat. Sans même figurer au menu de Bruxelles, la veille d'un réveillon de Noël, au terme de l'annuel marathon entre les ministres européens de la pêche où se discutaient les quotas pour 2007*'' (Le Marin, August 17, 2017, p. 17).

We then went "fishing" along the thread of the procedure that had been followed. While we can't certainly speak of a stunning catch, what we found was, to say the least, surprising. We discovered a set of facts which showed that the circumstances under which this fishing technique had initially been authorized, in 2007, and this authorization extended year on year before being incorporated into Regulation 850/98 in 2013 were questionable. We will begin by reviewing the facts (**§ I**). We will then consider the opinions on this fishing technique issued by the Scientific, Technical and Economic Committee for Fisheries (STECF) and the International Council for the Exploration of the Sea (ICES) since 2006 (**§ II**). In a third part, we will cast a critical eye on how compatible this technique is with the precautionary approach and the ecosystem approach, two essential bases of the common fisheries policy (CFP) (**§ III**).

I. The procedure followed to authorize electric fishing

This authorization was originally granted in a context wherein the use of electric current in fishing was strictly prohibited under Regulation 850/98, as was the use of explosives, poisons or stupefying substances[6].

We summarize below the main steps to the process:

1. This technique was first authorized by Council Regulation 41/2007 on fishing opportunities and associated conditions for 2007[7]. It appeared therein in Annex III entitled "*Transitional technical and control measures*", in paragraph 4 "*Electric fishing in ICES zones IVc and IVb*", these zones being located in the North Sea (from parallel 51° N in the south, i.e. at Gravelines level in France, to a broken line in the north ranging from 55° N on the east coast of the United Kingdom to 56 ° N on the west coast of Denmark).

It was stated therein that, by way of a derogation from the provisions of Article 31 (1), the practice of fishing using a beam trawl and associated with the use of electrical pulse current was authorized in zones IVc and IVb for a maximum of 5% of the beam trawler fleet of each Member State, which mainly concerned the Netherlands where beam trawling is widely practiced and, to a limited extent, Belgium and Germany. This paragraph was supplemented by technical conditions to be respected (maximum electrical power, maximum voltage between the electrodes, obligation to equip the vessel with an automatic computer management system recording these technical data).

One remains skeptical about the fact that electric fishing had been incorporated into Regulation No. 41/2007 on fishing opportunities in an annex entitled "*Transitional technical and control measures*" and can thus be identified as a measure of this kind. According to the purpose of this regulation, these measures are in theory conditions associated with catch or fishing effort limitations. How can a derogation authorizing electric fishing be linked to catch limitations, knowing that the use of this technique was considered because the traditional beam trawl was no longer profitable and that the use of electrical pulse current would allow it to become so again[8]? From the outset, this was already somehow contradictory.

[6]Article 31, Regulation 850/98: "*UNCONVENTONIAL FISHING METHODS: 1. The catching of marine organisms using methods incorporating the use of explosives, poisonous or stupefying substances or electric current shall be prohibited*".

[7] Council Regulation (EC) No 41/2006 of 21 December 2006 fixing for 2007 the fishing opportunities and associated conditions for certain fish stocks and groups of fish stocks, applicable in Community waters and, for Community vessels, in waters where catch limitations are required, OJ L15, 20.1.2007

[8] See below, § III, (2) (a).

On the other hand, recital 28 of this regulation indicates concisely that it is, "*in the light of advice of STECF[9]",* [that] *"fishing with beam trawl using electrical pulse current should be allowed in ICES zones IVc and IVb south under certain conditions*". When reading this recital, one would expect to read a positive assessment of this technique in the advice in question. Although STECF does say that research on this technique should not be stopped, it concludes by stating that various issues need to be resolved before any derogation can be granted. The advice is clear: Yes to research but no waiver before clarifying the outstanding questions[10].

2. Paragraph 4 of Annex III to Regulation 41/2007 was then reproduced word for word in the regulations on fishing opportunities for the years 2008 and 2009 (Regulations 40/2008 and 43/2009).

3. The Treaty of Lisbon, which entered into force on December 1, 2009, changed the legal framework in which fishing opportunities were set every year fixed and allocated among the Member States.

While the setting and allocation of fishing opportunities had, before the entry into force of this Treaty, been a device providing for the implementation of Article 20 of Regulation 2371/2002, which was the basic regulation on the common fisheries policy (CFP) in force at that time, it had become a measure whose adoption was attributed directly to the Council by the TFEU (article 43, 3°).

This does not alter the regulatory nature of this setting and allocation process. Before the Lisbon Treaty, the Council was the sole legislator in the fisheries domain, the EP only issuing opinions (Article 252 TEC), the Council having thus granted itself, through the CFP basic regulation, the power to set and allocate these fishing opportunities.

Under the Lisbon Treaty, in accordance with paragraph 2 of Article 43 TFEU, the Council and the EP became co-legislators. In this new legal framework, paragraph 3 of the same TFEU article states that the Council retains competency for these setting and allocation tasks ("*The Council, on a proposal from the Commission, shall adopt measures on (...), and on the fixing and allocation of fishing opportunities*"). This power of the Council is regulatory in nature, which was recently recognized by all the parties in a case which was referred to the Court of Justice of the European Union (CJEU) for a preliminary ruling[11].

