



ORFISH - Development of innovative, low-impact offshore fishing practices for small-scale vessels in outermost regions - MARE/2015/06



WP4 Creating alternative sustainable fishing opportunities

Task 4.3 Governance and management requirements for existing and future off-shore fisheries to become long-term sustainable and contributing to the CFP objectives

Deliverable #61

Final report of the task 4.3

The ORFISH project

The ORFISH project aims at providing a platform for exchange of knowledge on low-impact offshore fishing techniques among fishers for the outermost regions with a view to developing and optimizing these techniques and with the principal objective of alleviating fishing pressure on coastal fish resources. The specific objectives of the project are the following:

- Raising awareness of the opportunities to develop innovative fishing techniques allowing to divert fishing effort away from coastal resources
- Developing and testing low impact fishing techniques adapted to the bio-geographical conditions of each outermost region
- Creating alternative fishing opportunities that will help to consolidate jobs in the fishing industry and ensure a steady supply of fisheries products to local markets
- Exchanging of best practice on low-impact offshore fishing techniques between ORs, which will also do good to overseas countries and territories and third countries
- Improving communication among outermost regions' fishing sectors as part of the good functioning of the Advisory Council on Outermost Regions

ORFISH website:

http://orfish.eu

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A review of fisheries governance & regulation in EU Outermost regions: lessons and perspectives for the future

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I. Introduction

One of the key goals of this task is to compare the fisheries governance systems in the different outermost regions in the context of the Common Fishery Policy (CFP). By fisheries governance systems, we mean the different institutions and the collective action processes by which decision making in fisheries management is established and the different set of laws, rules set for the regulation of the fishing activities. The Common Fishery Policy is often seen as a top-down process and the aim of the task was to identify and compare the role of fisher organizations and regional administration in the management of fisheries resources. Based on a better understanding of how each organization is functioning and which type of competencies such organizations have concerning resources management, a comparison could also strengthen the links between the different fishers organizations in the perspective of the new advisory council for the ORs but not only. Another objective is also to identify good practices (but also drawbacks of current regulations) with particular emphasis on whether or not these models could be used as examples in other ORs, in order to ensure long-term sustainable fisheries contributing to the CFP objectives. That is why, a complementary objective was to provide a detailed analysis of the regulations which apply in each ORs to identify the origin (EU, national, regional, local) of the different measures, their objectives (fisheries regulation, ecosystem and biodiversity conservation, ...) and the characteristics of the regulations in terms of scope (conservation measures, access regulation measures including conflict regulation between fishing activities). Complementary to these objectives, the following issues were discussed by the participants during the Canaries workshop #3:

- What are the governance structures & governability in each region?
- How fisheries management organized (Europe, National, Regional, inter-regional, local) including links with Regional Fisheries Management Organizations (RFMOs)?
- Is fisheries management centralized, decentralized, top-down or subject to co-management involving stakeholders?
- Is fisheries management institutionalized through a fisheries council at regional level?
- What are the management measures (conservation measures and access regulation) per region, and fishery including recreational fisheries?
- How management measures are enforced and how is compliance?
- Is it possible to identify fishers' adaptation to regulations?
- What is the role of stakeholders including fisher's representative in MPAs building & management?

The questions addressed go beyond the scope of the project but we have used these questions to define the methodology to collect and structure information. The report is organized as follows. It presents the status of Outermost Regions in the EU context and the Common fisheries policy (CFP) measures which appliy to the ORs. The organizational framework for fisheries management in each OR is detailed based on detailed analysis of regional context. A synthesis of management measures is provided by on a common typology and the processing of a regulatory data set established in the context of the project. More or less detailed analysis of these measures are provided per region and when deasible per fishery.





Deliverables #56, #58 et #59 are integrated in Part 2.5 and III.

II. Analysis of governance structure and fisheries regulation in the ORs

2.1 Outermost Regions in the EU context

Unlike the Overseas Countries and Territories (OCTs), the outermost regions (ORs) are an integral part of the EU and pursue their general and specific objectives¹. Given their maritime dimension, they naturally fall within the objectives of the EU integrated maritime policy. Their status, however, opens the possibility of a different treatment in the application of Union law, reinforced by the Treaty of Amsterdam in 1999. The Treaties recognize them as a particularism that should be taken into account in the implementation of the Union's policies. This translates into the implementation of specific programs and actions and more broadly, the definition of an adapted "strategy" articulated around three axes: 1) the reduction of the accessibility deficit and the effects of the other constraints that they suffer, 2) the improvement of their competitiveness and 3) the strengthening their regional integration.

The implementation of the Common Fisheries Policy (CFP) in the outermost regions is the subject of specific legislative measures. According to Article 349 TFEU, the Council, taking into account the structural and social economic situation of the outermost regions, "adopts specific measures aimed, in particular, at setting the conditions for the application of the Treaties to these regions, including the common policies". The CFP is explicitly concerned².

Implemented on the basis of Article 43 TFEU, the CFP covers the conservation of the living resources of the sea, the management of fisheries and fleets, the common organization of the market for fishery products and structural measures to support the achievement of these objectives, where such activities are carried out on the territory of the Member States to which the Treaty applies, in Union waters - which include waters adjacent to the outermost regions - or by fishing vessels Union outside these waters³. The competences exercised by the EU in the field of fisheries, in particular, for the conservation and management of fisheries resources do not exclude the intervention of the States in the exercise of delegated powers. It can thus adopt in its territorial sea measures for the conservation

³ Union waters are understood as waters under the sovereignty or jurisdiction of the Member States, with the exception of waters adjacent to the OCTs





¹ See O. Curtil, 2017.La mise en oeuvre de la politique commune de la pêche dans les régions ultrapériphériques, Rev. UE, n° 605, p. 100-101.

 $^{^2}$ Following CJEU, December 15, 2015, aff. days C-132/14 to C-136/14, it was confirmed that the Council is empowered to adopt specific measures to lay down the conditions for the application to these regions not only of the provisions of the Treaties, but also of secondary legislation.

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and management of fish stocks and the maintenance or improvement of the state of conservation of marine ecosystems⁴.

In these areas and by derogation from the principle of equal access of vessels flying the flag of a Union State to all the waters of the Union, the States have the right to reserve access only fishing vessels that traditionally carry out their activities, namely, in particular, their own vessels⁵.

On an internal level, the territorial and administrative organization of the States to which the ORs belong generally confers on the local authorities a strong power of decision in the field of fisheries. This is true of the autonomous regions of Portugal and the Spanish Autonomous Community of the Canary Islands, which have a high degree of internal autonomy both from the point of view of legislative and executive powers⁶.

The situation of the French ORs is different. Article 73 of the French Constitution provides that "in the overseas departments and regions, the laws and regulations are automatically applicable", although they may be subject to adaptations "to the characteristics and the particular constraints of these territorial collectivities". Specifically, in the overseas departments and regions of Guadeloupe, Martinique, Guyana, Reunion and Mayotte, competence in the management and conservation of biological resources are supposed to be exercised by the territorial collectivity "subject to France's international commitments, respect for Community competence and within the framework of the common fisheries policy "⁷. But in practice, regional collectivities do not use these prerogatives and regional prefects have authority for the management of fisheries in relation to fishers representative organizations (see below for a detailed analysis per region).

The CFP, particularly in its fundamental principles and rules, applies equally to all areas included in the territory of the Union, including the outermost regions, subject to adaptations justified by local specificities. At EU level, the adaptations are based on Article 349 TFEU, while others are locally based on the delegations of powers granted to States under the CFP. Finally, others are derived from the constitutional provisions relating to the territorial organization of each of State.

As a consequence, the review of regulatory measures in each OR requires to identify the measures established at EU level but also national, regional and potentially local levels. The scope of analysis is the review of formal regulations but informal agreements or rules could also be identified. Formal or informal rules established at local level sometime agreed by fisher's organizations may be more effective than other regulations

⁷ See Article L.551-1 of the Rural Code and Maritime Fisheries referring to Article L.4433-15-1 of the General Code of Territorial Collectivities (CGCT) to which the law n ° 2016-816 of June 20, 2016 for the blue economy (JORF n ° 143 of 21 June 2016) adds that the State "ensures the participation of these communities" in discussions concerning the management and evaluation of fisheries resources in their ocean basin. implementation within the relevant regional and international organizations "





⁴ Regulation No 1380/2013 cited above, art. 20.

⁵ Regulation No 1380/2013 cited above, art. 5. 3. The limit of 100 nautical miles was included in regulations in 2003 to the Azores, Madeira and the Canary Islands and extended to all the ORs in 2013. (see also Pena-Lado 2016. for an explanation of the context)

⁶ Jacques ZILLER, « Les États européens et les territoires ultra-marins placés sous leur souveraineté », Nouveaux Cahiers du Conseil constitutionnel, n° 35, avril 2012

2.2 Common fisheries policy (CFP) measures applied to the ORs

As mentioned by Penas Lado (2016)⁸, it is generally accepted that the birth of the CFP corresponds to the adoption, in 1983, of two regulations: one establishing the general regime for conservation and management of fishery resources (EEC, 1983a)⁹ and another on technical conservation measures (EEC, 1983b)¹⁰. These regulations applied also to the overseas territories.

Capacity limitations

The mechanism for adapting the fishing capacity of the States' fleets to the resources available is common applies to ORs but it is accepted that the States concerned may make a separate assessment of the ORs' fleets because of their specificity and, in particular, insofar as they are not subject to the phenomenon of overcapacity. The 2013 Framework Regulation maintained this modus operandi and set separate capacity ceilings expressed in engine power and gross tonnage for the fleets of each OR. Capacity ceiling have been established for each outermost regions since 1998 and reviewed 2002, 2004, 2007 and 2013. The aim was to regulate he development of the commercial fishing fleet.

TAC & quotas

European Union exerts it competence to fix Total Allowable Catches (TACs) and national quotas for some species. Most of them are established in the context of RFMOs like ICCAT, IOTC, ...

Technical measures

As for technical measures, particularly those defining the characteristics and use of fishing gear, few of them relate specifically to the outermost regions¹¹. The Commission's proposal for a new 'technical' regulation is no more eloquent in this respect, although it includes a 'regionalization' chapter dedicated to the measures established specifically for each region¹².

Access to areas

On the occasion of the CFP reform of 2002, the end of the transitional period was considered in the light of the latest enlargement of the Union in 1995, where the new coastal Member States (Sweden, Finland) enjoyed free access to waters (subject to relative stability) (Pena-Lado 2016). It was then

¹² V. in document COM (2016) 134 final, annex XI devoted to the outermost regions.





⁸ Penas Lado, E. 2016. The Common Fisheries Policy: The Quest for Sustainability. John Wiley & Sons, 398 p.

⁹ EEC (1983a). Council Regulation No 170/83 of 25 January 1983 establishing a Community system for the conservation and management of fishery resources. OJ. No L 24. 27 January 1983.

 $^{^{10}}$ EEC (1983b). Council Regulation No 171/83 of 25 January 1983 laying down certain technical conservation measures for the conservation of fishery resources. OJ. No L 24. 27 January 1983.

¹¹ 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, OJ L 125, 27.4.1998, p. 1. These regions are listed as Regions 5, 6, 7 and 8 in Regulation 850/98 (Article 2).

politically unacceptable that Spain and Portugal would still have transitional conditions while the new Member States would not. This made it necessary to revise the regulations laying down new transitional measures regulating access to the waters between Spain and Portugal and the rest of the Community. For this purpose, the Commission presented a proposal for a new regime (the so-called Western Waters Regulation) where the specific treatment of Spain and Portugal was removed. The western waters proposal also established a specific access regime for the waters of the Macaronesian archipelago (Azores, Madeira, Canary Islands) that had benefited from a specific regime since accession. The question in this case was whether these islands would be granted a derogation of the principle of free access beyond the 12 miles, based on the article in the Treaty (today Article 349 TFEU) that grants special conditions to outermost regions. As mentioned by Pena-Lado (2016) despite the interest of Azores for reserving the 200 miles to the local fishermen, the final agreement to limit access to local fishermen to the first 100 miles of the EEZ represented a compromise that proved acceptable to everybody in Council. However, for the Azores the solution was unacceptable and the Regional Government took the case to the European Court of Justice. The Court, however, dismissed the case as inadmissible (Judgement of the Court of First Instance (Third Chamber) 1 July 2008). At that time, these limitations did not apply to the French outermost regions, as France did not present a request for it in that context. Although the political agreement on access included a declaration to the effect that the 100-mile regime would be considered in the future also for the French overseas territories in practice France never insisted on this possibility, until the next reform in 2013 (Pena-Lado 2016).

RFMOs

The European Union is a contracting party to 14 RFMOs in the world. In RFMOs dealing exclusively with fisheries management, the Union is the only representative on the basis of its exclusive competence. There are, however, some cases where certain individual Member States are also members in their own right, in respect of overseas territories that are not part of the Union. Typical examples France on behalf of its OCTs, or the UK with regard to its own overseas territories. The main RMFOs of interest for the ORs are the following:

RFMOs	Acronym	ORs concerned				
International Commission for	ICCAT	St Martin, Guadeloupe,				
the Conservation of Atlantic		Martinique, (French Guiana ¹³),				
Tuna		Azores, Madeira, Canaries				
Indian Ocean Tuna Commission	IOTC	La Réunion, Mayotte				
Western Central Atlantic	WECAFC	St Martin, Guadeloupe,				
Fishery Commission		Martinique, French Guiana				
Fishery Committee for the	CECAF	Madeira, Canaries, (Azores)				
Eastern Central Atlantic						
International Council for the	ICES	Azores				
Exploration of the Sea						

Table 1. RFMOs of interest for ORs

Advisory council

¹³ Not really concerned as no tuna or related species catches





When the CFP was revised in 2002, the concept of 'good governance' was promoted by the EU. In application of the principle of participation advocating a more systematic involvement of citizens in the development and implementation of the Union's policies, it was decided to create regional advisory councils (RACs), instruments for consultation between all the stakeholders involved in fisheries. In 2013, under the impetus of the ORs, one of these councils is now dedicated to them. Split into three sections for each of the sea basins - West Atlantic, East Atlantic, Indian Ocean - its role is notably to inform the Commission and the Member States of problems related to management, conservation and socio-economic aspects related to fisheries in each particular geographical area and propose solutions to address them.

Others stakeholders are important. Indeed, an Outermost regions conference of presidents exists to defend outermost regions interests to the European Union. It is composed by the nine presidents of outermost regions.

2.3 Organizational framework in ORs

The next figures present simplified descriptions of the governance systems for fisheries management in each region. The main organizations/institutions involved directly or indirectly in fisheries management or marine conservation issues with potential implication for fisheries are described knowing that the role and competencies are in most of cases detailed in the . It is simplified in the sense that decision making processes leading to the implementation of fisheries management measures and their application are not presented.

This organizational framework is presented for the case of Guadeloupe but the framework is common to all French outermost regions even if some specificity may apply. This framework includes commercial fishers and their representation at regional and national levels through the so-called fisheries committees with their specific in the design and application of in fisheries regulation. Regional committees are private law agency exercising public service missions. The deliberations adopted by a majority of the members of the council or the executive board of a regional committee may be made obligatory, within the territorial waters, by prefectural order. In most of the Regions, there is no Producers Organization or not. Fisher's associations exist in the Island at harbor or local level but they have no explicit prerogatives in fisheries regulation. The Regional Council is a decentralized regional authority governed by public law and exercises certain powers conferred by the State but not fisheries regulations. Under the authority of the competent prefect and subject to the competences attributed to other services or public institutions of the State, the Directions of the Sea are responsible at regional level for leading state policies on sustainable development of the sea, management of marine resources and regulation of maritime activities. Conservation and management of fisheries resources is then carried out by this in relation with the central/national administration, the fisheries and marine aquaculture direction (DPMA) which depends on the Ministry of Agriculture and Food. Links with other ministries (Outermost regions, ecological and solidarity transition) has also to be considered. On request, scientific organizations competent in fisheries issues can also be consulted to give their advice and scientific expertise on fisheries regulations. It does not exist as it may be the case in other





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countries, fisheries management council countries in the Guadeloupe region involving stakeholders¹⁴. At European level, the different institutions are represented. Beyond ORs council which is not yet in place, RFMO's should be considered with for the for area the role International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), and the Western Central Atlantic Fishery Commission (WECAFC) which is in a process to being established.

