

# The management of fishing resources in Europe: between conflicts and agreements.

Gilles Lazuech

# ► To cite this version:

Gilles Lazuech. The management of fishing resources in Europe: between conflicts and agreements.. OCEANEXT, Jun 2016, Nantes, France. hal-02002243

# HAL Id: hal-02002243 https://nantes-universite.hal.science/hal-02002243

Submitted on 31 Jan 2019  $\,$ 

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés. Lazuech Gilles Université de Nantes UFR de Sociologie Centre Nantais de Sociologie (CENS) gilles.lazuech@univ-nantes.fr

#### The management of fishing resources in Europe: between conflicts and agreements.

#### Abstract

After being long regarded as free goods, fishing resources in European waters are now the object of specific managing devices aiming to the durability of the resources and economic activities depending on them. The following article tends to show that the management modes of these resources are the targets of several critics, even conflicts, between groups of stakeholders, which do not share the same idea of common good. In this regard, the Common Fisheries Policy (CFP) may be contemplated as a policy of compromise between sometimes-irreducible positions or proposals. The median position embodied by the CFP is nonetheless not always sufficient for the conflicts to get solved between the main stakeholders concerned, as the file related to high seas deep-water fisheries shows.

Key words: common good, European Fisheries Policy, exploitation/preservation of fishing resources

The management of fishing resources in Europe: between conflicts and agreements.

The management policy of a renewable natural resource as well as the tools implemented on site is not exclusively based on economic, legal and patrimonial criteria, they must also be regarded as the products of agreements during which several stakeholders' groups try to make their opinions and interests recognised. While relying on the case of fishing resources in European waters, we shall try to show that the challenges related to their management are not exclusively limited to the analysis of the technical and regulatory devices implemented by the Common Fisheries Policy (CFP). These devices as well as their application in several coastal countries must be regarded as the expression of often provisional agreements between the interested social groups (the fishermen and their organisations, the civil society and their associations, the State and its various administrations, the political representatives from a local to a European level...), which acknowledgement -even interest- and the abilities to appropriate the resource are very much unequal, but are gathered at a certain time around a common question: how shall the fishing resources be managed?

As part of a research programme on French non-industrial fishing<sup>1</sup>, the subject shall focus on the specifics in France of the implementation of European rules in terms of professional fishing. After reminding the forms of use of fishing resources, the second part shall be devoted to the sociological treatment of the stakeholders involved in the qualification process of these resources. Finally, the third part shall analyse the challenges involved in the discussions between the interested stakeholders, and which outcome oscillates between conflicts and agreements.

#### 1. From free to common goods

#### 1.1. Inducing catches

Until the 1970s, the fishing policy in most European countries has been guided by the principle of free access to the resource. The reconstitution of a cod and tuna fleet after the war, with the help of public subsidies, illustrates the principle of a limitless fishing, or at least that related to the production capacities of vessels. This principle was not refuted when the French State, in the 1960s, enlisted in an active support policy of inshore and offshore fleets, based on a generous state support policy (Meuriot, 1986). In general, the management rule of a free good – over which no exclusion constraint linked to property rights shall apply – refers to a maximum catch logic since all the appropriators are regarded as rivals (Ostrom, 2010). The fishing policy in France until the 1970s found a sympathetic ear with the professionals. With the exception of a few areas still supervised through EU rules, such as the Prud'homies (Fishermen Communities) of Mediterranean fishing, fishermen did compete with each other. The revenues of the owners and crew depended on the volume of catches sold at auction. The uncertainty linked to the selling prices at auction led each company to maximise its production – its resource harvesting. Catching fishes in great quantity, if possible before the others, is an integral part of a professional culture expressing itself through the research of more and more efficient fishing devices (Delbos et Jorion, 1984), in how fishermen perceive their activity, as well as how they pass it on from one generation to another, where professional endogamy is particularly strong. Fishermen are characterised by a professional

<sup>&</sup>lt;sup>1</sup> Research programme funded by the Pays de la Loire Region (Western France), which is part of the COSELMAR programme (2013-2017) regarding the risks and the risks prevention in the coastal and marine environments.

habit, which can be qualified as "non-cooperative predator", to which the commonly shared belief of a sometimes generous, sometimes capricious ocean is linked (Amand, 2011).