There was, however, an important difference introduced by the Treaty of Lisbon with regard to the scope of the Council's regulatory power. Whereas, under the basic regulation of the CFP, the Council had, in addition to the fixing and allocation of fishing opportunities, granted itself the power to adopt the "*conditions associated with those limits*", this power was taken away under the Lisbon Treaty.

It thus became impossible to extend, through the annual regulation on fishing opportunities, as had been the case until then, the conditions set under the heading "*transitional technical and control measures*" by assimilating them to conditions associated with fishing opportunities. The derogation from the ban on electric fishing could therefore not be included in the regulation on fishing opportunities for 2010.

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[9] The Scientific, Technical and Economic Committee for Fisheries was originally established by decision 79/572 of 8 June 1979. In 2006, it came under decision 2005/629 of 25 August 2005 and is currently under decision 2016/C 74/05 published in OJEU C 74/2016.

[10] "*STECF concludes that although the development of this technology should not be halted, there are a number of issues that need to be resolved before any derogation can be granted"*

[11] Case C-251/18, *International Forum for Sustainable Underwater Activities*, judgment of 10 March 2020, paragraph 33.

4. To extend these measures, the Council, as legislator, then on 27 November 2009, four days before the entry into force of the Treaty of Lisbon, adopted Regulation 1288/2009[12]. It was with the adoption of this regulation that a true legal sleight of hand occurred.

According to its preamble, this regulation was adopted for reasons of legal certainty because the one intended to replace Regulation 850/98 on technical measures could not be adopted before 1 December 2009, date of entry into force of the Lisbon Treaty[13]. Indeed, on 4 June 2008, the Commission had in fact adopted on 4 June 2008 a proposal for a Council regulation intended to replace Regulation 850/98[14] but, considering the state of play of the interinstitutional discussions, this proposal could not be adopted before that date.

The content of this proposal surreptitiously changed in the course of 2009. The original content of the proposal, which was effectively intended to replace Regulation 850/98, had completely disappeared and had been replaced by a single article extending until June 30, 2011 the "*transitional technical measures*" contained in Regulation 43/2009 on fishing opportunities and associated conditions. Thus, through this regulation of the Council, acting as legislator, these measures, which were until then in theory conditions associated with the fixing and allocation of fishing opportunities and were of a regulatory nature, suddenly acquired legislative status.

Consequently, the content of these measures remained the same but, through this sleight of hand presented as a necessity for reasons of legal certainty, their status changed. From measures associated with fishing opportunities and adopted by a regulatory act, they acquired that of technical measures in the same way as the technical measures contained in Regulation 850/98 adopted through the legislative procedure.

5. The ending for Regulation 1288/2009, which had been set for June 30, 2011, was subsequently extended to December 31, 2012 by Regulation 579/2011 of the EP and the Council, these two institutions acting as co-legislators.

6. The next step was the formal integration of these derogating measures into Regulation 850/98 by Regulation 227/2013 of the EP and the Council of March 13, 2013 applicable retroactively from January 1, 2013.

The restriction of the use of the pulse trawl to 5% of the beam trawler fleet of each Member State, as originally enacted in Regulation 41/2007 and reproduced in the successive regulations which extended this derogation, is identically formulated as it stands in Regulation 850/98 itself.

7. A new proposal for a regulation replacing Regulation 850/98 was tabled by the Commission on 11 March 2016[15]. The use of electrical pulse current was included in part E of annex V of this future regulation, the said part E being entitled "*Innovative fishing methods*". Notwithstanding the plural of the title, only one method appeared, that of "*fishing with an electric pulse trawl* ".

In this proposal, the use of this technique was no longer limited to 5% of the beam trawler fleet. The area where this technique could be used was, according to this part E of Annex V, the same as that previously authorized (the North Sea); at first sight, it was therefore not intended to be used elsewhere.

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[12] Council Regulation (EC) No 1288/2009 of 27 November 2009 establishing transitional technical measures from 1 January 2010 to 30 June 2011, OJ L 347, 24.12.2009

[13] See in particular recitals 2, 3 and 4 of Regulation 1288/2009. The regulation which has replaced Regulation 850/98 was effectively adopted only in 2019 (Regulation 2019/1241).

[14] Proposal for a Council Regulation concerning the conservation of fisheries resources through technical measures, COM (2008) 324. This proposal expressly mentioned, at its article 24, that Regulation 850/98 was repealed.

[15] Proposal for a regulation of the European Parliament and the Council on the conservation of fishery resources and the protection of marine ecosystems through technical measures, COM (2016) 134.

However, it was expressly cited in draft article 24, entitled "*Innovative fishing gears*", as the only example of an innovative fishing method whose use could be extended to other regions in accordance with the procedure provided for in Article 19 (*i.e.* by decision of the Commission on the basis of a recommendation of the Member States concerned). No region was excluded from this possibility of extension[16].