The management of the Azorean fisheries is shared among government bodies in partnership with the associations of fishing professionals. Relatively to government bodies, are responsible the Ministry of the Sea (national) and the Secretariat of the Sea, Cience and Tecnology (regional) – directly or through the Regional Directorate of Fisheries. The Secretariat of the Sea, Cience and Tecnology has the responsibility to manage one of the main factors of development of Azores - the Sea - including in its variety of competences the fisheries, aquaculture, the oceanographic exploration, the licensing uses of the sea and its funds, the coastal bands and the cooperation with the Maritime Police. The Regional Fisheries Inspection oversees, in partnership with other authorities, the maritime activities. In Azores, there are 19 professional fishing associations, which 14 are part of the Federation of Fisheries of the Azores, having associations in all of the nine islands of the region. The purpose of the fishers and shipowners associations is to take appropriate measures to ensure the rational exercise of fishing, to improve the conditions of sale or recovery of the fish caught by its members and, in general, and to take all appropriate measures to improve the income of its members. The emergence of the association of the women in fisheries in the Azores (Associação de Mulheres na Pesca nos Açores) came because of the need to value more the women in the fisheries sector. Created in 2008, it has been developing important actions involving the women in fisheries with many activities, like participation and partnerships in some initiatives and organisations of the sector for equality. The Fisheries and Oceanography Department aims to teach, produce and disclose the scientific knowledge of the Cience and Technology of the Sea area, contributing to the advanced formation of human resources, the disclosure of this knowledge and to the definition of the conservation and management marine resources policies. IMAR/Okeanos is an I&D center of the University of Azores designed to study the marine living resources in the Azores archipelago. All islands have fish auctions, managed by Lotaçor, where the captured fish is landed. The administrative situation is similar in Madeira.

In the Canary Islands, the 'Cofradías' (spanish term, like guilds) and Cooperatives share many similarities in terms of their general functioning. 'Cofradías' are corporations of public law, non-profit making, representing economic interests, which act as consultation and collaboration bodies of the competent administrations in matters of maritime fishing and fisheries management. The 'Cooperatives' share many similarities with the 'Cofradias', and almost what differentiates one or the other is, in general terms, that the cooperatives do have a profit motive. The 'Producer Organizations' are constituted at the initiative of the producers of one or several fishery products, including those of aquaculture, whose purpose is to adopt the necessary measures to guarantee the rational exercise of fishing and the improvement of fishing conditions and sale of the production. The 'Federations of

¹⁴ However, The Ultra Marine Maritime Council of the Caribbean Basin (UMMCCB) was established in March 2016. It is cochaired by the two region prefects Guadeloupe and Martinique. The secretariat is jointly provided by the Sea Management (DM) Martinique and DM Guadeloupe. The CMUBA is in charge of drawing up the Caribbean Basin Strategic Document (DSB Antilles), and may be required to give opinions of stakeholders on texts or projects that concern the sea basin. http://www.dm-guadeloupe.developpement-durable.gouv.fr/conseil-maritime-ultramarin-du-bassin-antilles-r48.html







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'Cofradías' are constituted by all those that voluntarily request their affiliation, have their own legal personality and full capacity to act for the fulfillment of their purposes, having the same consideration of public law corporations as the 'Cofradías', and they will also act as representative bodies of the brotherhoods before the Administration, channeling their proposals before the same, and serving as a body for consultation, collaboration and advice on topics of general interest in fisheries. There are two administrations with powers in fisheries matters and that are exercised by the 'Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente (MAPAMA) del Gobierno de España' — by the 'Secretaría General de Pesca' — and for the 'Consejería de Agricultura, Ganadería, Pesca y Aguas del Gobierno de Canarias' — by the 'Dirección General de Pesca'. Thus, there is a State fishing law and an Autonomic Fishing Law , without prejudice to what can be dictated by the European Union, since Community Law is part of the Spanish internal order.

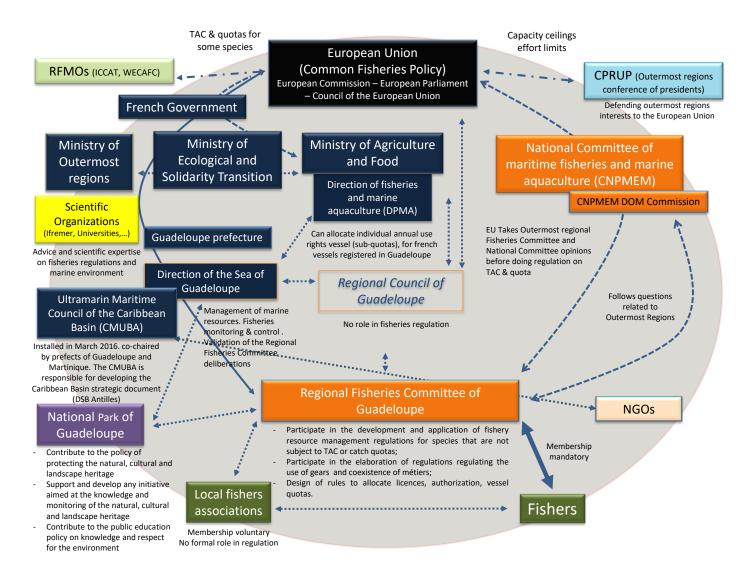


Figure 1. General organizational framework in Guadeloupe (similar in other French ORs)





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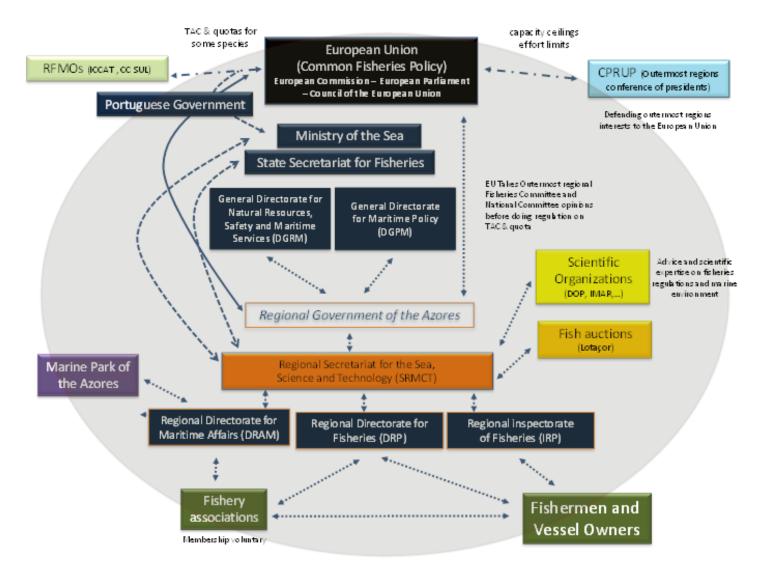


Figure 2. General organizational framework in Azores





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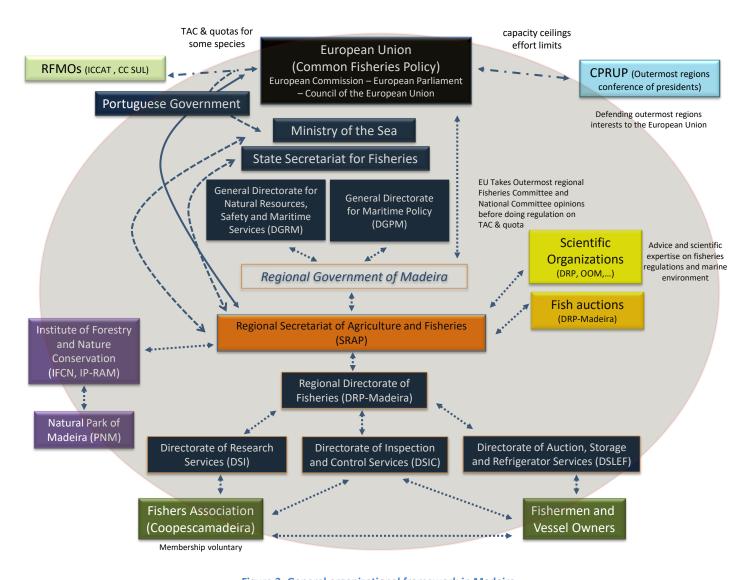
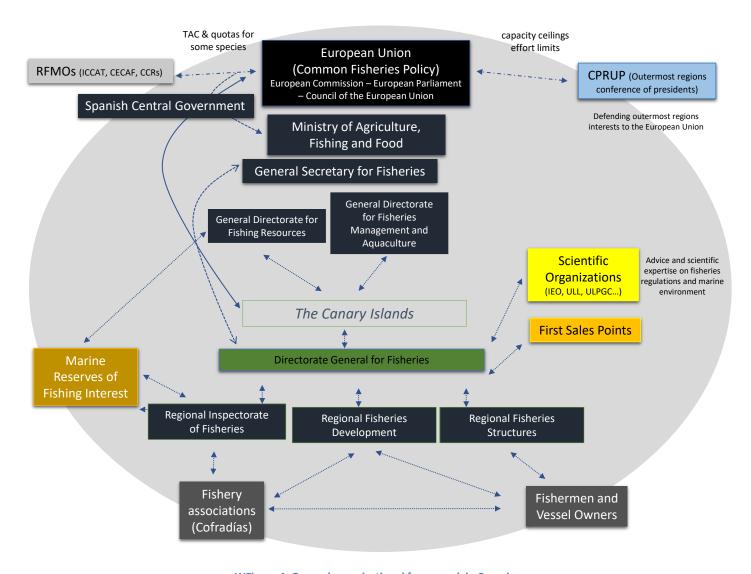


Figure 3. General organizational framework in Madeira





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WFigure 4. General organizational framework in Canaries





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In none of the regions, there are fisheries management councils involving the stakeholders. We can note that there are no more fisheries management councils in the concerned countries mainland. This does not mean that there are no relations or exchanges between the administrations, the fisher's organizations, the scientists and the NGOs but there are not institutionalized.

In the French case, fisheries management is decentralized to the regional administrations (not the regional collectvities) with the possibility for fisher's organizations to propose new regulations or adjustement in current regulations. However, this depends on the capacity of fisher's organization and their member to discuss and define rules applicable to the sector and the way representation is organized¹⁵. The analysis of the building capacity of each region could be carried in the future as well as considering the effectivity of the regulation.

¹⁵ See the work carried out by BG SEA CONSULTING,201. Coverage of the small-scale fishing sector by the SWWAC SSF8, deliverable 3, 12 p. see also deliverable 6.





2.4 Typology and synthesis of management measures

2.4.1 Methodology

In order to be able to synthesize and compare the fishery management measures that apply in the outermost regions, we used a common framework proposed by Boncoeur and Troadec (2003)¹⁶ and adapted by Guyader and al. 2013¹⁷ as part of the analysis of small-scale fisheries in Europe (cf. following table). According to this framework, fisheries management relies on two major sets of regulations, differing from each other in purpose. These two purposes are (1) the conservation of the productivity of fish stocks and (2) the adjustment of fishing capacity to the potential replacement of fish stocks. The preservation of productive and reproductive capacity of fish stocks corresponds to the classical tasks of fisheries management. The aim of these measures is to maintain fish stocks productivity at a high level, by controlling two factors: production per recruit, and the relation between spawning stock biomass and average long period recruitment. Two types of tools may be considered in this category, being based on input or output control (cf. table below). Some measures intend to limit the total fishing mortality on a given stock, in order to keep a level of biomass high enough to maintain the reproductive capacity of the stock; they usually consist in the setting of total allowed catches (TAC) or/and fleet size, fishing time and gear size limitations. These measures are periodically adjusted to the changing level of fish stocks. In some cases, decommissioning schemes/buyback programs may be established with the objective to reduce the capacity of the fleets. In such cases, incentives measures are given to fishers to scrap their vessels. Other tools are mainly aimed at preventing excess catches of juveniles; they usually consist in norms concerning gear selectivity (e.g. mesh or hook size), minimum landing sizes, and fishing operations (fishing time and area closures, focused on periods and areas where high concentrations of some critical resource components call for a specific protection). In our approach, we also included area closures through marine protected areas (MPAs) knowing that different type of MPAs may apply (no take zone, regulated exploitation for fishers) with different objectives. Area/species restrictions set for sanitary reasons (pollution, contamination) were also considered as these measures may impact the fishery sector.

The second set of fisheries management tools is concerned with the regulation of individual access to fish stocks. The need for such regulations is mainly the result of the weaknesses of conservation measures to prevent race for fish and fleet overcapacity. The aim of these measures is to allocate the limited productive capacity of these stocks (stock flows) between fishing vessels or fishing firms. This operation has itself two sides: selecting fishing units/fishers which are allowed to fish a given stock (or group of stocks), and fixing the share each one is allowed to fish. In this case, vessel or individual quota may be allocated for a period of time. In many cases, access rights cannot be defined directly in terms of stocks. In other, more frequent situations, control of individual access relies on the regulation of

¹⁷ Guyader, O., Berthou, P., Koutsikopoulos, C., Alban, F., Demaneche, S., Gaspar, M.B., Eschbaum, R., Fahy, E., Reynal, L., Curtil, O., Frangoudes, K., Maynou, F., 2013. Small scale fisheries in Europe: a comparative analysis based on a selection ofcase studies. Fish. Res. 140, 1–13.





¹⁶ Troadec, J.P. et J. Boncoeur 2003. La régulation de l'accès, in Exploitation et surexploitation des ressources marines vivantes, Rapport sur la science et la technologie n°17, Académie des sciences, Paris. 355-392

entry to the fishing activity and/or to a fishery through a vessel/individual license. We distinguish case in which the number of licenses is constrained (*numerus clausus*) or not. In the case of sedentary species or fixed fishing devices, regulating individual access to the resource may be based on territorial use rights.

Conservation measures / Access regulation measures / Mgnt Plan	Management measures per type (level 1_label)	Management measure per type (level 1_code)	Input/ output	Col.
	TAC or global/regional quota	10	0	
	Segment capacity limitation	20	1	
	Decommissioning schemes	30	ı	
	Effort limitation	40	ı	
	Min. landing size or weight	50	ı	
	Bycatch limitation	60	0	
	Species harvesting prohibited	70	0	
Conservation measures	Gear prohibited	80	ı	
Conservation measures	Gear dimension limitation	90	ı	
	Gear type limitation	100	ı	
	Gear setting limitation	110	I	
	Mesh size limitation	120	I	
	Seasonal closure	130	I	
	Area fishery closure	140	I	
	Marine protected area	150	I	
	Other	160	I/O	
	Permit to enter the fishery sector	200	I	
	Fishery licence with numerus clausus	210	I	
	Fishery licence without numerus clausus	220	I	
	Vessel or individual quota/Bag limit	230	1/0	
Access regulation measures	Transferable quota / licences	240	I/O	
	Taxes on quota / licences	250	I/O	
	Individual territorial use rights	260	I	
	Collective territorial use rights	270	I	
	Conflicts regulation	280	I/O	
Management plan for the fishery	Management plan	300		

Table 2. Typology of management measures

The work is based on a detailed analysis fisheries regulation measures whichwas available in documents of current fisheries management Laws/regulations/orders or rules that applied to commercial and recreational activities in each region whatever the origin (EU, National, Regional, local). It included the rules defined by administrations bu also fisher's organization (Cofradias, cooperatives, producers organizations or comités des pêches, etc). More informal rules or agreements can also be added to the file. The scope of analysis is large and concerns not only the small scale fleet < 12m but also the large scale >12m component of the fleet operating in a given region. Information





requested concerns fisheries regulation but also ecosystem and biodiversity protection regulations (Marine protected area, species for which harvesting is forbidden, etc) or health preservation regulation¹⁸ that may impact fishing activities. We consider the regulation that applied in 2019 (1st of January). Through this framework, changes in regulation could potentially be followed over time but this goes beyond the scope of the analysis. The issue of the effectivity of the regulations studied is out of the scope of this work but would have to be considered with more attention for future work.

2.4.2 Results

This section presents synthetic results based on the analysis of the information collected in each region. At this stage of analysis, all the measures have been considered similarly with equal weight which is of course a limitation. However it is possible to examine regulations established for each region to identify the potential gaps. Morever, the existence of a management measure does not mean that it adequate or relevant for fisheries management. A total of 1215 measures were registered with the origin of the regulations. It is important to note that in 2019, 68% of the regulations were coming from the regional level, 21% from the national and 11% from the EU level. In most of the cases, regional and sometimes national authorities (case of Canaries) established regulations to cope with regional or local issues of fisheries management. As indicated in the next figure, this is the case in all the regions except Madeira and French Guiana. In these regions, there is a lower diversity in terms of fishing activity and métier (gear-species) than in the other regions and this could explain why there are fewer practices to regulate. In the other regions, the average number of regional regulations is high (103) and range between 90 in La Réunion and a maximum of 240 in Canaries Islands.

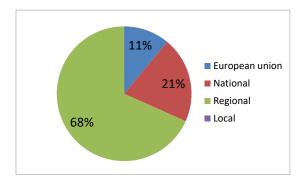


Figure 5. Origin of management measures

Fisheries regulations coming from the EU level are limited in number, 17 on average per OR, Azores and Madeira and to less extent French Guiana, being the most concerned with respectively 46, 41 and 17 measures. These measures are mainly capacity limitations for the fleet and specific segments, (Total Allowable Catches) TAC for some species established in the case of RFMOS and very limited number of technical measures. Except for Canaries for which there is a discintcon between regional and national areas, most of the national measures which applies to OR are not specific to the ORs. This is especially the case for French ORs.