### 1.2. The CFP as a reclassification attempt of fishing resources

Since the beginning of the 1980s, the Common Fisheries Policy (CFP) has been aiming at managing the fishing resources at a biomass level considered optimal (the Maximum Sustainable Yield – MSY). These resources are contemplated by the European Union (EU) as a common good at Community level<sup>2</sup>; the CFP broke with previously led national policies but also with professional cultures present in most fishing trades. The reclassification of fishing resources into a common good to be optimised is not obvious even by their nature or their traditional appropriation modes. Contrarily to property lands, which resources are easily identifiable, those hidden by the oceans -as they are relatively invisible- do not necessarily correspond to a common good and do not obviously refer to a community likely to ensure its management.

The lack of communities and the prevalence of individual appropriating interests led the EU to impose on fishermen a policy of resource management referred to the Leviathan by Elinor Ostrom (Ostrom, 2010, p. 22-24). If some devices were well received –notably the schemes for the withdrawal of fishing vessels from the fleet (Mellick Plan<sup>3</sup>) -, many European regulations aiming at limiting the fishing effort were openly denounced and even subtly circumvented by fishermen (Debril, 2012).

Nevertheless, the management of fishing resources, even through the Leviathan, must include the objectification of power and influence relations that unfold during "tournaments" where viewpoints are confronted and often compete with each other regarding management principles and/or devices.

## 1.3. Three relations to nonhuman living beings

The classification of a resource as a common good triggers the issue of value systems in which the classification process is involved. Benjamin Coriat specifies, "[that] *some resources which only exist in pool, solely ascertain a simple predisposition to become common goods*" (Coriat, 2015, p. 31). A common good is thus what is acknowledged as such by all the stakeholders involved. Consequently, the transition challenge from a free good to a common good is not exclusively legal (the recognition and the granting of property rights) together with managing regulations, not even exclusively economic, as suggested by the anteriority device applying to fishermen in order to determine their quota share, it is also cultural. It thus gathers several stakeholders into a community of values, actions and thoughts, what Luc Bolstanski and Laurent Thévenot refer to as "*cities* [which some of them] *unfold into Common Worlds*" (Boltanski et Thévenot, 1991, p. 164-166)<sup>4</sup>.

The "cities" are distinguished by the "greatness" they defend. A "Common World" is a heuristic tool enabling to represent a range of "cities" committed to a common challenge. During the various "tournaments", each "city" mobilises some justification principles related to the "greatness" it promotes in order to have an incidence on the way the "Common World" must be built.

 $<sup>^{2}</sup>$ , consulted on 06/06/2016

<sup>&</sup>lt;sup>3</sup>, consulted on 04/08/2016

<sup>&</sup>lt;sup>4</sup> See the glossary of terms used at the end of the article.

The societal challenges, the economic, political and moral issues as well as the diversity of stakeholders involved –from the Head of State to the ordinary citizen- contribute to tackle the environmental issues in a "Common World" in which these questions are discussed and several "cities" stand alongside each other, each of them referring to the relationship to the resource they promote as "greatness".

According to Philippe Descola (Descola, 2005), several relationships were created between human beings and nonhuman living beings. Some of them have an operating relationship, as the nonhuman living beings are only interested in human beings because they bring them wealth according to a strictly economic approach of short-term profit maximisation. This relationship may lead to the depletion of the common resource (Hardin, 1968) or to the stoppage of its operation (Hotelling, 1931). Others have a protective relationship, as human beings acknowledge a right to live to other beings. Species, environments and ecosystems build up a universal common good and thus avoid any economic logic, any individual or collective appropriation (Maris, 2010). Finally, optimisation relations correspond to relationships according to which non-humans are regarded as exhaustible resources but useful on a long term. Managing regulations are thus desirable as they help human beings with their ecosystem.