The debates in the European Parliament were intense. On January 16, 2018, the European Parliament voted by a large majority (402 votes for, 232 against and 40 abstentions) to adopt various amendments to the Commission proposal, thereby in effect banning electric fishing from the date of entry into force of the new regulation. This regulation, which bears the number 2019/1241, was finally adopted on 20 June 2019 following a compromise setting the final ban on this fishing technique on 1 July 2021. The relevant provisions on this ban are to be found in part D of annex V. They state there that this technique will be prohibited in all EU waters from that date and, during the transitional period, it can be carried out under the conditions in which it had been regulated until then, that is, for 5% of the beam trawler fleet of each Member State.

8. The Netherlands lodged an appeal against the European Parliament and the Council on October 4, 2019, seeking the annulment of this regulation as regards the provisions for the use of the electric trawl, both those restricting this fishing technique during the transitional period until June 30, 2021 and those prohibiting its use from July 1, 2021 (Case C-733/19[17]).

At the time of writing this article, the proceedings before the CJEU are pending. The case is therefore not over.

II. Contents of the scientific advice issued with regard to this fishing gear

We have made this lengthy reminder of the procedure followed to authorize electric fishing to clearly show that, until its inclusion into Regulation 850/98 on January 1, 2013 by amending regulation 227/2013, this was possible only through a very broad interpretation of the concept of measures associated with fishing opportunities. Moreover, this derogation was extended when the Lisbon Treaty entered into force only thanks to a legal artifice. The legality of this authorization in relation to the Treaty (TEC until November 30, 2009 and then TFEU) and to the basic CFP regulation was not challenged before the CJEU but, if this had been the case, solid arguments could have been put forward to do so[18].

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[16] According to Article 19 of the Commission proposal, the regions for which recommendations could be made were: North Sea, North Western Waters, South Western Waters, Baltic Sea, Mediterranean, Black Sea, Outermost Regions.

[17] OJ C 423 of 16 December 2019, p. 28.

[18] Let us recall here the difficulty for individuals (natural or legal persons) to challenge the acts of the EU institutions. The conditions for doing so are very draconian, even if they have been slightly softened by the Lisbon Treaty. Previously, a person was only admissible to lodge an appeal if he was "directly and individually concerned", an expression which the CJEU has always had a very strict interpretation (cf. for example *Jégo-Quéré* C-263/02 P). Now it is possible to lodge an appeal against regulatory acts which do not include an implementing measure and which directly concern the applicant. Thus, recently, a non-profit association active in the field of underwater activities and recreational sea fishing was considered admissible by the CJEU to lodge action for annulment against a provision of the annual regulation on fishing opportunities, a provision prohibiting recreational fishing for seabass when it is not followed by release (cf. case T-251/18 mentioned *supra* note 10). In contrast, a request lodged by an association or union of commercial fishermen to lodge action for annulment of the fishing opportunities fixed by the Council is still not admissible because these are then allocated among the fishermen at national level by an implementing measure to be adopted by the Member State concerned (Case T-153/16, *Acerga v. Council*, order of 10 February 2017); if fishermen or their association or union wish to contest the fixing of these fishing possibilities, they must bring action against the national implementing measure and it is then by means of a request for preliminary ruling that the national court seized can ask the CJEU to rule on the validity of the EU act in question (article 267 TFEU); see also on this question of admissibility, case C-204/18 P, *Pebagua v. Commission*, judgment of 16 May 2019, observations L. Coutron in RTD Eur. 2020, p. 242.

Considering the unfavourable advice issued in 2006 by the STECF before the granting of any derogation and noting that the Council, following the Commission's proposal, ignored this advice, one might have expected that, from a scientific point of view, considerable efforts would have swiftly been made to remove the existing doubts with regard to this technique and thus to demonstrate the interest of its use. This is what was in any event required by Article 2 of Regulation 2371/2002 which stated that the CFP was guided by the principles of good governance, including, among others, that according to which "*the decision-making process is based on sound scientific advice*". This principle is now set out in Article 3 of Regulation 1380/2013 under a slightly different wording where it is said that, among these principles of good governance, there is that of "*the establishment of measures in accordance with the best available scientific advice*".

But, as we will see it, the set of scientific advices issued rather gives the impression that this has not been so.

1. The 2006 Scientific and Technical Committee for Marine Fisheries (STECF) advice[19]

As already mentioned above, the advice of this Committee was not favourable to the deployment of this fishing technique.

While STECF does observe that there has been a decrease in fuel consumption compared to the traditional beam trawl, there are still a number of unknowns about the impacts of this trawl on the environment. A major concern for STECF is the potential impact of this technique on vertebrates with the risk of spinal injury. Also, details should be provided on the voltage used. The Committee notes that the information provided by the Commission does not allow it to issue an opinion on a possible derogation to the use of this fishing method.

In giving its advice, STECF relied in particular on the advice issued shortly before by ICES. In particular, ICES had concluded that it was unable to draw definitive conclusions owing to the ambiguous nature of the data communicated to ICES. Despite this, it rightly noted the fact that the cod suffered spinal injuries and that the electric trawl could inflict increased mortality on the fish which had been in contact with this fishing gear, whether they be targeted or non-targeted species.

2. The ICES advice of 2009[20]

According to this advice, delivered at the request of the Netherlands, a Dutch scientific institute (IMARES, University of Wageningen) had studied the effects of the electric pulse trawl over the period 2007-2009 with a view to filling gaps in the knowledge of the impact of this gear by carrying out tank experiments on elasmobranchs, invertebrates and cod. These tests gave rise to three reports which were reviewed by a panel of experts.