¹⁸ For example, species harvesting and consumption is forbidden because of pollution or contaminants





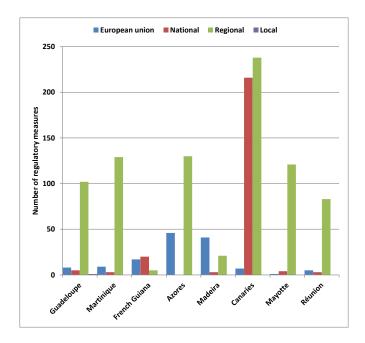


Figure 6. Origin of management measures per OR

Most of the measures (1000; 82%) can be classified as conservation measures when only 215 (18%) are access regulation measures. As mention before, the relative high level of conservation measures is mainly explained by the diversity of fishing activity (gears and species) in most of the regions. Conversely, access regulation measures which are mainly dedicated to avoid overcapacity mechanisms in fisheries are relatively low in number. This is because many of the fisheries are still in open access situations. For conservation measures, a significant share of the measures (47%) is common to commercial and recreational fisheries and management rules are often included in the same regulations. This is explained by the fact that in most ORs many activities compete in the same fisheries for the same species. The relative high number of regulation measures for recreational activities concerns mainly individual quota/bag limits.

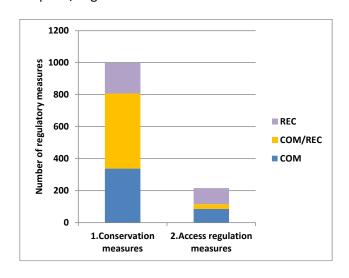


Figure 7. Management measures per type and per user type



(COM: Commercial fishers, REC: Recreational fishers, COM/REC: both)

As indicated in the following figures, there are differences between ORs in the distribution of management measure per user type but there seems to be no specificities per eco-region or group of regions

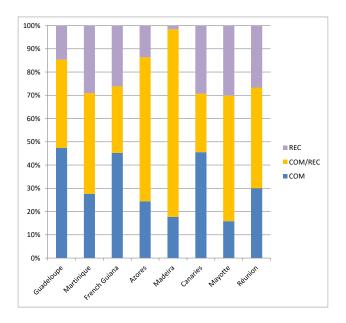


Figure 8. Management measures per type and per user type

(COM: Commercial fishers, REC: Recreational fishers, COM/REC: both)

It is important to note that a non neglibible part of the regulations related to fisheries concerns also biodiversity conservation issues. 146 measures (12% of the total of the measures) were referenced in 2019 mainly marine protected areas (MPAs) that may interact with fisheries activities but protected species for which harvesting is prohibited. In most of the regions, MPAs have been established recently or for a long time (see interactions report) to preserve ecosystems.

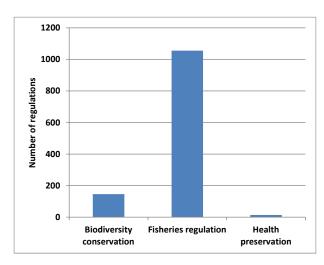


Figure 9. Management measures per type and per user type



Health preservation measures exist also in some regions mainly concerned by chronical pollution or ciguatoxic problems. Their number is probably underestimated as many species are concerned and not referenced per se in regulations.

The next figure presents the distribution of regulations per type of management measures and per user type. As mentioned before, most of the management measures are conservation measures. In this set of measures, 70 (7%) are TACs. Most of the measures applied to Azores but in some regions, there are also TACs and most are TACs or large pelagic species established by RFMOs like ICCAT or CTOI. Segment capacity limitation concerns 40 measures (4%) which are important constraints for the evolution of the fleets in the ORs. It is important to note that effort limitations measures are quasi inexistent or very limited and decommissiong schemes have not been used extensively, only once in Azores.

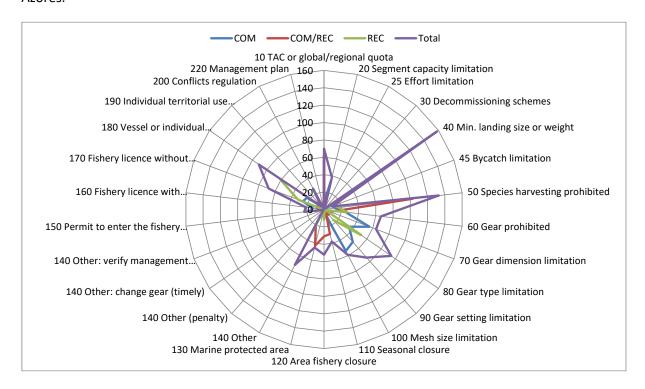


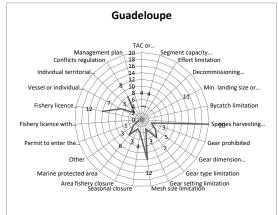
Figure 10. Management measures per type and per user type

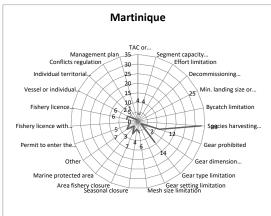
Most of the conservation measures concerns minimum landing size or weight (148 measures; 16%) and bycatch limits (1%). Many species are also prohibited from fishing because of conservation and biodiversity issues. It concerns 14% of the conservation measures and this could be explained by the large range of species harvested in the ORs. 36% of the measures are related to the use of the gears (gear prohibited (7%), dimension (7%), type (10%), setting (8%), mesh size limitations (6%). These large numbers are explained by the high number and diversity of gears used in the regions. All the region apply gear regulations but the most concerned is Canaries. Seasonal and area fishery closure concerns 4% and 5% of the measures respectively and marine protected areas (5%). The distribution of measures is detailed hereafter.

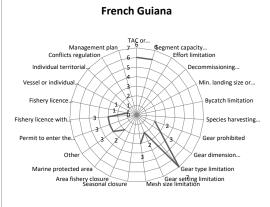
Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

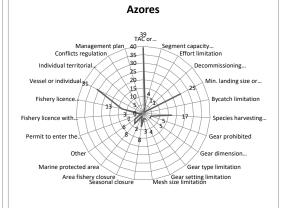
Within access regulation measures (235), a significant share are permits to enter the fishery sector which are most of the time associated to the segment capacity limitations presented previously. Within licenses systems per gear, métier or fishery (89 measures representing 38% of access regulation measures), most of them (75%) are licences systems without numerus clausus. This means that only 25% (21 measures) really regulate access to the fisheries concerned. Once again, these figures need to be replaced in their local context to look at the degree of effectivity of these measures. The total number of measures dealing with vessels quota or bag limits is 91. Most of them (61; 67%) are bag limits for recreational activities. There are no vessels quotas allocated from TAC and most of the vessels quotas are established to regulate harvesting in time. In Azores, the concerned, vessels quotas are purse seine quotas per day or per day/week for the shellfish gathering. There are some forms of territorial rights for fishers some formalized in regulation other being informal. Finally, some measures are dedicated to conflicts regulations between the use of fishing gears. The case of regional management plan was only identified in the case of the moored fishing aggregating devices fishery in La Réunion.

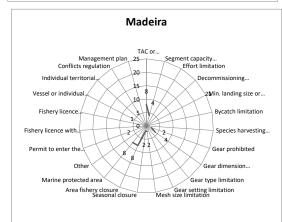


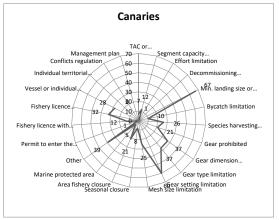


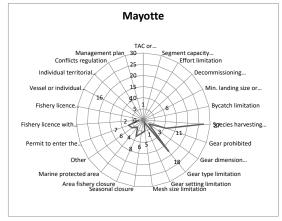












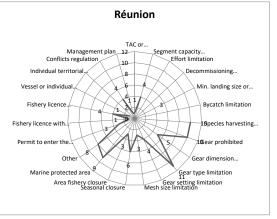


Figure 11. Management measures per type and per OR





2.5 Best practices and management requirements for the existing and future offshore fisheries

In all ORs, the partners of project identified the effectivity of the rules and the difficulties of controlling the application of the regulations as a serious issue. However, it was not possible during the project to examine this issue which is complex to study and quantify. Complementary work would be need in this field in the future to assess and improve the effectivity of the rules knowing that the way and the process the rules are established could be as important as the rules themselves. In this section, we provide some examples of the best practices, improvements and potential interest in terms of transfer of experiments between ORs. This does not claim to be exhaustive and other cases could be of interest for collaboration between ORs.

2.5.1 Case of MFADs fisheries

In order to study the potential transfer of experience between ORs, we selected the case of the moored fish aggregating devices (MFADs) fisheries exploited in the Lesser Antilles (Guadeloupe, Martinique) and also in the Indian Ocean (La Réunion). In these regions, MFADs have been exploited by small scale vessels for nearly 30 years¹⁹. Different set of regulations have been established mainly at regional level but without coordination between these regions. In Guadeloupe, the setting of MFADs is mainly private and organized by individual fishers when in Martinique and La Réunion, it has been mainly based on collective action of professional organizations. The next table presents in a synthetic form a comparison of the type of regulations established in each region²⁰. In each cell is the number of regulation for each regulatory measure and each region. We have also identified cells for which regulations are *a priori* adequate (green) and cells for which change of regulations or adoption of new regulation could improve the situation (yellow, orange, red by order of expectation).

For example, there is a licence system with numerus clausus in La Réunion but such system has never been applied to Guadeloupe or Martinique. It is especially critical in Guadeloupe as neither the number of fishing vessels, nor the number of MFADs (gear dimension) have been regulated even if fishers need an authorization before setting MFADs. Conversely there are bag limits for recreational activities in Guadeloupe and Martinique but not in La Réunion. There are some individual territorial use-rights around Guadeloupe but there are not managed collectively at a regional level. This situation is not really convenient in terms of coordination of territories and densities of MFADs. The issue of marine spatial planning and interaction with other activities is not really considered in these regions even if the setting plan of collective MFADs has to be reviewed by administration before MFADs installation. As a consequence, progress could be expected on this issue in order to reduce interactions with

²⁰ For more details, see the regional description of regulation per fisheries.





¹⁹ For a description of the Guadeloupe MFAD fishery see Guyader, O., Bellanger, M., Reynal, L., Demaneche, S., Berthou, P., 2013. Fishing strategies, economic performance and management of moored fishingaggregating devices in Guadeloupe. Aquat. Living Resour. 26, 97–105.

activities like navigation for example. In each region, management of conflicts between fishers is integrated in the regulations and exchange of practices could also be discussed between ORs.

From a conservation measures perspective, TAC and national quotas have been established for some species by the competent RFMOs (ICCAT, IOTC) but regional or fleet quota have not been allocated. This situation seems not to be a problem but it could be when large scale fleets compete with small scale fleets (see for example the case of Bluefin tuna in the Mediterranean Sea). Moreover, these measures do not cover all the main species of economic interest and this is sometimes because there is a lack of data for the following of these stocks. Except Martinique when landings size for large pelagic species is going to be established, there is no regulatory measure dealing with minimum size or weight of species. This is because there are no international requirements but regional or national regulations could be expected when the size of the landings is considered to be to low (lack of market for specific size categories, bottleneck with small sizes, sizes under size maturity, etc).

	Guadeloupe and St- Martin		Martinique		La Réunion				
Management measures per type	сом	COM/ REC	REC	сом	COM/ REC	REC	сом	COM / REC	REC
TAC or global/regional quota		4			4			1	
Segment capacity limitation									
Decommissioning schemes									
Effort limitation									
Min. landing size or weight						3			
Bycatch limitation									
Species harvesting prohibited									
Gear prohibited			1						2
Gear dimension limitation							1		
Gear type limitation							1		
Gear setting limitation								1	
Mesh size limitation									
Seasonal closure									
Area fishery closure									
Marine protected area									
Other (Marine spatial planning)									
Permit to enter the fishery sector									
Fishery licence with numerus clausus							1		
Fishery licence without numerus clausus							1		
Vessel or individual quota/Bag limit			7			1			
Individual territorial use rights									
Collective territorial use rights									
Conflicts regulation			1				1	1	2
Management plan								1	

Table 12. Management measures for the MFADs fisheries (Number refers to the number of regulation per type) N.B.

Numbers are number of regulatory measures per type (source: Guyader & Beugin 2019)

The case of la Réunion is interesting as a MFADs management plan has been discussed and established by the fisheries committee. It is a framework with issues related to the management and setting of MFADs including their collective management. Such framework does not exist in the other French ORs





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and we could imagine a transfer of experience from this perspective. Regional management plan of MFADs including also local fishing associations could be advised to consider the coordination of localized fisheries in a more regional integrated context. In these MFADs plans, it would be crucial to consider the management of collective but also private MFADs including the access regulations rules (licences) and the conditions for the setting of MFADs which is dependent on target species. The place for setting the MFADs and the issue of the density of MFADs are critical for the sustainable management and use of the devices. It could be necessary to fix the maximum number of MFADs per area and per fishers in order to avoid MFADs overcapacity and conflicts between users. Last but not least, MFADs fisheries management requires improved monitoring. Geo-location of all licenced vessels fishing on MFADs may be anadditional means to identify and track the position of a large number of MFADs, as Guyader et al. (2011)²¹ and Alvard et al. (2015)²² show that appropriate processing of information on vessel trajectoriesmay be a way to locate MFADs. This information could also be useful to more accurately monitor the intra-annual and inter-annualvariations in the number of MFADs, but this type of approach has never been implemented at a regional scale in the ORs. However, in the MFADs dolphin fishery of Malta, all the vessels are equipped with geolocation devices.

2.5.2 Differentiation of commercial from recreational and informal fishers

As mentioned previously in the project (cf. report task 2.1.2 on the interations between small scale commercial fishers and other users), competition with recreational and the so-called "informal fishers" is high or very high in most of regions. The difference between recreational and informal fishers is sometimes tenuous; it depends on whether the catch is sold or not while it is forbidden. The experience of Guadeloupe is interesting from this perspective.

The Regional Committee for Maritime Fisheries and Marine Farms of Guadeloupe (CRPMEM-IG) supported by the Direction de la Mer and the Prefecture of Guadeloupe has set up an identification sticker for commercial fishers that give the possibility for consumers but also fisheries enforcement authorities to differentiate from recreational or informal fishers. This sticker located on the right and left side of the vessel but also on landings selling points shows the name and number of the vessels (see below). The sticker, valid for one year, also allows consumers to identify the professional fishermen who have signed the quality charter. It guarantees the freshness and traceability of products sold in compliance with regulations and safety standards.

²² Alvard, M., Carlson, D., McGaffey, E., 2015. Using a partial sum method and GPStracking data to identify area restricted search by artisanal fishers at mooredfish aggregating devices in the commonwealth of Dominica. PLoS One 10 (2),e0115552, http://dx.doi.org/10.1371/journal.pone.0115552.







²¹ Guyader, O., Reynal, L., Berthou, P., Leblond, E., Bellanger, M., Campéas, A., Angin,B., Quemener, L., Pitel-Roudaut, M., 2011. Exploring fishermen behaviouraround moored FADs: the example of air plane surveys and vessels positioningsystem in Guadeloupe and Martinique. Tahiti, November. Communication to the FADs conference.





Figure 13. Commercial vessels withstikers in Guadeloupe

Such a system could be generalized to all the vessels fro a better indentification and differentiation of vessels at sea and in the harbors.

2.5.3 From fishing experiments surveys to sustainable management

In the Canaries islands, several scientific experiments have been conducted during the last three decades in deep sea species. Different bottom and semi-floating deep-sea traps adapted from the Spanish Mediterranean fisheries were tested in semi-deep waters (100-400 m) for Pandálid shrimp (camarón soldado', *Plesionika narval*; camarón narval '*Plesionika edwardsii* and camarón cabezudo' *Heterocarpus ensifer*), in increasing order of depth, all of them with commercial interest in the Canary Islands. Based on the information collected²³, the estimation of the MSY for the soldier shrimp (*Plesionika edwardsii*) was carried out using a realistic and conservationist method. Given that these are virgin or moderately exploited stocks, the estimate was obtained from the total available biomass

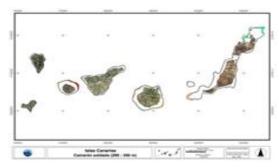
²³ J. A. González Pérez et al., "'Proyecto MARPROF' culmina los estudios sobre biología, prospección y evaluación de camarón soldado en Canarias," Boletín Mar. Marítimo Macaronésico, vol. 2, pp. 10–11, Sep. 2010.





and the biological and population parameters of the species relative to growth in size, reproduction, natural mortality and recruitment to the fishery





Islands	Useful area in 200-	Biomas	s (Tons)	Maximum Sustainable Performance (tons / year)		
	350 m (km²)	min.	тах.	min.	тах.	
Gran Canaria	176,9	52,8	101,3	13,8	26,6	
Tenerife	113,9	37,7	75,3	9,9	19,7	
La Gomera	134,8	91,2	182,3	23,9	47,8	
La Palma	37,4	22,2	44,5	5,8	11,6	
Lanzarote	238,4	54,9	82,3	14,4	21,6	
Hierro	30,9	5,9	11,8	1,5	3,1	
Fuerteventura	305,6	37,0	55,4	9,7	14,5	
CANARIAS	1037,9	301,6	553,0	79	144,9	

Table 4. Results of 14 years of research in the Canary Islands on the soldier shrimp fishery (Plesionika edwardsii).