#### 2. A common world

2.1 The three "greatnesses"

The acknowledgement of exclusive property rights on community fishing resources towards coastal states and the delegation of the resources management to the EU through the CFP leave a fundamental right to fishermen, which is the access to catches. This right is secular and is one of the bases, which the trade culture was built on; its full enjoyment is constantly defended by professional organisations. Since 1982, the discussions between these organisations and the civil servants responsible for implementing the European directives have almost always focussed on regulatory measures to regulate the fishing effort, to manage fisheries and stocks on a good basis. The trade gradually accepted these measures by regularly contesting their implementing provisions (allowable catch rate per species, which yearly setting would weaken the sector, closing down of some fisheries regarded as brutal, regulations on mesh nets, which let too many commercial-value catches out, transition towards the MSY regarded as too hasty, additional charge for owners with the obligation to bring back the fishery by-products ashore...). Eventually focussing on more technical than political issues, the discussions confronting the fishermen and the EU are gradually confined to their dedicated spaces (lobbying firms, advisory councils, European Parliament Fisheries Committee...).

In the last twenty years, the sudden appearance of environmental associations has substantially modified the content of discussions about the CFP general orientations and the management devices to be implemented. The environmental NGOs' vision of the marine world is departing from that of the fishermen. As they are now present in most discussion forums, NGOs are in a position to confront their representation of common good to that of the fishing sector professionals.

"Greatness"	"Operation"	"Protection"	Optimisation
Justification Principle	Cost-effectiveness	Preserving biodiversity/Sanctuarization of nonhuman living beings and its environments	Durability of sector/Environmental Sustainability
Common good	Resource	Nature	Ecosystemic Services
Involved Stakeholders	Economic stakeholders of the sector/elected representatives at the Fisheries Committee in Brussels	Environmental NGOs/ Green deputies at the European Parliament	Scientifics/E.U./States (through the managing devices offered by the CFP)

#### Chart 1 The "greatnesses" of the "Common World"

2.2. The composition of the "Common World"

A "Common World" gathers all the stakeholders interested in claiming their preferences during discussions, or "tournaments", regarding the classification of a natural resource. In the case of fishing resources, the "Common World" is organised under three "greatnesses" (chart 1). The operating "greatness", which justification principles are organised around the economic performance of the appropriation activity and the importance of the economic spillovers of this activity on a local basis (Gouzien, 2009). The protective "greatness" emphasises on preserving –even sanctuarizing- marine resources justified by their quality of common good. The optimisation greatness establishes its legitimacy at the core of a sustainable development project, which is its main justification principle according to which it is possible to reconcile economic growth, local communities support and environmental sustainability.