A number of observations were made by the experts:
- The impact on benthic invertebrates is low, and probably lower compared to the impacts of a traditional beam trawl; however, there are doubts as to the influence of pulse stimulus on the reproductive system of these species.
- In its summary, ICES indicates that the experiments carried out on elasmobranchs show a limited impact on these species; the experts noted, however, that these species have a highly sensitive electro-receptive system and that specific tests should be carried out to demonstrate that this system still functions properly when exposed to a strong electric field.
- This technique has harmful outcomes on cod due to the injuries inflicted.

[19] Advice available on the STECF website https://stecf.jrc.ec.europa.eu/reports/plenary , *Plenary meeting November 2006*, pp. 58-59.
[20] ICES Advice, Book 1, § 1.5.6.3

- The tests were carried out under conditions different from fishing conditions, using nominal value in the setting of for pulse properties, whereas an impact assessment should consider the worst case scenario; thus, only two pairs of electrodes were used when in reality, on the fishing gear, there are six pairs; furthermore, during the tests the exposure consisted of four pulses which were emitted on average over a period of three minutes, whereas *in situ* a fish can be subjected to six pulses in only two seconds.

Beyond these scientific and technical observations, ICES observes that, for reasons related to "*commercial confidentiality*", detailed data on the pulse frequency, the pulse shape, duration, voltage used, are not widely available, preventing a review of the potential impact of this gear on affected species. This comment raises questions. Here is a State which submits a request to ICES, wishing most certainly to get a favourable opinion in return. But this State was not able to provide all the data that would have been useful for ICES to issue such an advice in full knowledge of the facts, even though these data are part of the experiments carried out by a research organization under the said State's control! How is this possible? Is it because this research was also financed by private funds and the related data are considered as private data and the private parties involved in the study refuse to give their consent to disclosure[21]? This can only raise doubts about the neutrality and fairness of the study.

3. The STECF advice of 2012[22]

Again, following a request from the Netherlands, to STECF this time, asking it to provide advice on whether the questions raised by ICES in 2006 and 2009 on the impacts of this technique on the ecosystem had been taken into account and had led to an adequate response.

In its observations, while acknowledging the research work done, especially with laboratory tests showing that the impacts of the electric trawl on elasmobranchs and benthic invertebrate species are minimal, STECF estimated that various issues relating to the control of the use of this fishing gear should be resolved before any extension of its utilization beyond the 5% of the number of beam trawlers. It also recommended that, before extending the fishing zone where it could be used, an impact assessment on the impacts of this technique on the ecosystem be carried out, in particular when some species had not been taken into account in previous studies.

In addition, STECF noted variable differences in the effectiveness of the electric trawl. With high voltage, catches of marketable species can be over 50% higher than those from conventional trawls. In contrast, in more recent tests with reduced voltage, the catch effectiveness was significantly less.

4. The ICES advice of 2016[23]

This advice was issued at the request of France. As before, ICES was far from giving a green light to the use of this technique. It considered that some questions still remained unanswered and should be resolved before allowing an extension of this type of fishing technique. Such an extension would now be contrary to the precautionary approach[24].

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[21] This assumption on our part is not incidental. The ICES commentary reminds us of a contentious case involving precisely the University of Wageningen. Another of its departments had refused to communicate to a journalist the information exchanged by researchers with agrochemical companies (Bayer, Monsanto). This journalist asked the court to annul this refusal, but his request was rejected on the grounds that the research in question was partly financed by private funds (Rechtbank Midden-Nederland, Utrecht, UTR 18/2854, *VJ Harmsen v. Wageningen University*, judgment of March 13, 2019).

[22] 39th Plenary meeting Report – April 2012, pp. 71-74

[23] ICES Advice 2016, Book 1, § 1.6.7.1

[24] ICES noted on this occasion that 84 licenses were issued for the exercise of this fishery, which is well above the percentage of 5% of the fishing trawler fleet, as authorized by the EU regulation: "*ICES observes (ICES, 2016) that 84 licenses have now been issued to use pulse trawl in the Netherlands for scientific research and data collection purposes. This is well in excess of the 5% limit included in the original legislation (EU, 2007). The increases in the number of licenses issued were agreed at EU level in 2010 and 2014 (Haasnoot et al.,*

ICES notes that the development of a set of technical specifications in the form of applicable rules is still in progress. There have undeniably been technological developments, but some operational questions remain unresolved, such as the setting of essential characteristics in the case of the pulse system in order to determine thresholds compatible with the environment. Other questions also remain unresolved, such as those on delayed mortality and the long-term effects of the electric trawl, whether it be for species targeted by the fishery or not. Also not clarified is whether the wounds observed on cod are limited to this species or whether this observation should be extended or not to all gadoids.

ICES recommends therefore identifying the key characteristics of the system in order to avoid any negative long-term impacts on marine organisms and benthic communities.

5. The ICES advice of 2018[25]

At the request of the Netherlands, ICES was asked to compare the environmental impacts of the electric trawl against those of the traditional beam trawl.

The aim was therefore not to answer, through this opinion, the questions which remained unanswered from the previous opinions but to make a comparative analysis on the effects of the electric trawl with regard to the traditional beam trawl.