Since the evaluation of the insular stocks of the resource is made exclusively in the range of depths of maximum abundance, the results of total available biomass and total exploitable biomass represent values lower than the real ones, that is, the biomasses are underestimated. As the precautionary principles are advisable in this type of study, the underestimation of the biomass of the resource does not generate any harm to the subsequent exploitation plans. The fishery is not well developed but the product is sold, depending on the size and the island, between 15 and 40 €/kg without any sign of overexploitation. Current catches absolutely lower than the nearly 80 tons / year available in terms of sustainability. This value of the Maximum Sustainable Yield (MSY) for the whole of the stocks of the Canary Islands will be refined soon in light of recent research on the biological parameters of the species. However and even if the landings are lower than the MSY, the mechanism for regulating access (licence systems, quotas per vessel, etc) to the fishery seems not be well defined according to data we get.

It is the same situation in the deep sea demersal fishery in La Réunion with a lack of access regulation measures. In 2000, fishing experiments led to the test to mechanized hand line with 4 to 8 hooks targeting deep demersal species (150-600 m) for small scale vessels. The rapid and poorly managed development of the deep-sea demersal fish exploitation raised concerns about the sustainability of the fishery and resource sharing issues (see report task 2.2). Surveys using the same fishing techniques were launched in the beginning of the 2010s to better understand the evolution of deep sea species and fishery (50-600m) and provide recommandations for their management based the status assessment of the main species. The deep demersal commercial fishery seems to have expanded over





the last years and recreational fishing pressure has also to be considered for the management of these resources. The regulation of the fisheries can be considered as not adapted despite recommandations. A precautionary approach was recommended to avoid the development of exploitation with new efficient fishing units targeting mainly those resources sensitive to exploitation but rather to consider this fishery as a potential complementary activity for the fishing units operating on other coastal demersal species or MFADs. More specific recommendations for the conservation of deep resources included:

- Regulation of access to the resource
- Use of mechanized hand line equipped with large hooks to ensure gear selectivity (species, size)
- Ban of nets (gill, trawl, ...),
- Ban of electric reels or lines beyond 150 meters for non-commercial fishermen (use of traditional hand line and wheel type),
- Periodic fishery closure based on biologic criteria.



Figure 14. Mechanized handline and target species

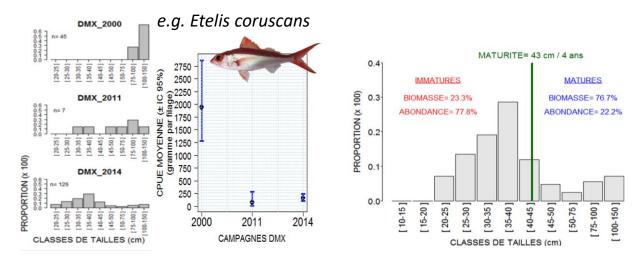


Figure 135. Evolution of stock status (Etelis coruscans)







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The need for knowledge about the bioecological characteristics of deep-sea species is still relevant. An assessment of the state of the main deep-sea stocks is suitable every 3 to 5 years, as well as the establishment of a management plan for these demersal resources at Reunion Island.

These exemples show that despite scientific knowledge, there is a lack of management measures to regulate access to the fishery and avoid overcapacity and potentially overexploitation of fragile deep sea ressources. The lack of adequate management measure for the MFADs fisheries is also critical for the viability of small-scale fleets. Moreover, these fisheries are most of the time interdependent and have to be considered individually but also as a global system to regulate. In some cases, precautionary approaches should be developed to prevent the decline of fish stocks and fisheries. Finally, evaluation of the status of fisheries should be integrated considering not the ecological-biological dimensions and also the socio-economic dimensions of the fisheries. However, the multispecific, small-scale and data poor nature of the fisheries requests adapted methodologies and approaches to provide cost-effectiveness assessment of the management of these socio-ecological systems.



III. Analysis per outermost region

3.1 Guadeloupe & Saint-Martin

3.1.1 Main organizational and regulatory changes in fisheries over the last 30 years

In 1946, Guadeloupe became a department and in 1982, as part of the decentralization process, the Regions were erected as territorial collectivities in the same way as the Departments. The overseas Departments and Regions are governed by Article 73 of the Constitution of the fifth French Republic²⁴: As a consequence, laws and regulations applicable in France mainland are also applicable as of right, but adaptations may exist. They are distinct from (OCs) Overseas Countries and Territories (OCTs).

The law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion²⁵ stated that, the decree-law of 1852 founder of the fisheries regulation in France mainland, also applies overseas departments. This law also specified that the competent prefects can make orders to regulate the exercise of fishing activities in the departments concerned. In Guadeloupe, a prefectural order was established in 1998²⁶ and abrogated in 2002 through a new prefectural order to regulate the exercise of coastal sea fishing in the waters of the Department of Guadeloupe²⁷. This order including many measures on the use of gears still applied at the beginning of 2019. A new order for recreational fisheries only was in consultation²⁸. One of the important events on the period is the creation in 2005 of the Regional Committee for Fisheries and Marine Farms of the islands of Guadeloupe. This was the last CRPMEM created in France within the professional representation²⁹. It represents commercial fishermen, all fishers being *de facto* members of the CRPMEM³⁰. In 2010, Directions of the Sea in French ORs were created by fusion of decentralized services responsible for maritime affairs³¹. The National Park of Guadeloupe which has objectives of protection of biodiversity was created in 1989³² and the extension of its marine perimeter dates from 2009.

³² Decree n°89-144 which creates National Park of Guadeloupe (20/01/1989)





²⁴ Art 73, Constitution of the fifth French Republic, 4 october 1958

²⁵ Law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion

²⁶ Prefectural orders before 1998 were not found. Prefectural order n° 98-1082, Regulating coastal sea fishing in the waters of the Department of Guadeloupe, 8 june 1998

²⁷ Prefectural order n° 2002/1249 which regulates coastal maritime fishery in Guadeloupe seas department (19/08/2002)

²⁸ Prefectural order project to regulate the exercise of coastal sea fishing in the waters of the Department of Guadeloupe

²⁹ Mongruel, R., Guyader, O., Rinaudo, J.-D., Curtil, O. 2018. Émergence de formes institutionnelles hybrides dans les dispositifs de gestion des ressources naturelles communes en France : une approche comparée des secteurs pêche, conchyliculture et agriculture irriguée. JRSS 2018 - 12es Journées de Recherches en Sciences Sociales. 13-14 décembre 2018, Nantes

³⁰ Art L 912-1 CRPM

³¹ These decentralized services were previously competent in fisheries regulation

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As mentioned before and even if 1983 CFP regulations applied to the French ORs, the application of the Common Fisheries Policy has resulted mainly from the introduction of capacity ceilings (engine power and tonnage) which were applied in 1998 with like national scale, the application of implementation permits for the management of capacity at the regional level. These capacity ceilings were changed in 2002, 2004, 2007 and 2013. For Guadeloupe, the main first key species under TAC was the blue marlin in 2013.





Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

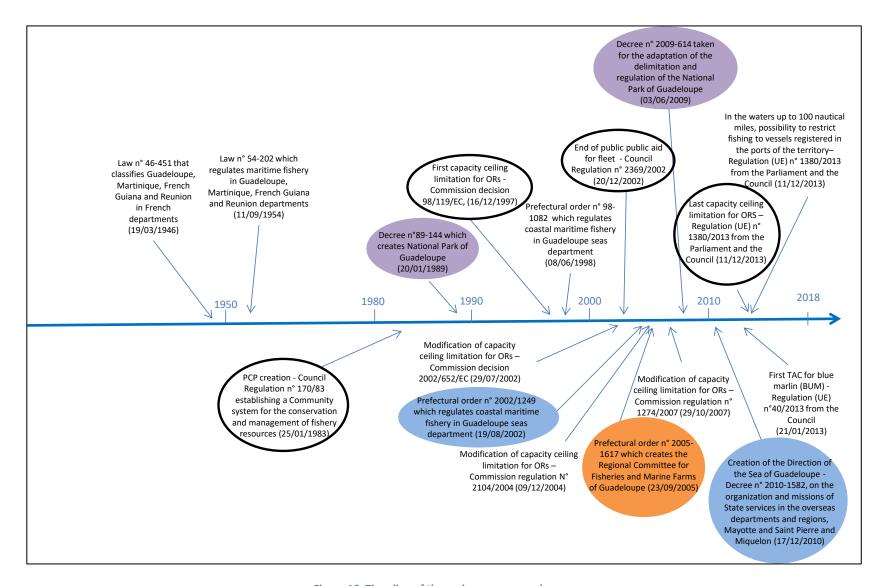


Figure 16. Time line of the main governance changes





3.1.2 Governance structure for fisheries & ecosystem management at regional level

3.1.2.1 General framework, status and role of each organization in ORs

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. This organizational framework is common to all French outermost regions even if some specificity may apply. This framework includes commercial fishers and their representation at regional and national levels through the so-called fisheries committees with their specific in the design and application of in fisheries regulation³³. In Guadeloupe, there is no Producers Organization. Fisher's associations exist in the Island at harbor or local level but they have no explicit prerogatives in fisheries regulation. The Regional Council is a decentralized regional authority governed by public law and exercises certain powers conferred by the State but not fisheries regulations. As mentioned before, French law gives the possibility for them to regulate fisheries but they have not used this possibility. As a consequence and under the authority of the competent prefect and subject to the competences attributed to other services or public institutions of the State, the Direction of the Sea of Guadeloupe is responsible at regional level for leading state policies on sustainable development of the sea, management of marine resources and regulation of maritime activities. Conservation and management of fisheries resources is then carried out by this in relation with the central/national administration, the fisheries and marine aquaculture direction (DPMA) which depends on the Ministry of Agriculture and Food. Links with other ministries (Outermost regions, ecological and solidarity transition) has also to be considered. On request, scientific organizations competent in fisheries issues can also be consulted to give their advice and scientific expertise on fisheries regulations. In French Antilles (Guadeloupe & Martinique), The French research institute for the exploitation of the sea (Ifremer) and University of Antilles could be consulted. It does not exist as it may be the case in other countries, fisheries management council countries in the Guadeloupe region involving stakeholders³⁴. At European level, the different institutions are represented. Beyond ORs council which is not yet in place, RFMO's should be considered with for the for area the role International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Western Central Atlantic Fishery Commission (WECAFC) which is being put in place.

³⁴ However, The Ultra Marine Maritime Council of the Caribbean Basin (UMMCCB) was established in March 2016. It is cochaired by the two region prefects Guadeloupe and Martinique. The secretariat is jointly provided by the Sea Management (DM) Martinique and DM Guadeloupe. The CMUBA is in charge of drawing up the Caribbean Basin Strategic Document (DSB Antilles), and may be required to give opinions of stakeholders on texts or projects that concern the sea basin. http://www.dm-guadeloupe.developpement-durable.gouv.fr/conseil-maritime-ultramarin-du-bassin-antilles-r48.html







³³ Art L 912-1 to L 912-5 and Art R 912-1 and next, CRPM

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

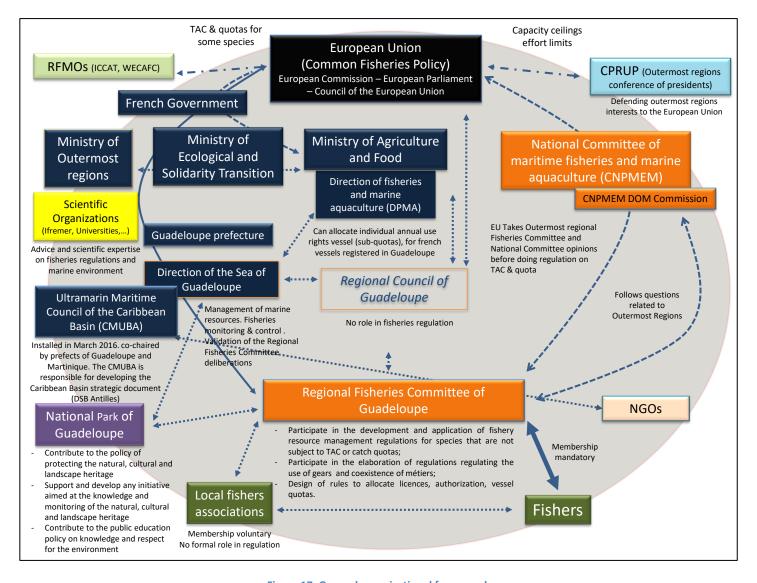


Figure 17. General organizational framework





3.1.2.2 Fisheries regulation administrations

Direction of the Sea of Guadeloupe

The Direction of the Sea is a deconcentrated service under the authority of the Ministry of Ecological and Solidarity transition. Under the authority of the competent regional prefect, the Direction of the Sea exercises the duties relating to the regulation of commercial and recreational activities. This direction is also responsible for the promotion of the economic development of activities related to fisheries and marine farms. In addition, this administration contributes to the control of animal health of seafood products.

In 2010, Directions of the sea in French ORs were subject to re-organization³⁵. Directions of the Sea were created by fusion of decentralized services responsible for maritime affairs³⁶. A Direction of the Sea carries out the following tasks in the perimeter of their region:

- "To conduct the policies of the State in the field of sustainable development of the sea, the management of marine resources and the regulation of maritime activities and to coordinate, by ensuring their coherence, the policies regulating the activities exercised at sea and on the coastline, excluding those of national defense and security and foreign trade;
- to conduct with the Directorate of Environment, Development and housing, to the management and protection of the coastline and marine environments, to the integrated management of coastal areas and the maritime public domain and the planning of activities at sea.

The Direction of the sea has to consider:

a) The general interest and sustainable development in activities which are carried out in maritime spaces under the sovereignty or under the jurisdiction of the State; (b) The interests of the marine environment and maritime activities in the design and monitoring of activities or projects likely to have an impact on the environment".

By prefectural orders, Directions of the Sea can approve deliberations of Regionals Committees on Fishery management³⁷. On request, scientific organizations competent in fisheries issues can also be consulted to give their advice and scientific expertise on fisheries regulations or related issues.

European Union exerts it competence to fix Total Allowable Catches (TACs) and national quotas for some species. Before taking such norms which will apply in outermost regions maritime area, the Regional Fisheries Committee and the National Maritime Fisheries Committee have to be consulted³⁸. This National Committee has a dedicated commission to follow all questions dealing with Outermost





³⁵ Decree n° 2010-1582, on the organization and missions of State services in the overseas departments and regions, Mayotte and Saint Pierre and Miquelon (17/12/2010)

³⁶ These decentralized services were previously competent in fisheries regulation.

³⁷ Art R <u>912-32 CRPM</u>

³⁸ Art L 921-2-2 CRPM and Art R 951-3 CRPM

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Regions. When national quotas are established, sub-quotas should be divided between each producer's organizations but such organizations don't exist in Guadeloupe. Therefore it belongs to Direction of fisheries and marine aquaculture (DPMA) to allocate vessel quotas for French vessels registered in Guadeloupe³⁹. The Direction of the Sea of Guadeloupe is the regional authority representative of French administration. This administration is also responsible for fisheries monitoring and control.

3.1.2.3 Fishers representative organizations

- Regional Committee for Fisheries and Marine Farms of Guadeloupe Islands (CRPMEM-IG)⁴⁰:

The CRPMEM-IG was created in 2005⁴¹. A CRPMEM is a private law agency exercising public service missions. All fishers are de facto members of CRPMEM⁴². CRPMEM missions are to:

- "(a) to ensure the representation and promotion at the regional level of the general interests of professionals engaged in maritime fishing or marine farming activities;
- (b) To participate in the development and application of fisheries resource management regulations for species that are not subject to total allowable catches or catch quotas pursuant to a Union regulation and marine plants picking and also to the protection, conservation and management of environments and ecosystems contributing to the good state of fishery resources;
- (c) To participate in the elaboration of regulations regulating the use of gears and the coexistence of métiers;
- (d) Participate in the realization of economic and social actions in favor of their members;
- (e) To participate in regional public policies for environmental protection and development, in particular to promote sustainable management of marine fisheries and marine aquaculture;
- (f) To provide scientific and technical support to their members, as well as to safety, training and promotion of the professions of the sea" 43 .

The deliberations adopted by a majority of the members of the council or the executive board of a CRPMEM (see below the organization description) may be made obligatory, within the territorial waters, by prefectural order⁴⁴. Similarly to the CRPMEM of mainland France, the CRPMEM of the overseas regions are consulted by the administrative authority referred to in article R. * 911-3 on:

- "1 "The measures of order and precaution intended to organize the compatibility between the métiers mentioned in article <u>L. 921-2-1;</u>
- 2° technical measures relating to fishing gears;





³⁹ Art_R 951-10 CRPM

⁴⁰ Comité Régional des Pêches Maritimes et des Elevages Marins des Iles Guadeloupe

⁴¹ Prefectural order n° 2005-1617 which creates the Regional Committee for Fisheries and Marine Farms of Guadeloupe (23/09/2005)

⁴² Art L 912-1 CRPM

⁴³ Art L 912-3 CRPM

⁴⁴ Art R 912-32 CRPM

3° Measures relating to the organization and exploitation of fisheries, referred to in article $\underline{L.921-2-2}$, for species not subject to a total allowable catch or catch quotas pursuant to a regulation of the European Union".