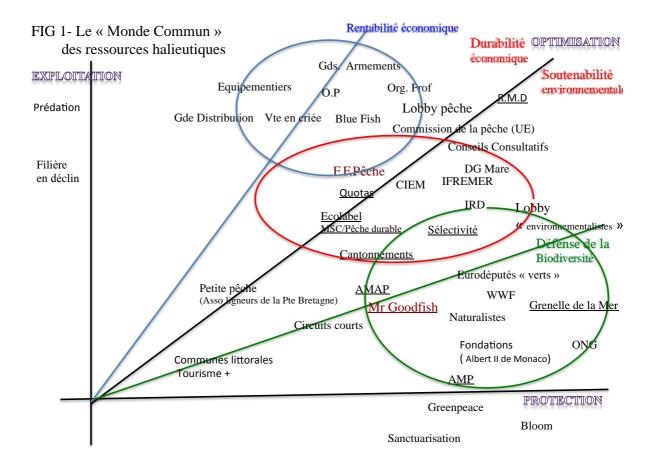


Chart 1 shows three "greatnesses" and three stakeholders groups, which embody and promote them (keeping in mind that chart 1 is an objectification tool). The great offshore and high-seas ship-owners have rallied around the operating "greatness". These fishing companies, which economic weight is significant, are the key figures of this "greatness" which all the stakeholders of the sector join: fish trade activities, wholesale auctions, large-scale distribution, and equipment manufacturers... The fishermen, who stand for the first link of the fish production line, are represented by professional organisations (producer organisations, fisheries committees...), who assert their point of view in Brussels with the support of MEPs sitting in the fisheries committee, of the Ministry for Fisheries and of some lobbies, including Blue-Fish, of their rights to a secure operation of fishing resources.

The stakeholders who support the protective "greatness" stand for a goodwill principle towards the whole marine world. Many environmental NGOs, such as SOS Grand Bleu, *Greenpeace*, Bloom association, OCEANA, WWF, *Pew Environnement...*, Green MEPs as well as some professionals who engage in small-scale fishing support this "greatness". The latter recently joined in this "greatness" as it was best suited to their economic and symbolic interests. These fishermen, who gathered in associations, such as the Plateforme de la petite pêche or the Association des ligneurs de la Pointe Bretagne, seized the growing interest of consumers for environmental issues to take on the character of the respectful fishermen of marine ecosystems and condemned the fishing practices of offshore and high-seas vessels. The professionals who engage in small-scale fishing received a key support from the great NGOs who, besides, back their actions to preserve marine resources through the rallying of civil society thanks to on-site actions, which media impact is often the desired result.

Optimisation is a "greatness" supported by the EU and the CFP is responsible for making it applied to the sector's stakeholders through managing devices but also thanks to environmental associations. The fish stocks evaluations carried out regularly by Scientifics (IFREMER, CIEM) are the cornerstone of a European policy for the management of fishing resources legitimated by experts and which could ideally meet the concerns of other stakeholders of the "Common World" (Bérard et Crespin, 2010).

#### 3. Games and challenges of tournaments

Two main goals have been set by the Fisheries Commission with the various CFPs since the beginning of the 1980s. The first aimed at stopping overfishing thanks to a device combining restrictive measures (quotas, limitation of vessels' engine power, design and use of fishing machines, fishing licences...) and incentive measures (plan of fleet withdrawal, supports to sector's restructuring via European funds). The guidelines of the first CFPs (1983-1992 and 1993-2002) were to lead the fishing trade from an operational relation of the resource to an optimisation one. This transition was not easy as the advent of the CFP was seen as a threat for the fishermen activity, which had already been weakened with the double oil shocks of 1973 and 1979 and a considerable decrease of selling prices at auction. The convergence of factors regarded as unfavourable to the sector's economic development – including the CFP – justified the commitment of fishermen in harsh conflicts during the 1980s and 1990s.

The various measures taken by the CFP nonetheless allowed the economic maintenance of this activity by fostering the drastic decrease of companies and by controlling the fishing effort. The fishermen, through their professional organisations (PO, Fisheries Committees...), finally accepted some of the managing measures imposed by the EU when they clearly allowed securing the sector's future.

With the devices focussing on stock management with commercial value, corresponding to the first goal of the CFP, a second one appeared with the third CFP (2003-2013) to finally be at the core of the CFP reform, which was voted by the European Parliament in 2013. The optimisation was widened to environments and ecosystems, it included an environmental preservation dimension, as shown by the bans on drift gillnets in 2005, on fishing porbeagle sharks in 2012 and on sea disposals for some fisheries as per 2015. These managing devices drew their inspiration from the ecosystemic approach of fisheries, now promoted by fisheries scientists gathered in the very influential French Fishing Association (AFH in French) or the French Research Institute for the Exploitation of the Sea (IFREMER in French)<sup>5</sup>. For its part, the DG Fisheries and Maritime Affairs (DG Mare), responsible for implementing the CFP, was sensitive to this approach, which echoed the concerns of environmental NGOs.