For ICES, the impacts on the environment are fewer with the electric trawl. Injuries inflicted on the fish were fewer than with the traditional beam trawl. The impact on the structure and functioning of the benthic ecosystem is less. There are, for sure, injuries suffered by cod but this was negligible given the very low proportion of cod caught by the electric trawl.

ICES notes, however, that there is no information available on the impacts following exposure to electric current, whatever the species, during the first life stages and that no study had been undertaken on the impacts on reproduction. It also adds that there has been no study on the effects of electrical stimulation on invertebrates and that there is only limited experience on its impacts on fish behaviour, especially in the case of elasmobranchs. ICES seems to provide these details so as to draw the attention of the reader on the fact that such questions were not part of the advice request which was limited to the comparison between the electric trawl and the traditional beam trawl.

6. The ICES advice of 2020[26]

This advice, published on May 20, 2020, was also issued in response to a specific request from the Netherlands. ICES had been invited to provide advice on the potential contribution of the electric trawl to reducing or increasing the impacts of sole fishing in the North Sea on marine ecosystems, sensitive habitats and selectivity.

From its title, this application was apparently no longer presented as aiming to compare the effects of the electric trawl with those of the conventional beam trawl. However, in the paragraph entitled "*Elaboration of the advice*", it says the following: "*In response to this request, ICES evaluated the contribution of pulse trawling in the sole fishery to either reduce or increase the ecosystem/environmental impacts of the sole fishery in the North Sea by comparing it to conventional beam trawling with tickler chains or chain mats, which, prior to the changeover, was the dominant gear used to exploit the sole quota in the North Sea. The advice does not consider other gears such as*

2016). ICES has no basis to conclude whether this level is appropriate or not, although it would seem over and above levels that would normally be associated with scientific research"(paragraph 1, last paragraph). On this illegal extension, but nevertheless under the control of the Dutch authorities and with a passive, if not complicit, attitude of the Commission, see our article cited above note 3.

[25] ICES Advice 2018, sr.2018.08, https://doi.org/10.17895/ices.pub.4379

[26] Ices Advice 2020, sr.2020.03, https://doi.org/10.17895/ices.advice.6020

gill and trammel nets, which have smaller impacts on benthic ecosystems. This approach follows the comparison made by ICES in its previous advice on pulse fishing (ICES, 2018a)".

This advice therefore had the same objective as that of 2018, *i.e.* to compare the respective effects of the two types of trawl. It did not address the issues that remained unanswered in the 2016 advice.

There was no surprise in this new comparative study. ICES conclusions went in the same direction as they did in 2018. The impacts of the electric trawl on the environment are fewer than with the traditional beam trawl.

That said, the ICES advice was not a favourable assessment of the electric trawl as such but a comparison of the impacts of the two gears. When this advice deals with the long-term impacts of the electric trawl on marine organisms, on benthic fauna or on any other impact on the ecosystem, it is in comparison with the impacts of the traditional beam trawl.

7. General remarks on these advices

One can only be surprised that the Netherlands did not ask ICES to comment on the allegedly positive characteristics of the electric trawl, not only in relation to the beam trawl but in general. One can also only be surprised that they did not first ask their research institute, which has piloted or carried out all research operations on the issue, to apply a more comprehensive approach. This would have enabled them to lend credence to the position they have defended throughout all these years, from the first derogation in 2007 to the debates which led to the new Regulation 2019/1241. They would have been in a strong position, for example during the interinstitutional discussions for the adoption of this new regulation on technical measures, to put forward their point of view.

Or is it the case that the Netherlands is not convinced in its heart of hearts that this derogation from the general ban on electric fishing is without risk for the environment and that it could be approved given the current standards that prevail or tend to prevail in the management of fisheries resources. Indeed, what they sought to obtain was not the approval of this technique with regard to these standards but by comparison with the traditional beam trawl, whose strong impact on the seabed is known.

The Commission's position is also surprising. It had the opportunity of broadening the content of the Netherlands' request by talking with ICES so that an overall analysis going beyond a single comparison with the traditional beam trawl be made. This would suggest that the Commission, also, is not really convinced of the supposedly positive aspects of the electric trawl, but that it is having difficulty in shedding the very assertive position of support it has had up to now with regard to the Netherlands[27].

III. The precautionary approach, the ecosystem approach, and electric fishing

As indicated above (see introduction of paragraph II), the legality of the derogation from the general ban on electric fishing has not been challenged before the CJEU. Had this been the case, until the integration of this derogation into Regulation 850/98 by Regulation 227/2013, those contesting this legality would have had arguments to put forward given the somewhat unorthodox procedure which was used to grant this exemption and then extend it.

Substantive arguments could also have been put forward, arguments still valid today, and, indeed, even more so than ever. Indeed, little account has been taken in this file of either the precautionary approach or the ecosystem approach, even though these approaches have been among the essential standards of the CFP since January 1, 2003, the date of entry into force of Regulation 2371/2002, which has been the basic CFP regulation from that date.

[27] Cf. *supra* note 23.