Specifically, the CRPMEM of ORs are consulted for opinion (in addition to the opinion of the CNPMEM) when a measure, pursuant to a regulation of the European Union, regulates the fishing of species subject to a total allowable catches or quotas of catches⁴⁵.

A CRPMEM is administered by a council composed of several representatives of the whole fishery sector⁴⁶, which cannot exceed 50 members⁴⁷. The Council elects a president and a vice-president to the secret ballot⁴⁸. They are full members of the CRPMEM executive board. This executive board is made up of up to 12 members, elected by a majority of the members of the Council⁴⁹. A mandate is five years⁵⁰. The Council of the CRPMEM meets at least four times during the year, upon convening of its president who fixes the agenda but convening is also possible at the request of the prefect of the region or of the majority of its members. The Council may only deliberate if at least half of its members are present or represented⁵¹. Quite the same rules apply to the executive board⁵².

In Guadeloupe, there are also fishers associations at local or harbor level but they have no explicit power in fisheries regulation. The objectives of these associations are to provide services to fishers like ice supply, management of cold rooms, etc. In the past, one of these associations, APSBT⁵³ was also involved in development programs of Moored fishing aggregating devices⁵⁴.

3.1.2.4 Scientific (Institutes/Universities) & technical support organizations

On request, scientific organizations (research institutes, universities) competent in fisheries issues can also be consulted to give their advice and scientific expertise on fisheries regulations or related issues. In Guadeloupe and more globally at French Antilles level, the French Research Institute for the Exploitation of the Sea (IFREMER) undertakes research and expert assessments to improve knowledge on the oceans and their resources, monitor the marine environment and foster the sustainable development of maritime activities. To carry out its missions, IFREMER designs and implements tools for observation (especially data collection in fisheries), experimentation and monitoring and manages oceanographic databases. Created in 1984, IFREMER is a state-owned public industrial and commercial institute (EPIC), placed under the joint supervision of the Ministry of Higher Education and Research

⁵⁴ Guyader O., Reynal L., Angin B., Beramice D., Erialc C., Jean-Charles C., Vincent C. 2008. Contribution à l'évaluation de l'impact de l'implantation des DCP collectifs sur l'activité de pêche en Guadeloupe . https://archimer.ifremer.fr/doc/00190/30108/



⁴⁵ Art L 921-2-2 CRPM and Art R 951-3 CRPM

⁴⁶ Art L 912-4 CRPM

⁴⁷ Art R 912-22 CRPM

⁴⁸ Art R 912-24 CRPM

⁴⁹ Art R 912-25 CRPM

⁵⁰ Art R 912-56 CRPM

⁵¹ Art R 912-26 CRPM

⁵² Art R 912-29 CRPM

⁵³ Association des Pêcheurs du Sud Basse Terre

and the Ministry of Ecology and Solidarity transition. Ifremer laboratory is based in Martinique but is also competent for Guadeloupe⁵⁵. The University of Antilles is located in Guadeloupe and Martinique⁵⁶.

3.1.2.5 Biodiversity-MPAs associations/agencies/administrations

National Park of Guadeloupe

The National park of Guadeloupe (PNG) was created in 1989 and included marine reserves⁵⁷. The extension of the marine perimeter (adjacent maritime area) of the Park dates from 2009. The PNG is a national public institution of administrative nature⁵⁸ placed under the authority of the minister responsible for the protection of nature⁵⁹ and it is also linked to the French agency for biodiversity⁶⁰. The Board of Directors is composed of Fifty-eight members, divided representatives of the State, representatives of local and regional authorities, competent personalities and elected staff.

National parks are intended to⁶¹:

- "contribute to the policy of protecting the natural, cultural and landscape heritage;
- support and develop any initiative aimed at the knowledge and monitoring of natural, cultural and landscape heritage;
- contribute to the public education policy of knowledge and respect for the environment".

They can⁶²:

- In the heart of the park, prescribe the execution of works or order measures to restore degraded ecosystems or prevent harmful changes in natural environments.
- Provide technical support to local authorities and their groups for the preservation of natural spaces and for the development of natural, cultural and landscape heritage.
- Allocate grants for the financing of projects contributing to the implementation of the park Charter.
- to engage in joint actions with other institutions for the management of a border protected area within the framework of national and Community policies within their respective fields of competence and, where appropriate, to create the management tools to be used in the implementation work of their joint missions.
- Subject to the prior authorization of the minister responsible for nature protection, he may also subscribe to international twinning agreements with foreign states institutions for the management of protected areas.





⁵⁵ https://wwz.ifremer.fr/antilles/

⁵⁶ http://www2.univ-ag.fr/SAEmangrove/thematiques.htm

http://www.univ-antilles.fr/recherche/structures-de-recherche/umr-borea-biologie-des-organismes-ecosystemes-aquatiques

⁵⁷ Decree n°89-144 which creates National Park of Guadeloupe (20/01/1989)

⁵⁸ <u>Decree n° 2009-614 taken for the adaptation of the delimitation and regulation of the National Park of Guadeloupe to the provisions of the Environmental code from the law n° 2006-436, (03/06/2009)</u>

⁵⁹ Art R331-22 Environmental Code

⁶⁰ Art L331-8-1 Environmental Code

⁶¹ Art R331-22 Environmental Code

⁶² Art L331-9 Environmental Code

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One natural reserve is located outside the adjacent maritime area of the National Park (PNG) and is managed under the authority of the Guadeloupe prefect by the national forest office (ONF) located in Guadeloupe⁶³.

3.1.2.6 <u>Non-Governmental Organizations (NGOs)</u>

Different NGOs operate in Guadeloupe but it was not possible in the context of this project to establish a list of these organizations and their role in the discussion or evolution of fisheries regulations.

3.1.3 Current conservation and regulation access measures on fisheries

In Guadeloupe and St. Martin and beyond CFP regulation described before, Prefectural Order N° 2002/1249⁶⁴ applies identically to these two regions. A review of this order was in progress in January 2019, including a first part on recreational fishing, which was the subject of consultations⁶⁵. The majority of the regulations identified in Guadeloupe and Saint-Martin are therefore derived from this prefectural order. The analysis covers EU, national, regional or local regulation but does not focus on the application and effectiveness of the measures adopted even if the conditions for the application of measures are the subject of a preliminary analysis. The objective is mostly to identify and then classify the different regulations in order to establish a first diagnosis. The commercial fleet concerned by these measures is only composed of small scale vessels under 12 m. The first part of the report presents the measures per type, the second part is complementary and more dedicated to an analysis per fishery or métier. In that case, it is possible to identify potential gaps in regulation.

Based on the census and classification of regulations measures according to the common typology, a total of 116 measures covering commercial and recreational fishing activities were identified. These measures can be divided in conservation measures (85/73.3% of the total) and access regulation measures to fisheries (31/26.7%). However, there was no integrated fishery management plan in 2019.

	Number of measures	Percentage
Conservation measures	85	73.3%
Access regulation measures	31	26.7%
Total	116	100%

Table 5. Conservation and access regulation measures

These 116 measures can be subject to a distinction based on the diversity of objectives to be achieved. Thus, of the totality of the measures, 89 (76.7%) are interested in the "Regulation of fisheries". This general group concerns the measures relating to species (sizes or weights to be respected, periods of prohibition of fishing for certain species), fishing gears (dimensions, prohibitions of use, limitation of

⁶⁵ <u>Prefectural order project to regulate the exercise of coastal sea fishing in the waters of the Department of Guadeloupe</u>



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⁶³ http://www1.onf.fr/guadeloupe

⁶⁴ Prefectural order n° 2002/1249 which regulates coastal maritime fishery in Guadeloupe seas department, 19 august 2002

mesh size, ...), or even preliminary authorizations for some métiers. Another group of 22 measures (19%) concerns biodiversity objectives, species for which harvesting is prohibited due to a potential risk of extinction. It also includes marine protected areas created to promote the protection of ecosystems. A final category concerns measures established in order to preserve human health. At the number of five (4.3%)⁶⁶, these standards prohibit the catch of some species on the grounds that they would be contaminated.

	Objective of measures	Total	Percent
	Fisheries regulation	58	50%
Conservation measures	Biodiversity conservation	22	19%
	Health preservation	5	4.3%
Access regulation measures	Fisheries regulation	31	26.7%
Total		116	100%

Table 1. Conservation and access regulation measures per "type of measures"

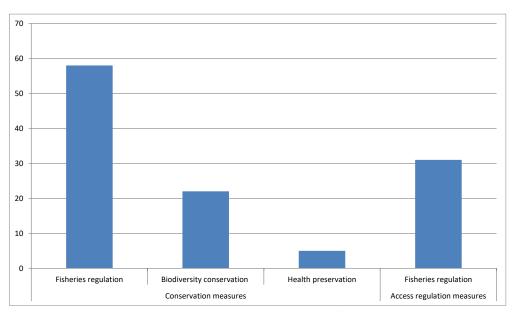


Figure 18. Measures representation per objective

The origin of the measures presents some insights. Indeed, the result is that very few regulations come from the European Union (only 8 measures/6.9%). Five measures were established at national level (4.3%). This means that most of the regulations come from the regional level (102 over the 116 measures/87.9%). One measure, more informal is from local origin.

⁶⁶ In fact the number of species concerne is higher.





	Measures origin	Total	Percent
	European union	8	6.9%
Conservation measures	National	4	3.4%
	Regional	73	62.9%
	National	1	0.9%
Access regulation measures	Regional	29	25%
	Local	1	0.9%
Total		116	100%

Table 6. Conservation and access regulation measure per objective

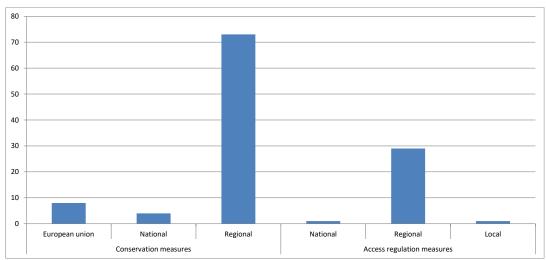


Figure 14. Measures representation per origin

	Objective of measures	Measures origin	Total	Percent
	Figh suice vegulation	European	8	6.9%
Conservation measures	Fisheries regulation	Regional	50	43.1%
	Biodiversity conservation	National	4	3.4%
	Biodiversity conservation	Regional	18	15.5%
	Health preservation	Regional	5	4.3%
		National	1	0.9%
Access regulation measures	Fisheries regulation	Regional	29	25%
		Local	1	0.9%
Total			116	100%

Table 7. Conservation and access regulation measures per objective and origin

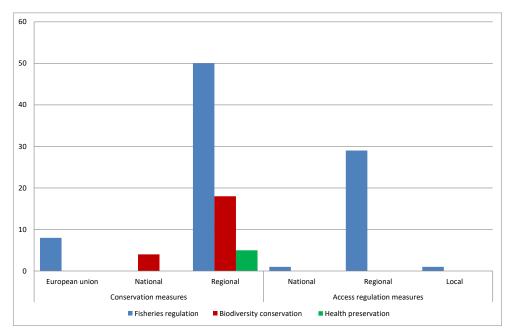
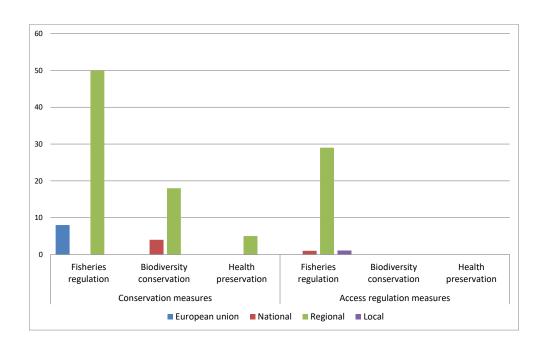


Figure 20. Measures representation per objective and origin



All these measures may also be listed as relating exclusively to commercial fishing (COM), recreational fishing (REC), or even both (COM/REC). As shown in the table below, the majority of the measures concerns commercial fishing. Indeed, 55 measures on 116 relate exclusively to commercial fishing (47.4%), which can be added to the 44 measures concerning both professional and recreational fisheries (37.9%). In an exclusive way recreational fishing is concerned by 17 measures (14.7%).





	Application (REC/COM)	Total	Percentage
	COM/REC	44	37.9%
Conservation measures	СОМ	32	27.6%
	REC	9	7.8%
According to management	СОМ	23	19.8%
Access regulation measures	REC	8	6.9%
Total		116	100%

Table 8. Distribution of regulation between commercial and recreational fishing

It's also possible to classify each measure in a category of application; All population, Segment, Gear, Métier, Species. A regulation targeting Burgos (*Cittarium Pica*) will enter the category "Species", whereas a norms for gillnets is included in the category "Gear". 10 measures concern the entire population "All population" (8.7%) and 4 the fleet "Segments" (3.4%). A large part of the regulation concern either "Gear" (17 measures – 14.6%) or the "Métiers" (39 measures – 33.7%).

The essential of the regulation is therefore technical and concerns the modalities of the practice of fishing techniques that are numerous in Guadeloupe. 46 measures focus on "Species" catches (39.6%) but many of them as mentioned above are the result of regulations that are outside the fisheries policy (protected species, pollution, etc.)

Conservation measures/ Access regulation measures	Application (REC/COM)	Variable_type	Total	Percentage
		Métier	15	12.9%
	СОМ	Gear	8	6.9%
	COIVI	Species	5	4.3%
		Segment	4	3.4%
Conservation measures		Species	33	28.4%
Conservation measures	COM/REC REC	All population	9	7.8%
		Gear	2	1.7%
		Gear	7	6%
		Métier	1	0.9%
		Species	1	0.9%
	СОМ	Métier	22	19%
Access regulation measures	COIVI	All population	1	0.9%
Access regulation measures	REC	Species	7	6%
	REC	Métier	1	0.9%
Total			116	100%

Table 9. Distribution of each measure in categories



Conservation and access control measures can also be sub-divided into "control measures by type" to clarify, on the one hand, the type of measure used to preserve the productive and reproductive capacity of the stocks and on the other hand, type of measure used to regulate access to resources.

Conservation measures/ Access regulation measures	Management measure	Management measures per type	сом	COM/REC	REC	Total
	10	TAC or global/regional quota		4		4
	20	Segment capacity limitation	4			4
	40	Min. landing size or weight	2	9		11
	50	Species harvesting prohibited		19	1	20
	60	Gear prohibited		1	2	3
	70	Gear dimension limitation	5			5
Conservation measures	80	Gear type limitation			5	7
ineasures	90	Gear setting limitation				3
	100	Mesh size limitation	12			12
	110	Seasonal closure	3	1		4
	120	Area fishery closure		3		3
	130	Marine protected area		6		6
	140	Other	1	1	1	3
	150	Permit to enter the fishery sector	1			1
Access regulation	170	Fishery licence without numerus clausus	12			12
measures	180	Vessel or individual quota/Bag limit			7	7
	190	Individual territorial use rights	3			3
	200	Conflicts regulation	7		1	8
Total			55	44	17	116

Table 10. Classification of management measures per type





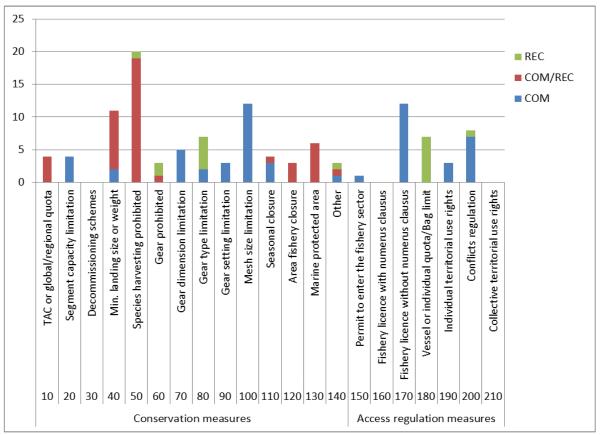


Figure 21. Classification of "management measures per type" by recreational or professional activities

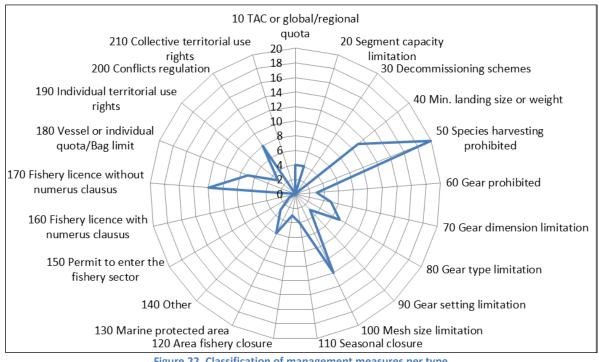


Figure 22. Classification of management measures per type





3.1.3.1 Conservation measures

3.1.3.1.1 TAC or global/regional quota (measure 10)

Within conservation measures, the only Total Allowable Catches (measure 10. TAC or global/regional quota) set by the European union are primarily from ICCAT⁶⁷, which is a regional fisheries management organization which establishes measures for large pelagic species. In fact, 4 species harvested in Guadeloupe & St. Martin are under TAC: Blue Marlin (Makaira nigricans), White Marlin (Tetrapturus albidus), Yellowfin Tuna (Thunnus albacares) and Atlantic Sailfish (Istiophorus albicans).