#### 3.1. Discussion space

Far from a management by the Leviathan, one of the most significant results of the CFP has been to promote meetings and discussions between the various groups of stakeholders, which, finally, make agreements possible and may lead to some common programmes of resource management. France Filière Pêche<sup>6</sup> (FFP, French Fishing Sector) for instance, plays an important role in the process of approximation of viewpoints and behaviours between fishermen and NGOs. FFP contributes to financing innovating projects: selectivity of fishing machines with the development of square mesh nets, reduction of the environmental impact via the promotion of lighter fishing machines, branding and tracing of stocks, support for

<sup>&</sup>lt;sup>5</sup>, consulted on 10/06/2016

<sup>&</sup>lt;sup>6</sup>, consulted on 06/06/2016

projects aiming at reducing carbon emissions of vessels, support for the transforming of vessels related to the obligation for zero disposal, educational actions carried out in maritime and fishing schools... In addition to these on-site actions, FFP claims the status of an association devoting its actions to those interested in the fishing sector. The forums and conferences it organises enable to gather all the stakeholders around the subjects on which there seems to be consensus or which have become unavoidable: sustainable management of stocks, knowledge sharing with scientists, awareness of environmental constraints... The association, under the guise of neutrality, would contribute to reshaping the fisherman trade, which would now serve a sustainable development policy.

#### 3.2. Ordinary "tournaments"

The "tournaments" (Lascoumes, 1994) see the confrontation of groups of stakeholders gathered around various "greatnesses", who try to promote their conception of what the European Policy of fishing resources management should be, according to very different challenges (from the branding of lobsters to the creation of a public ecolabel) and which rally stakeholders with very unequal mobilisation capacities (a specific NGO, PO, fishery...). Most "tournaments" remain rather confidential; these are discussions that rather get solved in small groups, according to the EU will to promote dialogue between the various parties. In 2004, the Council of the European Union and the Commission decided to create advisory councils (AC)<sup>7</sup>. In these councils, representatives of the sector, local and regional representatives, members of maritime administrations as well as the civil society through their associations and NGOs, had to allow the regulation and the ordering of discussions. The issues of fisheries management are analysed on a regional basis, covered by each AC, which corresponds to a fishing territory visited by European fleets of various sizes and trades. The measures adopted by Brussels would now draw their inspiration from the various discussions between the stakeholders of a same AC, particularly regarding multiannual management plans<sup>8</sup>.

#### 3.3. An untraceable agreement: deep-sea fisheries

"Tournaments" refer to the confrontations between "greatnesses" for which a common agreement seems impossible. Contrarily to ordinary discussions leading to some compromises finally acceptable by the various parties, "tournaments" are situations of frontal oppositions during which each party looks to promote its viewpoint by striking down the others.

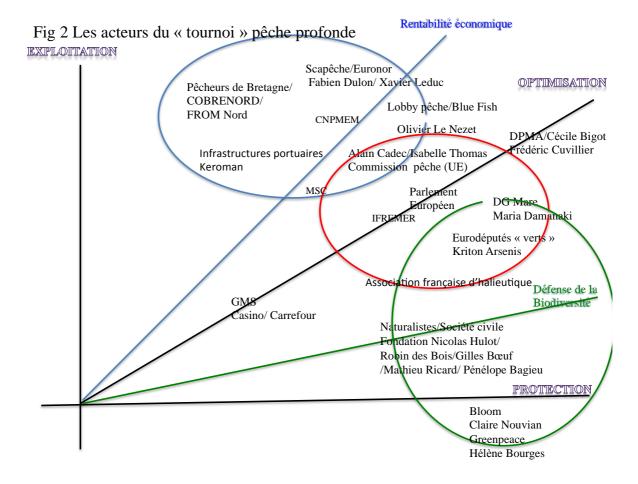
"Tournaments" have been more frequent since the 2000s with the presence and growing influence of stakeholders claiming protection (Lequesne, 2 001). The latter, represented by environmental associations, have authority over the "Common World" through what Pierre Lascoumes refers to as an eco-power, according to which "*it is not only the human species anymore as a living organism that has become the object of politics, but all the species, even micro-organisms*" (Lascoumes, 1994, p. 317). The upsurge of the eco-power deeply disrupted the regulation and management methods of fishing resources implemented until the end of the 1990s. To the question of a sustainable management of stocks securing a sustainable development of the sector thanks to managing devices discussed with fishing professionals, the stakeholders liable to have an eco-power promote another policy in which the preservation of marine ecosystems is central.