1. The precautionary approach and the ecosystem approach

In its Article 2 entitled "*Objectives*", Regulation 2371/2002 stated that "*the CFP shall ensure exploitation of living aquatic resources that provides sustainable … conditions*" [and] "*for that purpose, the EU shall apply the precautionary approach*". This is defined later on, in Article 3 (i), for the domain of fisheries, as meaning that "*the absence of adequate scientific information should not be used as a reason for postponing or failing to take management measures to conserve target species, associated or dependent species and non-target species and their environment*".

Article 2 "*Objectives*" of the regulation currently in force (Regulation 1380/2013) similarly mentions the precautionary approach which is then defined in Article 4 in wording almost identical to that of Regulation 2371/2002. It only adds at the beginning of the definition that it is the precautionary approach as referred to in Article 6 of the 1995 United Nations Agreement on Straddling and Highly Migratory Stocks[28].

As for the ecosystem approach, Article 2 of Regulation 2371/2002 stated that the impacts of fishing on marine ecosystems should be taken into account; it said that the application of the precautionary approach was intended, among other things, "*to minimize the repercussions of fishing activities on marine ecosystems*" and that the CFP "*shall aim at a progressive implementation of an eco-system-based approach to fisheries management*". Later, Article 4 set out a list of measures to be taken for the purposes of the objectives of the CFP and this list included, in paragraph 2 (g), "*technical measures comprising:… iv) specific measures to reduce the impact of fishing activities on marine eco-systems and non-target species*".

In Regulation 1380/2013, it is noted in paragraph 3 of Article 2 "*Objectives*" that "*the CFP shall implement the ecosystem-based approach to fisheries management so as to ensure that negative impacts of fishing activities on the marine ecosystem are minimised*". Later, Article 4 (1), point 9, gives the following long definition: "*ecosystem approach to fisheries management means an integrated approach to managing fisheries within ecologically meaningful boundaries which seeks to manage the use of natural resources, taking account of fishing and other human activities, while preserving both the biological wealth and the biological processes necessary to safeguard the composition, structure and functioning of the habitats of the ecosystem affected, by taking into account the knowledge and uncertainties regarding biotic, abiotic and human components of ecosystems*"[29].

2. What about these approaches in the procedure for derogating from the general ban on electric fishing?

One cannot but notice that these approaches have largely been ignored on this issue:

- a) The reasons for this derogation

If we go back to the origin of this fishing technique, it is useful to provide the reasons which led the Dutch fleet to use it. A summary presentation was provided through two communications at a seminar

[28] The precautionary approach concept was developed within the framework of FAO from the precautionary principle and it was formalized and described in this United Nations agreement. It is generally agreed that the implementation of Principle 15 of the Rio Declaration of 1992 on the environment and development, which is at the origin of the precautionary principle, is done, for fishing, through the precautionary approach. See S.M. Garcia, *The precautionary approach to fisheries and its implication for fisheries research, technology and management: an updated review* in FAO Fisheries Technical Paper 350/2, *Precautionary approach to fisheries - Part 2: Scientific Paper*, 1996. See also N. de Sadeleer, *The precautionary approach in international and EU fisheries law*, published on this website as Working Paper 2020/3.

[29] The ecosystem approach concept was also developed within the framework of FAO. See *Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem,* October 2001, in *Report of this conference*, available at http://www.fao.org/3/y2198t/y2198t02.htm. See also S.M. Garcia et al., *The ecosystem approach to fisheries*, FAO Fisheries Technical Paper No. 443 (2003).

on energy savings in fishing held in May 2006 in Brussels by the Commission[30]. In one of them[31], the authors summarize the problem caused to the beam trawler fleet by rising fuel prices. Fuel consumption of beam trawlers and attendant fuel costs are high, up to 45% of the operating cost of the vessels (salaries represent 30% and other costs 25%). Hence, the question arises of changing fishing technique, either by using other types of trawls or by switching to passive fishing methods.

Another communication from this seminar dealt directly with the tests that were already being carried out at that time with the electric trawl[32]. The authors noted that the economic viability of the beam trawler fleet was in jeopardy and that the time had come to switch to a different fishing method in order to save fuel, by, for example, switching to gillnet or electric pulse trawl. They then report on research that had been carried out since the 1980s on electrical stimulation, specifying that it was in 1997 that the first prototype had been designed. There had even been a pilot test carried out over the 2005-2006 season on a commercial vessel and a request for the approval of this type of gear had been formally submitted to the EU in 2005. The authors conclude by indicating that the electric trawl could not yet be considered as a viable alternative and technical problems needed to be resolved before its introduction into the commercial fleet. However, they were convinced that this fishing gear had a future for part of the beam trawler fleet.

The use of the electric trawl was therefore considered as an alternative for the beam trawler fleet as it faced crucial problems of profitability. The issue was viewed only from an economic perspective. At no point, did any of the presentations made at this seminar mention the potential negative effects that the use of electric current could have on the ecosystem. No questions were raised as to the need to assess the potential impact on the ecosystem of this fishing technique which, hitherto, had been totally banned and, from there, on the need for precautionary measures if it was envisaged to authorize it. Yet, this was only a few months before the Commission adopted its proposal to the Council on the fishing opportunities regulation for 2007, which led to Regulation 41/2007 wherein the derogation on the electric trawl was included for the first time.