For information, in 2018⁶⁸, the TACs for these different species were:

- Yellowfin tuna (Thunnus albacares) 111 000 tons;
- Blue Marlin (*Makaira nigricans*) 1 985 tones, including a quota of 364.31 tons allocated to France;
- Atlantic Sailfish (Istiophorus albicans) 1 030 tons;
- White Marlin (*Tetrapturus albidus*) 355 tons.

The only binding quota for the vessels of Guadeloupe is for Blue Marlin but the quota is far from being reached. There is no TAC for benthic and demersal species exploited on the insular shelf or the slope or for small pelagic species. The establishment of the WECAFC as a RFMO is underway and could result in the medium-term in the implementation of management measures for species shared at regional level.

3.1.3.1.2 Segment capacity limitation (measure 20)

Capacity ceiling have been established for each outermost regions since 1998 and reviewed 2002, 2004, 2007 and 2013. The aim was to regulate he development of the commercial fishing fleet. For Guadeloupe, fishing capacity ceilings may not exceed 162 590 Kw or 6 188 GT for vessels less than 12 meters and 1 750 Kw or 500 GT for vessels over 12 meters⁶⁹. No decommissioning fleet plan has ever been implemented in Guadeloupe to reduce fishing capacity.

3.1.3.1.3 Minimum landing size or weight (measure 40)

Limit catch sizes and weights (measure 40. Min. Landing size or weight) are fixed by Prefectural Order N° 2002/1249. Eleven measures impose minimum sizes or weights to be respected. Among these measures, one is very general since the catch of all species of "marine fish NCA" (Osteichthyes) is only possible when they measure 10 centimeters or more⁷⁰. This general measure is not binding because the catch size is low and doesn't limit the sampling of larger individuals.

No regulation, either in terms of weight or size, concerns the catches of large pelagic species.

3.1.3.1.4 Species harvesting prohibited (measure 50)

⁷⁰ Art 13, Prefectural order n° 2002/1249, 19 august 2002







⁶⁷ https://iccat.int/en/

⁶⁸ Annex I d), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 January 2018

⁶⁹ Annex II, Regulation (EU) No 1380/2013 of the European Parliament and of the Council, 11 December 2013

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Prefectural Order N° 2002/1249 is more exhaustive on the prohibition of the catch of certain species (measure 50. Species harvesting prohibited), since it is possible to count 20 measures creating bans but it is for other purposes than fisheries stock conservation. The exception is the harvesting of Spiny lobster (Palinuridae) with eggs is prohibited In order to promote the reproduction⁷¹.

Other forms of prohibitions concern protected species due to a risk of extinction such as sea turtles⁷²: Leatherback turtles (*Dermochelys coriacea*)), Loggerhead turtles (*Caretta caretta*), Olive Ridley turtles (*Lepidochelys olicavea*), Kemp's Ridley turtles (*Lepidechelys kempii*), Hawksbill turtles (*Eretmochelys imbricata*), Green turtles (*Chelonia mydas*). The accidental catch of these turtles must be reported to the Regional Direction of the Sea of Guadeloupe.

Some shellfish can also be protected, for the same reason. This is the case for helmets: flame (*Cassis Flammea*), King (*Cassis tuberosa*), Emperor (*Cassis madagascariensis*)⁷³. It's the same for corals, Gorgonians (*Gorgoniidae*), sponges, and marine plants, whose fishing, peddlinging, selling but also destruction is forbidden unless they are found in the state of wreck on the coastline⁷⁴. In the same way, Cetaceans and Sirenia can not be caught, destroyed, or mutilated for selling parts of their bodies⁷⁵.

Another form of catch ban, this time, is due to the risk of impacting human health by some species contaminated with toxins (ciguatera) or anthropogenic pollution such as chlordecone. They are species such as: the Great Barracuda (*Sphyraena barracude*), Greater Amberjack (*Sériola Dumerili*), the Longfin Yellowtail (*Seriola rivoliana*), the Yellow Jack (*Caranx Bartholomaei*), Tétrodons and diodons (*striped and Diodon*). But also these species when their weight is greater than 1 kg; Blackfin Snapper (*Lutjanus Buccanella*), Schoolmaster Snapper (*Lutjanus apodus*), Dog Snapper (*Lutjanus jocu*). Similarly, the following species are prohibited, when fished north of latitude 16 ° 50 ' north: The Black Jack (*Caranx lugubris*), the Bar Jack (*Caranx ruber*), the Horse-eye Jack (*Caranx latus*), the Green Conger (*Gymnothorax funebris*), Dog Snapper (*Lutjanus jocu*), Yellowfin Grouper (*Mycteroperca venenosa*), Tiger Grouper (*Mycteroperca tigris*), Red Grouper (*Epinephelus morio*), Mutton Hamlet (*Alphestes afer*).

3.1.3.1.5 Gears measures (measure 60 to 100)

As indicated above, fishing gears are also regulated wit total of 30 measures that affect them directly or indirectly. 17 norms specifically concern gears, while 13 others are more related to the métiers (combination of gear and target species). This regulation takes different forms starting with the prohibition of gears (measure 60. Gear prohibited) like the use of towed gears 76, but also restrictions on their dimensions (measure 70. Gear dimension limitation), their type (measure 80. Gear type limitation), but also for their use (measure 90. Gear setting limitation), with a respective number of 5, 7 and 3 measures. The mesh of gears (measure 100. Mesh size limitation), especially for various nets used, is also strongly regulated with 12 measures established.

⁷⁶ Art 4, Prefectural order n° 2002/1249, 19 august 2002





⁷¹ Art 14, Prefectural order n° 2002/1249, 19 august 2002

⁷² Art 17, Prefectural order n° 2002/1249, 19 august 2002

⁷³ Art 15, Prefectural order n° 2002/1249, 19 august 2002

⁷⁴ Art 19, Prefectural order n° 2002/1249, 19 august 2002

⁷⁵ Art 22, Prefectural order n° 2002/1249, 19 august 2002

3.1.3.1.6 Seasonal closure (measure 110)

Prefectural Order N° 2002/1249 includes other periods when fishing is prohibited (measure 110. Seasonal closure). This concerns the catch of Queen conch (Strombus gigas) and Sea eggs (Tripneustes ventricosus). These two species total 4 norms for catch-ban periods, 1 measure for the harvesting of Sea eggs, and 3 for the catch of Queen Conch (cf. 6.1.3.4.4 Conch Fishery and 6.1.3.4.5 Urchin fishery for details of these measurements).

3.1.3.1.7 Area fishery closure (measure 120)

There isn't a cantonment zone in Guadeloupe and Saint Martin (measure 120. Area fishery closure). Only river passes, between reefs, lagoons, ravines, canals and ponds cannot be barred by fishing operations⁷⁷. As mentioned above, some areas contaminated with Chlordecone pollutant (subject to 2 measures) make the species caught in these areas unfit for consumption. Fishing is therefore prohibited to preserve the health of consumers. The analysis of the contamination of the marine environment and in particular of species of fishery interest has led to the successive seizure of prefectural orders, the most recent from 2013⁷⁸ and 2014⁷⁹, in order to regulate fishing activity in several sectors (cf. Annex I).

Conservation measures/ Access regulation measures	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Total
Conservation measures	Demersal and benthic	120	Area fishery closure	COM/REC	ALL	river passes, between reefs, lagoons, ravines, canals and ponds	The barrage of passes between reefs, rivers, ravines, lagoons, canals and ponds, by any process is prohibited	1
	fishery	120	Area fishery closure	COM/REC	ALL	chlordecone	Prohibition of fishing of several species located in perimeters delimited by prefectural orders	2
Total								3

Table 11. Area fishery closure measures

⁷⁹ Prefectural order n° 2014-02 that modifies prefectural order n° 2013-57 which regulate fishing and the sale of species of marine fauna in some maritime areas of Guadeloupe, 28 february 2014







⁷⁷ Art 11, Prefectural order n° 2002/1249, 19 august 2002

 $^{^{78}}$ Prefectural order n° 2013-57 which regulate fishing and the sale of species of marine fauna in some maritime areas of Guadeloupe, 26 june 2013

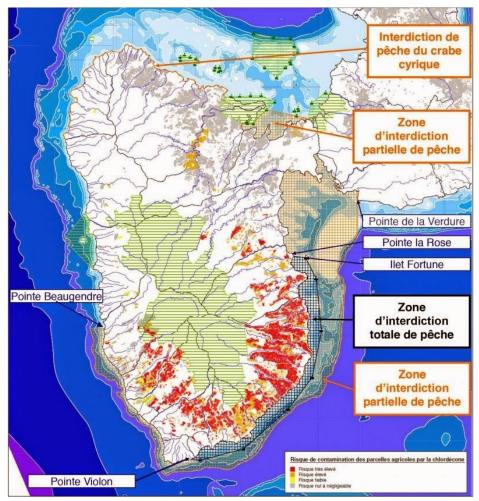


Figure 23. Banned and regulated areas for fishing in relation to Chlordecone pesticide

3.1.3.1.8 Marine protected area (mesure 130)

In order to preserve the resource, it is also possible to list the various marine protected areas existing in Guadeloupe and Saint-Martin (to the number of 5). Within these marine protected areas many small islands called islets are present (islets Fajou; Christophe; The Biche; Carénage; Kahouanne; Tête à l'Anglais; islets Pigeon).

The majority of these islets are present in the Bay of the "Grand Cul-de-Sac Marin". Only the Pigeon islets are on "côte sous le vent" side. Between the 2, the islets Kahouanne and Tête à l'Anglais mark the passage between the "côte sous le vent" and the "Grand Cul-de-Sac Marin"⁸⁰. In 1998, the Nature Reserve of Saint Martin and the islands of the petite Terre was created⁸¹, then in 2011, the National Nature Reserve of La Désirade⁸². The National Park of Guadeloupe created in 2009⁸³ consisting of land

⁸³ Decree n° 2009-614 taken for the adaptation of the delimitation and regulation of the National Park of Guadeloupe to the provisions of the Environmental code from the law n° 2006-436, 3 june 2009







⁸⁰ Decree n° 98-802, which create the nature reserve of Saint-Martin, 3 september 1998

⁸¹ Decree n° 98-801 which create the nature reserve of the Petite Terre islands, 3 september 1998

⁸² Decree n° 2011-853, which create the national nature reserve of La Désirade, 19 july 2011

and maritime spaces can now play a major role in the protection and preservation of the marine environment covered by its perimeter.

More specifically, the National Park of Guadeloupe consists of:

- A zone "Heart of Park" composed of:
 - 1) 17 300 ha in the forest massif of the Basse-Terre;
 - 2) 3 200 ha in the Grand Cul-de-Sac marin (Old Nature Reserve);
 - 3) islets Kahouanne and Tête-à-l'Anglais;
 - 4) Terrestrial and marine parts of the islets Pigeon;
- an optimum area of membership of several communes;
- an adjacent maritime area.

On all nature reserves the Prefectural Order N° 2002/1249 provides that hooks and lines, nets or pots and traps are prohibited⁸⁴. The collect of animals alive or dead, as well as the underwater hunting with a harpoon or any other similar instrument are also prohibited. By way of exception, it is possible that professional fishing practices may be authorized by prefectural order.



Figure 24. National Park of Guadeloupe perimeter

In parallel to the marine protected areas, in the sector of Malendure, a measure lays down the principle that professional and recreational maritime fishing (including underwater hunting) are prohibited⁸⁵.

⁸⁵ Art 50 and annex IV, Prefectural order n° 2002/1249, 19 august 2002





⁸⁴ Art 49, Prefectural order n° 2002/1249, 19 august 2002

This on the grounds that this area is classified as a marine fishing reserve. One exception persists as the pelagic seine (encircle net) and bait fishery are still possible for commercial fishermen.

- a) au 300° de l'embouchure de la Rivière Mahaut au point A de coordonnées N 16°11'50''
 W 61°47'25''
- b) du point A au point B de coordonnées N 16°10' W 61°47'52''
- c) du point B au point C de coordonnées N 16°09'45'' W 61°47'36''
- d) du point C au 41 ° jusqu'à la côte

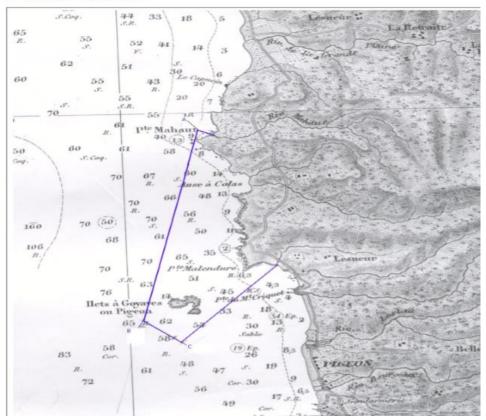


Figure 25. Malendure fishery area closure

Conservation measures/ Access regulation measures	Fishery_le vel1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_ label	Conditions of application in national language	Total
		130	Marine protected area	COM/REC	ALL	Marine fishing reserve	In Malendure sector, professional and recreational maritime fishing (including underwater hunting) is prohibited. Pelagic seine and bait fishery are still possible for professional fishermen.	1
Conservation measures	Demersal and benthic fishery	130	Marine protected area	COM/REC	ALL	National Park of Guadeloupe	the National Park of Guadeloupe consists of: - A zone "Heart of Park" composed of: 1) 17 300 ha in the forest massif of the Basse-Terre; 2) 3 200 ha in the Grand Cul-de-Sac marin (Old Nature Reserve); 3) islets Kahouanne and Tête-à-l'Anglais; 4) Terrestrial and marine parts of the islets Pigeon; - an optimum area of membership of several communes; - an adjacent maritime area.	1





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Total						·	6
	130	Marine protected area	COM/REC	ALL	Natural marine reserves	hooks and lines, nets or pots and traps are prohibited. The collect of animals alive or dead, as well as the underwater hunting with a harpoon or any other similar instrument are also prohibited. By way of exception, it is possible that professional fishing practices may be authorized by prefectural order.	1
	130	Marine protected area	COM/REC	ALL	Natural reserve of Saint-Martin)	Natural reserve of Saint-Martin perimeter	1
	130	Marine protected area	COM/REC	ALL	Natural reserve of islets of la Petite Terre	Natural reserve of la Petite Terre perimeter	1
	130	Marine protected area	COM/REC	ALL	National natural reserve of La Désirade	Natural reserve of La Désirade perimeter	1

Table 12. Marine protected area measures

Other (measure 140) 3.1.3.1.9

The description of the conservation measures ends with a category "Other" (Measure 140. Other) dealing with underwater fishing. The prefectural order mainly takes national measures⁸⁶, which are not referenced in this report. The objective is to highlight the regional measures specific to Guadeloupe and Saint Martin. Three measures deserve to be highlighted in the context of professional or recreational underwater fishing activities in these two regions. More precisely, this is the question of what devices can be used or not. Indeed, in the case of recreational fishing, are prohibited gears other than snares or harpoons with sandow⁸⁷. In the case of professional fishing it is possible to use a hook⁸⁸. Whether in the case of professional fishing or recreational fishing, simultaneous detention on a vessel of respiratory equipment and special equipment for underwater fishing is prohibited (except if there is an exemption)89.

3.1.3.2 Regulation access measures

3.1.3.2.1 Permit to enter the fishery sector (measure 150)

As mentioned before, the implementation of measures to regulate access seems essential to "reduce the race to fish" and avoid fishing overcapacity in various fisheries as well as possible conflicts between fishing Métiers. The exploitation permit is necessary for fishing in Guadeloupe (measure 150. Permit to enter the fishery sector). The PME should be obtained before the construction of a new vessel or the replacement of a vessel. The request for a PME is addressed to the public administration in charge of fisheries and in the case of a new vessel the request is submitted to the regional commission for the modernization of the fleet (COREPAM). The PME is delivered at regional level by the Prefect of the Region who is the authority representing the French State at regional level. A European fishing license must also be held90 and is linked to the vessels capacity ceiling limits in Guadeloupe laid down in the

⁹⁰ Articles R921-15 to R921-19 Code Rural et de la Pêche Maritime



⁸⁶ Article R921-92 Code Rural et de la Pêche Maritime

⁸⁷ Art 41, Prefectural order n° 2002/1249, 19 august 2002

⁸⁸ Art 10, Prefectural order n° 2002/1249, 19 august 2002

⁸⁹ Art 42, Prefectural order n° 2002/1249, 19 august 2002

framework of the Common Fisheries Policy (cf. above). Up to a recent period, the capacity ceiling was not very restrictive both in terms of entry into the sector and change of vessel characteristics, especially engine power. Indeed, the power and tonnage of vessels has increased considerably within the fleet since the establishment in 1998 of a community register of fishing vessels in the outermost regions (see next figure). The next figure presents the evolution of engine power in kW of vessels present in the Community Fleet Register (CFR) for each year⁹¹ and the capacity ceiling.