The issue of the exploitation of fishing resources in deep-sea waters (between 800 and 1,500 metres) is an example of "tournament". In France, only two fishing companies - Scapêche and

<sup>7,</sup> consulted on 06/06/2016

<sup>&</sup>lt;sup>8</sup>, consulted on 04/08/2016.

Euronor — have been targeting since the end of the 1980s deep-water species (blue ling, grenadier, scabbard fish...). This kind of fishing is carried out off Scotland and around the Faroe islands by vessels of more than 25 metres long, which are bottom trawlers. The deep-sea fishing has gone unnoticed to the various CFPs for more than 20 years; the first management measures were taken in 2003 (quotas, fishing ban on certain species including the emperor and deep-sea sharks, trawling prohibition in certain areas regarded as remarkable from a biodiversity viewpoint). These measures aiming at stopping the steep decline of heavily exploited stocks seem to produce satisfactory results. An ICES report<sup>9</sup>, made public in 2012, concludes on a suitable state of the resource, on the fishing sustainability as well as on the rather modest proportion of additional takes (including sharks). In comparison to other fisheries – notably exploiting the continental shelf – the deep-sea fishing seems to be rather exemplary in terms of sustainable management of stocks and durability of the economic activity. It finally relates more closely to the CFP's goal, which is to contribute to a sustainable and optimal yield of the resource.



The publication by Claire Nouvian of *Abysses* (Nouvian, 2006) paved the way, for the Bloom association -of which she is the president- for actions of denunciation against deep-sea fishing and intensified in the course of the year 2013 (year of the CFP reform, which was established by a vote of the European Parliament). Bloom<sup>10</sup>, joined by other NGOs, required the permanent closure of a fishery it denounced as economically unprofitable and ecologically catastrophic (irreversible destruction of marine ecosystems including coldwater corals). This requirement was supported by the civil society (Pénélope Bagieu's online petition received

<sup>&</sup>lt;sup>9</sup>, consulted on 08/06/2016

<sup>&</sup>lt;sup>10</sup>, consulted on 08/06/2016

900,000 signatures in November 2013<sup>11</sup>), by famous scientific leading figures such as Nicolas Hulot and, at a European level, it was supported by the Green group represented by some fifty MEPs as well as by the DG Mare and its Commissioner Maria Damanaki. The actions led by Bloom and its allies led the trade to retaliate by activating its influence networks (Breton MEPs Alain Cadec and Isabelle Thomas are part of the Fisheries Commission) and by creating its own association -Blue Fish<sup>12</sup>- on the initiative of the mayors of Boulogne sur Mer and Lorient, respectively home ports of Euronor and Scapêche vessels. The profession's arguments put forward the economic weight of the sector locally assessed to more than 600 jobs, the sustainability of fisheries and the respect of ecosystems through the strict application of the European plan of freezing the fishing footprint – no extension to already trawled areas. These arguments - built according to three pillars of sustainable development - would backfire on what the trade regards as baseless allegations from Bloom. In December 2013, the MEPs with a small majority rejected the amendment aiming at banning deep-sea fishing. This decision did not end the "tournament"; it was in 2015 that the stoppage of deep-sea fishing by Scapêche was programmed for 2025 – hailed by Bloom – and, at a European level, it was in June 2016 that this fishery was programmed to be permanently prohibited for 2020.