- b) The content of ICES reservations

Advice issued by STECF and ICES then followed. As we described it above (cf. § II), these sets of advice concluded every time with a list of items that should be studied or deepened so that a positive opinion can be issued with regard to this technique.

This is particularly clear in the 2016 advice in which ICES considers that the existing regulatory framework is insufficient to prevent the introduction of potentially damaging systems, that operational issues have not yet been resolved despite the technological developments brought to this fishing gear, that questions remain about its long-term effects, etc.

Here are some excerpts from the *Summary advice* of this 2016 advice:
« *1… ICES considers that the existing regulatory framework is not sufficient to prevent the introduction of potentially damaging systems.*
2. Technological developments have resulted in pulse trawl systems requiring less power (typically less than 1 kW per m gear width of beam length) and new trawl designs (SumWing, PulseWing) that reduce the pressure on the seabed. However, operational issues such as the determination of critical pulse characteristics (power, shape, frequency, etc.) to determine thresholds which ensure environmental sustainability, remain unresolved. ICES therefore advises to undertake structured experiments that are able to identify the key pulse characteristics and thresholds below which there is

[30] *Conference on energy efficiency in fisheries/Séminaire sur les économies d'énergie à la pêche*, Bruxelles 11-12 mai 2006.
[31] H. Polet, J. Depestele, H. Stouten et E. Vanderperren *Moving from beam trawls towards multi-rig ottertrawls – and further*, pp. 32-34.
[32] G. Van Balsfort et J.-P. Grandidier *Fuel saving expectations from experiments conducted on towed gears by French and Dutch fleet*, pp. 42-45.

no evidence of significant long-term negative impact on marine organisms and benthic communities. ICES also recommends that as part of the regulatory framework, information on the pulse parameters used during fishing operations is made available to the scientific community as this information is needed to conduct assessments of the ecological impact of the pulse fisheries.
3. Questions remain for target and non-target species regarding delayed mortality and long-term population effects as well as sub-lethal and reproductive effects of electric trawls. ….
4. ICES recommends that a research programme should be set up to address outstanding issues, including long-term and/or cumulative effects of flatfish and shrimp pulse trawling. ».

This advice shows that ICES expressed significant reservations before it could possibly give the green light to the electric trawl. To ignore these ICES reservations would be to disregard the ecosystem approach, which, it should be remembered, aims to "*ensure that the negative impacts of fishing activities on the marine ecosystem are minimized*".

Importantly, these reservations have not been lifted since, because, as we saw, the ICES advice of 2018 and 2020 aimed to compare the respective impacts on the ecosystem of the traditional beam trawl and the electric trawl. As these are not advices on the use of the electric pulse trawl as such, there is no alternative but to stick to the reservations expressed in 2016.

3. The IFREMER press release of June 14, 2018

IFREMER clearly recalled in a press release dated June 14, 2018[33], published shortly after the opinion issued by ICES in that year, that: "*This ICES advice was formulated in response to the specific question (see above). It is in no way an opinion on the use of the electric pulse trawl as such.*" We are not aware of subsequent IFREMER press releases published after the 2020 opinion; in any event, we do not see how it could have been different since, as we have shown above, although presented differently, this opinion also aimed to compare the respective impacts of the traditional beam trawl and the electric pulse trawl. The position set out by IFREMER in 2018 therefore remains entirely valid.

We can quote several passages[34] from this IFREMER press release:

- "*Among the lingering unknowns, remains the impact of medium-long term electrical impulses on critical phases of the life cycle of fish, in particular reproduction (sexual maturation, gametogenesis, etc.) and embryo-larval development (eggs and larvae)*".

- IFREMER goes on to say that "*These two phases of the life cycle are indeed crucial for the renewal of the population; however, even in the absence of precise knowledge, impacts at the scale of the entire population are currently assumed to be negligible by ICES*".

Thus, while completing its remarks, IFREMER issued a thinly veiled criticism of ICES since, although this was "*in the absence of precise knowledge*", the latter felt able to issue an advice wherein the impacts of the electrical impulses were "*assumed to be negligible*".

- IFREMER continues by noting that "*the question on the impact of successive discharges has only been dealt with indirectly through the low probability of repetitive occurrence assumed on the basis of a low percentage of surface swept several times. This question of successive discharges, however, needs to be analysed with a biological dimension, for the critical phases of the life cycle* ".

[33] IFREMER is the official French institute specializing in sea fisheries and as such, participates in the work of ICES. Press release available at https://wwz.ifremer.fr/content/download/118326/1599329/file/Décryptage+IFREMER+de+l%27avis+du+CIEM.pdf?version=1

[34] As there is no official English version of this press release, this is our own translation.

Here, too, IFREMER points to the weakness of the ICES position when it states that the impacts linked to repeated exposure to electric trawl nets are unlikely.

- IFREMER adds that "*the effects on benthic fauna, on the food web and more generally on the functioning of the ecosystem also remain to be studied. Only a few qualitative observations, which cannot be generalized, have been made*".

IFREMER notes here that various aspects on the possible impacts of the electric trawl still need to be studied.

- In order to recall the formal framework in which the ICES opinion fits, IFREMER states that "*the precautionary approach demands that we ensure that any activity on the environment must take place in a sustainable development perspective*".