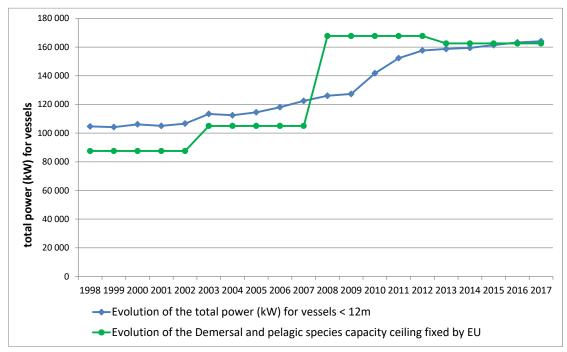


Figure 15. Total power evolution and maximum power allowed for vessels <12m

N.B. the total power (KW) series were calculated for all the vessels present in the fleet register in a given. It does not consider the situation the fleet at the end of the year. This could explain why ttotal KW is higher that capacity ceiling.

⁹¹ These values may differ from the engine power at the end of the year considering entry/exit mechanisms





Year	Evolution of the total power (kW) for vessels < 12m	Evolution of the Demersal and pelagic species capacity ceiling fixed by EU
1998	104 664	87 522
1999	104 201	87 522
2000	106 121	87 522
2001	105 030	87 522
2002	106 651	87 522
2003	113 388	105 000
2004	112 476	105 000
2005	114 497	105 000
2006	118 061	105 000
2007	122 478	105 000
2008	126 060	167 765
2009	127 326	167 765
2010	141 738	167 765
2011	152 308	167 765
2012	157 654	167 765
2013	158 714	162 590
2014	159 469	162 590
2015	161 380	162 590
2016	163 275	162 590
2017	164 084	162 590

Figure 16. Total power evolution and maximum power allowed for vessels <12m

3.1.3.2.2 Fishery/métier license without numerus clausus *(measure 170)*

It's possible to count 12 cases where a fishing license without numerus clausus must be requested before the practice of the fishing activity related to it (measure 170. Fishery license without numerus clausus). In fact, these are more requests for authorizations to be sent to the Regional Direction of Maritime Affairs of Guadeloupe. The fishing of the Queen snapper (Etelis oculatus)⁹², Sea eggs (Tripneustes ventricosus)⁹³, but also the fishing of Yellowtail snapper (Ocyurus chrysurus) with seine and that of Bigeye scad (Selar Crumenophthalmus), Halfbeak (Hemiramphus spp), Needlefishes (Belonidae), Diadromous clupeoids nei (Clupeoidei) to encircling nets⁹⁴ requires authorization from the Direction of Sea. It's the same before the construction and setting of a moored fishing aggregating devices (MFADs)⁹⁵.

The authorizations seem not to be very effective in practice since there are not, or rarely, requested or allocated. Conversely, among the 21 métiers⁹⁶ practiced in Guadeloupe and Saint-Martin, 12 of them do not require licenses or authorizations in order to be practiced (*cf. see below*). Furthermore, it should be noted that no "license with Numerus clausus" is established in these two regions, which could explain the high level of competition between professional fishermen for access to resources

⁹⁶ Weiss Jérôme, Le Blond Samuel, Guyader Olivier, Demanèche Sébastien, Berthou Patrick, Rostiaux Emilie, Leblond Emilie 2018. Synthèse des pêcheries de Guadeloupe 2017. Ifremer-sih-2018.12, 19 p.







⁹² Art 20, Prefectural order n° 2002/1249, 19 august 2002

⁹³ Art 18, Prefectural order n° 2002/1249, 19 august 2002

⁹⁴ Art 9, Prefectural order n° 2002/1249, 19 august 2002

⁹⁵ Art 47, Prefectural order n° 2002/1249, 19 august 2002

and spaces. The competition report states that the interactions between professional fishing and recreational fishing are of relatively high intensity and that there is a quiet important informal fishery⁹⁷.

3.1.3.2.3 Vessel or individual quota/Bag limit (measure 180)

With the aim of avoiding or at least limiting, the métier of recreational fishing, 7 measures limits the number of 3 per person and per exit, the maximum catches of some species⁹⁸ (measure 180. Vessel or individual quota/Bag limit). These include the Dolphinfishes nei (Coryphaenidae), Seerfishes nei (Scomberomorus spp), tunas nei (Thunnini), Rainbow runner (Elagatis bipinnulata), Swordfish (Xiphias gladius), Marlin (Istiophoridae) and Sailfishes (Istiophoridae).

3.1.3.2.4 Individual territorial use rights (measure 190)

Prefectural order N° 2002/1249 also established two forms of temporary appropriation of the maritime space (measure 190. Individual territorial Use rights) for the seine fishing activity. Starting from the setting up of a float marking an area to seine, the purser-master keep his right to seine for several days, and as long as he didn't use his seine.

In a more informal way, it is also possible to add another form of maritime space appropriation, by fishermen along private anchored MFADs⁹⁹. These individual territories form virtual lines consisting of series of anchored MFADs around the archipelago of the islands of Guadeloupe¹⁰⁰. The territorialization of fishing zones associated with a high density of anchored MFADs can explain the difficulties of project implementation of collective MFADs in Guadeloupe¹⁰¹.

3.1.3.2.5 Conflicts regulation (measure 200)

Finally, the use of fixed gears, the practice of certain métiers in some sectors, the laying of floats marking a seine area, and the aggregation of fishing activities around the MFADs, require an organization of fishing methods which most of the time is informal. However, eight rules are set in order to avoid conflicts between each métier (measure 200. Conflicts regulation).

¹⁰¹ Guyader Olivier, Robert Bauer, Reynal Lionel (2017). Assessing the number of moored fishing aggregating devices through aerial surveys: A case study from Guadeloupe. *Fisheries Research*, 185, 73-82. Publisher's official version: https://doi.org/10.1016/j.fishres.2016.10.003, Open Access version: https://archimer.ifremer.fr/doc/00355/46605/







⁹⁷ Berthou, P. Guyader O. et al. Task 2.1 Activity 2. Identification of competitors interactions

⁹⁸ Art 38, Prefectural order n° 2002/1249, 19 august 2002

⁹⁹ Guyader Olivier, Frangoudes Katia, Kleiber Danika (2018). Existing Territories and Formalization of Territorial Use Rights for Moored Fish Aggregating Devices: The Case of Small-Scale Fisheries in the La Désirade Island (France). *Society & Natural Resources*, 31(7), 822-836. https://doi.org/10.1080/08941920.2018.1443235

¹⁰⁰ Guyader, O., Frangoudes, K., Timor, J., Reynal, L., Dromer, C. 201). Socio-économie et gouvernance des dispositifs de concentration de poissons ancrés dans les Antilles françaises

3.1.4 Analysis of regulations for the sector and per fisheries

In a second step, it's also possible to list and classify the regulation in force according to a "fisheries" segmentation approach. Based on species targeted, gear used and area harvested, "fisheries" can be defined as "a management entity of a fishing capacity limited to a given geographical area, where different métiers operate. These métiers harvest species that occupy habitats of similar characteristics. The geographical area may be continuous or not, target and non-target species are taken into account" 102. This approach makes possible to better identify how the various activities exploiting the different components of the ecosystem are regulated.

A large part of the regulation tends to cover the "Coastal fisheries" since 70 rules target these fisheries (60.3% of all measures). Twenty measures called "All population" (17.3%) apply without distinction to all fisheries. The "Offshore fisheries", mainly practiced around the MFADs, is subject to 17 norms (14.6%). The "Shelf slope fisheries", specifically targeting the Queen snapper (*Etelis oculatus*), include 5 measures (4.3%). Within this first segment, it is possible to operate a sub-classification of measures, depending on the fishing activities operated. Thus, for all fishing sectors without distinction, called "All population", some general measures also described as "All population" apply (20 measures). The fishing sector known as "Coastal fisheries", is composed of several fishing activities: Demersal and benthic fishery (40 measures); Small Pelagic fishery (11 measures); Conch fishery (6 measures); Shore fishing (6 measures); Spiny lobster fishery (4 measures); Urchin fishery (3 measures). Fishing on the "Shelf slope fisheries" includes the fishing activity "Snappers fishery" (5 measures). Finally, offshore fisheries, the "Offshore fisheries", includes the fishing activity "large pelagic fishery and MFADs" (17 measures).

¹⁰² Berthou et al. 2008. L'approche par pêcherie : définition de l'Ifremer, 4 p.





Conservation measures/ Access regulation measures	Fishery_level2	Fishery_level1	СОМ	COM/REC	REC	Total
	All population	All population		19		19
	Segment	Segment	4			4
		Demersal and benthic fishery	18	11	4	33
		Conch fishery	5		1	6
Conservation	Coastal fisheries	Shore fishing		4	2	6
measures	Coastal fisheries	Small pelagic fishery	4			4
		Spiny lobster fishery		3	1	4
		Urchin fishery		2		2
	Shelf slope fisheries	Snappers fishery	1	1		2
	Offshore fisheries	Large pelagic fishery & MFADs		4	1	5
	All population	All population	1			1
		Small pelagic fishery	7			7
Access regulation	Coastal fisheries	Demersal and benthic fishery	7			7
measures		Urchin fishery	1			1
	Shelf slope fisheries	Snappers fishery	3			3
	Offshore fisheries	Large pelagic fishery & MFADs	4		8	12
Total			55	44	17	116

Table 13. Allocation of measures by fishery areas and fishery activities

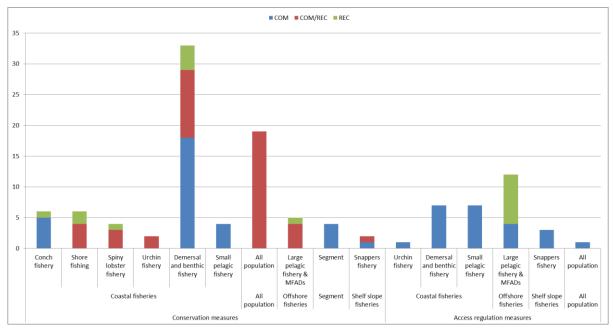


Figure 17. Allocation of measures by fishery area and fishery activities

Using the variable to classify measures by fisheries and those used to distinguish fishing activities, it's possible to cross them with the "management measure per type". And so, it's possible to show for each fishery and fishing activities the different types of management measures listed as well as their numbers. (Cf. Table 14. "Management measure per type" by fishery areas and fishery activities).

Conservation measures/ Access regulation measures	Fishery_level2	Fishery_level1	Management measure number	Management measures per type	Total
	All nonulation	All population	50	Species harvesting prohibited	18
	All population	All population	60	Gear prohibited	1
	Segment	Segment	20	Segment capacity limitation	4
			40	Min. landing size or weight	2
		Conch fishery	50	Species harvesting prohibited	1
			110	Seasonal closure	3
		Chana fiabina	40	Min. landing size or weight	4
		Shore fishing	80	Gear type limitation	2
			40	Min. landing size or weight	2
		Spiny lobster fishery	50	Species harvesting prohibited	1
			60	Gear prohibited	1
			40	Min. landing size or weight	1
Conservation measures	Coastal fisheries	Urchin fishery	110	Seasonal closure	1
			40	Min. landing size or weight	1
			70	Gear dimension limitation	5
			80	Gear type limitation	5
		Demersal and	90	Gear setting limitation	2
		benthic fishery	100	Mesh size limitation	8
			120	Area fishery closure	3
			130	Marine protected area	6
			140	Other	3
		Small pelagic fishery	100	Mesh size limitation	4
	Offshore	Large pelagic fishery	10	TAC or global/regional quota	4
	fisheries	& MFADs	60	Gear prohibited	1
	Shelf slope	Construction Control	40	Min. landing size or weight	1
	fisheries	Snappers fishery	90	Gear setting limitation	1
	All population	All population	150	Permit to enter the fishery sector	1
		Urchin fishery	170	Fishery licence without numerus clausus	1
			170	Fishery licence without numerus clausus	2
		Demersal and benthic fishery	190	Individual territorial use rights	1
	Coastal fisheries	bentine fishery	200	Conflicts regulation	4
			170	Fishery licence without numerus clausus	5
Access regulation		Small pelagic fishery	190	Individual territorial use rights	1
measures			200	Conflicts regulation	1
			170	Fishery licence without numerus clausus	1
	Offshore	Large pelagic fishery	180	Vessel or individual quota/Bag limit	7
	fisheries	& MFADs	190	Individual territorial use rights	1
			200	Conflicts regulation	3
	Shelf slope fisheries	Snappers fishery	170	Fishery licence without numerus clausus	3
Total					116
					•

Table 14. Management measure per type » by fishery areas and fishery activities

3.1.4.1 <u>Sectorial/general measures applied to the fisheries in the Region</u>

General measures are the limitations in capacity (engine power and tonnage per segment defined by the CFP) described before. In addition, commercial fishing in Guadeloupe or Saint-Martin requires holding a license (measure 150. Permit to enter the fishery sector). No license is required for recreational fishing. The use of towed gears is also prohibited and the harvesting some species prohibited (see before)





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3.1.4.2 Offshore fisheries

3.1.4.2.1 Large pelagic & MFADs measures

Harvesting of large pelagic species corresponds to the practice of the métier called "longlines and lines of large pelagic species", operated mainly around MFADs but also on free schools. Several fishing methods can be used, trolling line, surface drifting line, or vertical drifting line. In 2017, this métier was practiced by 309 vessels operating approximately 12 000 sea days (24% of days at sea in Guadeloupe) for an estimated landed production of 1 380 tons (47% of total landings) and a value of almost 11 M € (42% of total landing value).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
LX_LPF	Hooks and lines - Large pelagic fish	309	11 184	1 379.6	10 946.7

Table 15. Key figures of the Large pelagic & MFADs fishery

These activities mainly target large migratory pelagics such as the Common Dolphinfish (*Coryphaena Hippurus*), which represents an average of 65.3% of catches in this métier. Landings of Yellowfin tuna (*Thunnus albacares*) represent an average of 11.7% of catches in this métier. For Filefishes (*Monacanthidae*), Tunas nei (*Thunnini*), Marlins/Sailfishes etc. nei (*Istiophoridae*), Blue marlin (*Makaira nigricans*), they respectively represent 8.8%, 3.6%, 3.2% and 2.4% of the catches of this métier¹⁰³.

The large pelagic fishery is subject to 16 measures, as well as a 17th which, although commonly applied, stay informal. Among the large pelagics targeted by small fishing in Guadeloupe and St. Martin, only 4 are subject to Total Allowable Catches (TAC) (measure 10. TAC or global/regional quota) set by the European Union according to the ICCAT. These TAC concerns blue marlin (Makaira nigricans), White marlin (Tetrapturus albidus), yellowfin tuna (Thunnus albacares) and Atlantic sailfish (Istiophorus albicans). As a reminder, in the year 2018¹⁰⁴, the TAC to follow for these species was:

- -Yellowfin tuna (Thunnus albacares) 111 000 tons;
- -Blue Marlin (Makaira nigricans) 1 985 tons, including a quota of 364.31 tons attributed to France;
- -Atlantic sailfish (Istiophorus albicans) 1 030 tons;
- -White Marlin (Tetrapturus albidus) 355 tons.

The fishing of large pelagic species is mainly practiced around MFADs, therefore, measures relating to MFADs are present in this category. Recreational fishing are prohibited from constructing, setting operating MFADs¹⁰⁵ (measure 60. Gear prohibited). However, recreational fishing is still permitted near MFADs set by professional fishermen, except in a radius of 500 meters around the MFADs¹⁰⁶ (measure

¹⁰⁶ Art 36, Prefectural order n° 2002/1249, 19 august 2002





 ¹⁰³ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier: Palangres et lignes à grands pélagiques
 Année 2017 - Guadeloupe. http://sih.ifremer.fr/Publications/Syntheses/Outre-Mer/Guadeloupe/Syntheses-parmetier/2017/(offset)/10

Annex I d), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 january 2018

¹⁰⁵ Art 36, Prefectural order n° 2002/1249, 19 august 2002

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200. Conflicts regulation). This prohibition on fishing in a radius of 500 meters around a MFADs also applies to other professionals who aren't owners of the MFADs concerned, but only when the fisherman owner of the MFADs is there¹⁰⁷.

Before setting a MFAD, commercial fishers have to send a request to the Direction of the Sea of Guadeloupe (measure 170. Fishery license without numerus clausus). If authorized, commercial fishers have to declare the exact position of the public authority¹⁰⁸. As indicated by Guyader et al. 2018¹⁰⁹, commercial fishers don't systematically declare their MFADs and the number of MFADs isn't really known. It is important to underline that there is no quota or maximum number of MFADs per vessel to regulate the development of this fishery. Also, there is no licensing system with numerus clausus to regulate and monitor the evolution of this fishery. Moreover, it's possible to mention a form of appropriation and individualization of the fishing territories through informal rules applied by fishers defining MFADs fishing territories¹¹⁰ (measure 190. Individual territorial use rights).