#### Conclusion

The management of a renewable natural resource, such as fishing resources, is not easy, and the use of some qualifying adjectives – such as common goods – thought to be unifying by some managers, are definitely not and face considerable resistance –some of which have their roots in sometimes more than ancient trade cultures or some representations of the world strongly linked to certain social groups. The "tournament" led by Bloom and Scapêche shows a situation in which the stakeholders supporting different "greatnesses" cannot agree on the notion of common goods. In this kind of situation, the agreements and compromises we can notice during more ordinary discussions seem to be out of the question. Resorting to the notion of common good, thought to be a necessary condition to the management of common resources is not that obvious as long as an agreement between the parties on the reality referred to by this notion has not been established. Other words seem to be more unifying such as the notion of environmental capital for instance. Less ideological and/or political, the environmental capital as a concept created to think about the relations between human beings and their environment is likely to rally the majority of stakeholders despite the specific terms used by one or the other to refer to the same reality: resource for fishermen, stock or biomass for fishing scientists, biodiversity and ecosystems for environmentalists. Linked to the notion of environmental capital, that of ecosystemic services<sup>13</sup> also seems to be unifying. The professional organisations representing the fishermen, the IFREMER or CIEM experts and some NGOs seem to agree to make of the ecosystemic services the environmental backbone of a sustainable development policy supported by the EU and which the CFP is the illustration. This is how the management devices of marine resources have had to be analysed in the past few years. The protected marine areas, the NATURA 2000 network, the device of Fisheries European Authorisations, are examples of a policy aiming at reconciling the economic interests of fishermen with environmental concerns.

<sup>8 ,</sup> consulted on 08/06/2016

<sup>&</sup>lt;sup>12</sup>, consulted on 10/06/2016

<sup>&</sup>lt;sup>13</sup>, consulted on 11/06/2016

#### Lexicon

"Common world": refers to all the social stakeholders involved in a common challenge.

"Greatness": values supported by a group of stakeholders within the "Common World".

"Justification principles": arguments on which a "greatness" is justified.

"Tournaments": important issues during which several group of stakeholders try to claim their "greatness" by rallying their "justification principles".

Bibliographical references

Bérard Y., Crespin R., 2010, *Aux frontières de l'expertise. Dialogues entre savoirs et pouvoirs*, Rennes, Presses Universitaires de Rennes.

Boltanski L., Thévenot L., 1991, De la Justification ; Les économies de la grandeur, Paris, Gallimard.

Coriat B., 2015, *Le retour des communs. La crise de l'idéologie propriétaire*, Paris, Les Liens qui Libèrent.

Debril T. 2012, « L'évolution de la régulation de la filière pêche dans le contexte européen. Externalités économiques et politiques publiques », *Économie rurale*, mai-juin.

Delbos G., Jorion P., 1984, *La transmission des savoirs*, Paris, Éditions de la Maison des sciences de l'homme.

Descola P., 2005, Par-delà nature et culture, Paris, Gallimard.

Gouzien A., 2009, « Pénurie de main-d'œuvre et dispositifs localisés d'insertion des pêches maritimes en Bretagne », *Travail et Emploi*, juillet-septembre, p. 23-35.

Hardin G., 1968, "The Tragedy of the Commons", Science, n° 162, p. 1243-1248

Hotelling H., 1931, "The Economics of Exhaustible Resources", *Journal of Political Economy*, vol. 39 p. 137-175

Lascoumes P., 1994, L'Eco-pouvoir. Environnement et politique, Paris, La Découverte.

Maris V., 2010, *Philosophie de la biodiversité*. *Petite éthique pour une nature en péril*. Paris, Buchet/Chastel .

Meuriot E., 1986, *La flotte de pêche française de 1945 à 1983. Politiques et réalités.* IFREMER, collection Ressources de la Mer.

Nouvian C., 2006, Abysses, Paris, Fayard.

Ostrom E., 2010, Gouvernance des biens communs. Pour une nouvelle approche des ressources naturelles, Paris, de Boeck.