- It concludes by saying that the "*caution recommendation* [issued by ICES in 2016] *should be considered as still valid*" and that "*participating in the work of ICES, IFREMER shares this vision of the precautionary approach*".

From this IFREMER position, it can be deduced that the effects of electric pulse trawl fishing activities on the ecosystem have not been sufficiently studied and that, in application of the precautionary approach, it was totally premature to authorize the exercise of this fishery.

Conclusion

It results from the various scientific sets of advice that correct application of both the precautionary approach and of the ecosystem approach, which are fundamental pillars of the CFP, would not allow for the authorization of this electric fishery in the North Sea through a derogation. This was the case in 2007 at the time of the first derogation and has remained so throughout the period since. This was also the case when the EP and the Council authorized, via the new Regulation 2019/1241 on technical measures, the continuation of this activity until June 30, 2021. And this would still be the same if one or more Member States wished to reopen this file now since, as we have seen, the ICES advice of 2018 and 2020 do not lift the reservations made in 2016.

Moreover, the exemption contained in Regulation 2019/1241 for the continuation of this activity until June 30, 2021 is supported by very weak motivation. The preamble to this derogation, after stating firmly in recital 11 that "*certain destructive fishing gear or methods which use explosives, poison, stupefying substances, electric current, pneumatic hammers or other percussive instruments, towed devices and grabs for harvesting red coral or other type of corals and coral-like species and certain spear-guns, should be prohibited*", adds in recital 12 that "*The use of electric pulse trawl should remain possible during a transitional period until 30 June 2021 and under certain strict conditions*".

It must be noted that the "*strict conditions*" mentioned, which appear in part D of Annex V of the regulation, are identical to those which were already prescribed in Regulation 41/2007. Thus, despite the remarks of ICES and STECF, and, despite the research carried out on the design of this fishing gear by its promoters, they have not been able to suggest characteristics that would have allowed for the removal of the reservations issued. In fact, we do not know on which grounds pulse trawling has been authorized until June 2021. We can certainly guess that these are political considerations, which have their own relevance, but this does not offer a legal justification in an EU governed by the rule of law.

It should be remembered that the Commission, as guardian of the treaties, has the duty to point out the content of the applicable law. In this case, it should highlight that conformity with the precautionary approach and with the ecosystem approach are part of the law applicable to fisheries. It should have done so at the time of the requests for advice to ICES, by drawing attention to the fact that a simple

comparison with the impacts on the ecosystem of a gear used for decades (the usual beam trawl) was not sufficient.

This is all the more essential when it comes to a method of fishing using electricity, the use of which is prohibited in the same way as explosives or toxic or stupefying substances[35]. It is contrary to the ecosystem approach to fisheries management to re-authorize such practices, used in the past but then rightly banned, without an in-depth study of their possible effects on the whole ecosystem and its elements.

As has been shown through ICES reports, it is far from certain that the use of the electric trawl has no impact on the ecosystem. The fact that the most recent requests for advice addressed to ICES relate to a comparison between two fishing gears indirectly suggests that a request for an opinion on the use of the electric pulse trawl *per se* had been deliberately avoided. It looks as if the authors of the request were concerned that they would get too negative a reply to support a possible authorization of this fishing gear.

Beyond its own particular aspects, this case on electric fishing may in fact be the symptom of a paradigm shift in fisheries management that the various stakeholders have not yet fully realized. It is no longer enough, as has been the case until now, to regulate, including in a very strict way, the conditions of use of a fishing gear. For a given fishery, it is first necessary to endeavour to know, by means of appropriate studies, what are the effects on the ecosystem of the various fishing gears used therein, and then, from there, to take the necessary measures to minimize the negative effects of fishing activities so as to protect the potentialities of the ecosystem in question.

It is significant in this regard that the new regulation on technical measures (Regulation 2019/1241) expressly contains twenty-two descriptive definitions of fishing gear (cf. Article 6, points 11 to 32), whereas a typology of this kind did not exist in Regulation 850/98. The implementation of the ecosystem approach now requires analysing the impact of these different fishing gears on the ecosystems where they are used. This cannot be limited to a recently developed new device, however more beneficial theoretically or purportedly it might be.

To take the example of sole fishing in the North Sea, the ecosystem approach involves going beyond a simple comparison between two particular gears. It involves analysing the impact of the various gears used for this fishery on the ecosystem of the North Sea. It is in that context that the simple comparison between the electric trawl and the traditional beam trawl is insufficient. This should include other fishing gear targeting sole. It is only in compliance with this requirement that it can be claimed that the ecosystem approach has been correctly implemented. Full application of the precautionary approach will only be effective if this condition is met.

[35] Let's make a comparison that may seem absurd at first glance. How would we accommodate, for example, the request from operators in the tuna seine fishery about using a stupefying substance which would have both a lethargic effect on tuna and repellent on dolphin? Knowing that the argument of selectivity has been advanced on various occasions to support the request for the derogation for the electric trawl, similarly, these tuna fishing operators could argue that the stupefying substance in question has a selective effect since it allows the dolphins to escape while the tunas are brought up quietly with the seine. Thus, following a line of reasoning similar to that held by the Netherlands and the Commission for electric fishing, should its use not be authorized ...