Certainly in order to avoid the creation of a form of competition between the landings of commercial fishers and the recreational or illegal fishers, several large pelagic species are subject to a catch limit or bag limit per trip for recreational fishers (measure 180. Vessel or individual quota/Bag limit). Only a maximum of 3 individual per trip of each of the following species are allowed¹¹¹: Seerfishes nei (Scomberomorus spp), Tunas nei (Thunnini), Dolphinfishes nei (Coryphaenidae), Rainbow runner (Elagatis Bipinnulata), Swordfish (Xiphias gladius), Marlin (Istiophoridae), Sailfish (Istiophoridae). This measure is not intended to apply to fishing tournaments. However these measures are not well known and the informal/illegal fishing is significant in Guadeloupe.

¹¹¹ Art 38, Prefectural order n° 2002/1249, 19 august 2002





¹⁰⁷ Art 47, Prefectural order n° 2002/1249, 19 august 2002

¹⁰⁸ Art 47, Prefectural order n° 2002/1249, 19 august 2002

¹⁰⁹ Guyader Olivier, Robert Bauer, Reynal Lionel (2017). Assessing the number of moored fishing aggregating devices through aerial surveys: A case study from Guadeloupe. *Fisheries Research*, 185, 73-82. Publisher's official version: https://doi.org/10.1016/j.fishres.2016.10.003, Open Access version: https://archimer.ifremer.fr/doc/00355/46605/

¹¹⁰ Guyader Olivier, Frangoudes Katia, Kleiber Danika (2018). Existing Territories and Formalization of Territorial Use Rights for Moored Fish Aggregating Devices: The Case of Small-Scale Fisheries in the La Désirade Island (France). *Society & Natural Resources*, 31(7), 822-836. https://doi.org/10.1080/08941920.2018.1443235

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Conservation measures/ Access regulation measures	Fishery _level2	Fishery _level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Value	Units	Total		
			10	TAC or global/regional quota	COM/REC	BUM	Blue marlin (Makaira nigricans)		364,31	tons	1		
	res		10	TAC or global/regional quota	COM/REC	SAI	Atlantic sailfish (Istiophorus albicans)		1 030	tons	1		
Conservation measures				10	TAC or global/regional quota	COM/REC	WHM	Atlantic white marlin (Tetrapturus albidus)		355	tons	1	
			10	TAC or global/regional quota	COM/REC	YFT	Yellowfin tuna (Thunnus albacares)		111 000	tons	1		
			60	Gear prohibited	REC	MFADs	Construction, anchorage and operation on MFADs				1		
			170	Fishery licence without numerus clausus	СОМ	MFADs	MFADs construction				1		
					180	Vessel or individual quota/Bag limit	REC	LTLBIL	Marlins (Istiophoridae)		<=3	Marlins	1
		Large	180	Vessel or individual quota/Bag limit	REC	LTLBIL	Sailfish (Istiophoridae)		<=3	Sailfish	1		
	Offshore fisheries	fichony	180	Vessel or individual quota/Bag limit	REC	LTLDOL	Dolphinfishes nei (Coryphaenidae)		<=3	Dolphinfishes	1		
			180	Vessel or individual quota/Bag limit	REC	LTLRRU	Rainbow runner (Elagatis bipinnulata)		<=3	Rainbow runner	1		
Access regulation			180	Vessel or individual quota/Bag limit	REC	LTLSOW	Swordfish (Xiphias gladius)		<=3	Swordfish	1		
measures			180	Vessel or individual quota/Bag limit	REC	LTLTUN	Tunas nei (Thunnini)		<=3	Tunas nei	1		
			180	Vessel or individual quota/Bag limit	REC	LTLWAH	Seerfishes nei (Scomberomorus spp)		<=3	Seerfishes nei	1		
n			190	Individual territorial use rights	СОМ	MFADs	Fishing on MFADs	fishing territories more or less attributed to fishermen along anchored MFADs			1		
			200	Conflicts regulation	СОМ	MFADs	Fishing on MFADs	fishing prohibited in a radius of 500 meters around a MFADs which belongs to another professional (only when the fisherman owner of the MFADs is there)	<=0,5	milles	1		
			200	Conflicts regulation	СОМ	PS/DOL	Seine/Common dolphinfish	Common dolphinfish drag with sein prohibited when another professional also drag with sein in the sector			1		
			200	Conflicts regulation	REC	MFADs	Recreeational fishing on MFADs	maritime recreational fishing prohibited in a radius of 500 meters around the MFADs installed by professional fishermen	<=0,5	milles	1		
Total											17		

Table 16. Offshore fisheries - 6.1.3.3.1 Large pelagic & MFADs - measures





3.1.4.3 Shelf slope fisheries

3.1.4.3.1 The snappers fishery

The main target species of the snapper fishery is Queen Snapper (*Etelis oculatus*) but not exclusively. Gillnets or longline are the main gears used ¹¹²¹¹³, traps are also operated ¹¹⁴ but to target other species. Depth of operation is more or less 200 meters mainly on the shelf slope. Total effort is estimated to 3415 days at sea (7.4% of total) and total landings are around 200 tons (6.9% of total landings) for a value 1.85 Million € (7.1% of total landing value). Other métiers can be practiced at higher depths, such as fishing for Nephrops (*Eunephrops cadenasi*) or fishing for *Bathynomus giganteus*.

Métier Code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
LLVV	Longlines for snappers	80	1 561	90.2	879.4
FPOVV	Traps and pots for snappers	55	1 486	57.6	571.7
GNSVV	Gillnets for snappers	20	368	53.9	400.8
Total			3 415	201.7	1 851.1

Table 17. Key figures of the Snappers fishery

To be kept on board, Queen Snapper must be at least 42 centimeters¹¹⁵ (measure 40. Min. Landing size or weight) and gillnets cannot be operated beyond 200 meters depth¹¹⁶ (measure 90. Gear setting limitation). Except general measures which concern gillnets, traps and longlines, no additional measures apply the gears used in this fishery. The Queen Snapper fishery is subject to annual individual authorization whatever the gear method used. Authorization has to be requested to the Direction of Sea of Guadeloupe¹¹⁷ (measure 170. Fishery license without numerus clausus).

¹¹⁷ Art 20, Prefectural order n° 2002/1249, 19 august 2002





¹¹² SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Filets profonds - Année 2017 - Guadeloune

¹¹³ SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Palangres profondes - Année 2017 - Guadeloupe

¹¹⁴ SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Casiers profonds - Année 2017 - Guadeloupe

¹¹⁵ Art 20, Prefectural order n° 2002/1249, 19 august 2002

¹¹⁶ Art 7, Prefectural order n° 2002/1249, 19 august 2002

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level2	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Value	Units	Total
Conservation			40	Min. landing size or weight	COM/REC	EEO	Queen snapper (Etelis oculatus)	>=42	cm	1
measures		pe Snappers	90	Gear setting limitation	СОМ	GNS_VV	Gillnets	<200	m depth	1
Access regulation measures	Shelf		170	Fishery licence without numerus clausus	СОМ	FPOSNX	Authorization to ask for Queens snapper fishing with traps			1
			170	Fishery licence without numerus clausus	СОМ	GNSSNX	Authorization to ask for Queens snapper fishing with nets			1
			170	Fishery licence without numerus clausus	СОМ	LL_SNX	Authorization to ask for Queens snapper fishing with deep longlines			1
Total										5

Table 18. Shelf slope fisheries - 6.1.3.2.1 Snappers fishery - measures

3.1.4.4 <u>Coastal fisheries</u>

Coastal fisheries are operated on the insular shelf. According to our classification, the following fisheries can be distinguished: demersal and benthic fishery, small pelagic fishery, spiny lobster fishery, conch fishery, urchin fishery, shore fishing. In 2017, all these activities represented around 31800 days at sea (69% of total days at sea), 1350 tons (46% of total landings) and 13,5 M€ (51% of landings value). It must be noticed that some general measures may apply to gear that could be used in different fisheries.

3.1.4.4.1 Demersal and benthic fishery

Within the coastal fisheries, the demersal and benthic fishery is composed of a high diversity of métiers (cf. next table) targeting a large species spectrum. Total effort is estimated to around 23440 days sea (74% of total effort on the insular shelf), 922 tons (68% of landings) and 8.75 M€ (66% of landings value). The main métiers operated is traps (12000 days at sea), Nets (6450), Hand line and line (1846) and longline (1367) and snorkeling (873 days at sea). Purse seine called "Gabaille" is also significant with around 700 days at sea, landings are quite important (64 tons) but more difficult to estimate. This métier requires several vessels and the main targeted species is Yellowtail snapper (*Ocyurus chrysurus*) representing 73.1% of the estimated landings of this métier¹¹⁸. The 'Pots and traps – Finfish' métier also allows the catch of demersal and benthic species on the insular shelf. In 2017, the most important species in the landings were the 'Filefishes, leatherjackets nei' (*Monacanthidae*) (87.8 tons and 20% of catches), groupers nei (*Epinephelus spp*) (54.1 tons and 12.3% of catches), Parrotfishes nei (*Scaridae*) (48.2 tons and 11% of catches)¹¹⁹.

¹¹⁸ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Sennes - Année 2017 - Guadeloupe
119 SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Casiers à divers poissons - Année 2017







Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
FPOMZZ	Pots and traps - Finfish	368	11 961	439.4	4 289.5
G	Nets	202	6 444	246.3	2 465.7
LHP	Handlines and Pole-lines	111	1 846	95.8	644.6
LL	Longlines	71	1 367	50.8	457.6
APN	Underwater fishery	40	873	19.5	293.2
PS	Purse Seine	21	691	63.6	552.3
GNCDP	Encircling gillnets - Demersal fish	13	156	5.1	40.4
GNSRA/GTRRA	Skates nets	2		1	8.2

Table 19. Key figures of the 6.1.3.4.1 Demersal and benthic fishery

The diversity of métiers requires a first approach, exclusively focused on the regulation of fishing gears. First, several measures regulate nets, including gillnets. A gillnet can be more than 4 meters high and more than 400 meters in length (measure 70. Gear dimension limitation). The number of gillnets that can be operated simultaneously is limited to two nets when there are two crewmembers. There is also the possibility of having a third net (1200 m in total) only when there are three crewmembers (measure 80. Gear type limitation). In addition, the use of any gillnets with a mesh size less than 60 mm (120 mm stretched mesh) is prohibited (measure 100. Mesh size limitation).

Trammel nets may not have a soaking time exceeding 5 hours¹²² (measure 90. Gear setting limitation). This is supplemented by minimum mesh sizes (measure 100. Mesh size limitation) component:

- -The mesh of the central piece of net has to do, in a humid state, at least 40 mm (80 mm stretched);
- -The mesh of the outer piece of net has to do, in the wet state, at least 200 mm (400 mm stretched).

For straight nets, those whose mesh has not, in the wet state at least 35 mm sideways (70 mm stretched), are prohibited¹²³ (measure 100. Mesh size limitation).

The practice of the seine to target Yellowtail snapper (*Ocyurus chrysurus*) is also subject to strong regulation¹²⁴. The used of purse seine is banned in depth less than 10 meters (*measure 90. Gear setting limitation*). The length of a purse seine may not be less than 200 meters with a net height not less than 10 meters or exceed 16 meters (*measure 70. Gear dimension limitation*).

There are also restrictions on the mesh (measure 100. Mesh size limitation), this must be at least:

- -20 mm (40 mm stretched) in the wet state, for the seine sides;
- -35 mm (70 mm stretched) in the wet state for the main net.

¹²⁴ Art 9, Prefectural order n° 2002/1249, 19 august 2002





¹²⁰ Art 7, Prefectural order n° 2002/1249, 19 august 2002

¹²¹ Art 7, Prefectural order n° 2002/1249, 19 august 2002

¹²² Art 6, Prefectural order n° 2002/1249, 19 august 2002

¹²³ Art 5, Prefectural order n° 2002/1249, 19 august 2002

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Traps and pots for benthic and demersal species may not have a mesh less than 38 mm¹²⁵. The mesh is determined by the smallest height measured between two parallel sides of a fence hexagon (measure 100. Mesh size limitation). It is also added that the manufacture or use of any fish trap not using the naked galvanized mesh is prohibited, unless it presents "a window of vulnerability on the narrow sides in a bare galvanized mesh of a 6/10 thread of mm on a surface of 30 cm by 30 cm" (measure 80. Gear type limitation). Recreational fishing is also lightly framed, as it is forbidden to use trolling or bottom lines (palangrottes) with more than 12 hooks. Longline fishing can only be done using a single longline with a maximum of 30 hooks¹²⁶ (measure 80. Gear type limitation).

Other norms concern demersal and benthic species. This is particularly the case with the minimum catch size (measure 40. Min. Landing size or weight). This measure at general level provides that the fishing of fish which has not reached, at least, the size of 10 cm is prohibited¹²⁷. One can be noticed that this minimum size is very low. The measurement of the fish has to be done from the tip of the muzzle to the tip of the caudal fin.

The only metier for which prior authorisation for fishing is required (measure 170. Fishery license without numerus clausus) is the purse seine targeting Yellowtail snapper (Ocyurus chrysurus)¹²⁸. Is also concerned for the catch of ornamental and aquarium fish¹²⁹. Purse seine fishing raises some measures to regulate potential conflicts (measure 200. Conflicts regulation). This is the case in some areas for example the "Grande Vigie - islet tête à l'Anglais" line, which is subject to Memorandum of understanding¹³⁰. Moreover, when a float comes to mark an area that a professional wishes to seine, within a radius of 500 meters around the float, it is effectively prohibited to stall straight or trammel nets, and also to seine in that perimeter.

This prohibition, and as a consequence form of appropriation of the maritime space, is only temporary since the right to seine in this perimeter excluding the others, is permitted for the professional only for a maximum of 10 days, unless on this time he gives his seine shot¹³¹.

Underwater fishing by commercial and recreational fishers is also regulated (*measure 140. Other*). Are prohibited all gears other than sandow harpoons or snares¹³². On the other hand, in addition to being able to use collars professional fishermen can also use hooks¹³³.

It should be recalled that the simultaneous detention on board a vessel of respiratory equipment and special equipment for underwater fishing is prohibited (except in case of derogations)¹³⁴.

¹³⁴ Art 10 and 42, Prefectural order n° 2002/1249, 19 august 2002





¹²⁵ Art 8, Prefectural order n° 2002/1249, 19 august 2002

¹²⁶ Art 35, Prefectural order n° 2002/1249, 19 august 2002

¹²⁷ Art 13, Prefectural order n° 2002/1249, 19 august 2002

¹²⁸ Art 9, Prefectural order n° 2002/1249, 19 august 2002

¹²⁹ Art 21, Prefectural order n° 2002/1249, 19 august 2002

¹³⁰ Art 9, Prefectural order n° 2002/1249, 19 august 2002

¹³¹ Art 9, Prefectural order n° 2002/1249, 19 august 2002

¹³² Art 41, Prefectural order n° 2002/1249, 19 august 2002

¹³³ Art 10, Prefectural order n° 2002/1249, 19 august 2002

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	COM/REC	MZZ	Marine fishes nei (Osteichthyes)	The fishing of fish which has not reached, at least, the size of 10 centimeters is prohibited. The measurement of the fish has to be done from the tip of the muzzle to the tip of the caudal fin. Except for: Redear herring/False herring (Harengula humeralis/Harengula culpeola), Mackerel scad (Decapterus macarellus), Dwarf round herring (Jenkinsia lamprotaenia/Stipes anchoa lyolepsis/Artherinomerus)	>=10	cm	1
		70	70	Gear dimension limitation	СОМ	GNSMZZ	Gillnets	Gillnets cannot be more than 4 meters high	<=4	m	1
		70		Gear dimension limitation	СОМ	GNSMZZ	Gillnets	Gillnets cannot be more than 400 meters in length	<=400	m	1
		70	Gear dimension limitation	СОМ	PS_SNY	Yellowtail snapper (<i>Ocyurus chrysurus)</i> seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine: fall cannot exceed 16 meters	<=16	m	1	
		70	Gear dimension limitation	СОМ	PS_SNY	Yellowtail snapper (Ocyurus chrysurus) seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine: fall cannot be less than 10 meters	>=10	m	1	
		70	Gear dimension limitation	СОМ	PS_SNY	Yellowtail snapper (Ocyurus chrysurus) seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine: the length of a seine may not be less than 200 meters		m	1	
Conservation measures	Coastal fisheries	Demersal and benthic fishery	80	Gear type limitation	СОМ	FPOMZZ	Traps and pots- finfish	the manufacture or use of any fish trap not using the naked galvanized mesh is prohibited, unless it presents "a window of vulnerability on the narrow sides in a bare galvanized mesh of a 6/10 thread of millimeters on a surface of 30 cm by 30 cm"			1
			80	Gear type limitation	СОМ	GNSMZZ	Gillnets	2 gillnets maximum can be flown and used simultaneously when the crew doesn't include more than 2 seamen. A third net is allowed only after embarking a third sailor	<=2	filets	1
			80	Gear type limitation	REC	LHP	Trailing lines and bottom lines (palangrottes)	it is forbidden to use trailing or bottom lines (palangrottes) with more than 12 hooks.	<=12	hameçons	1
			80	Gear type limitation	REC	LL	Longline	Longline fishing can only be done using a single longline with a maximum of 30 hooks	1	palangre	1
			80	Gear type limitation	REC	LL	Longline	Longline fishing can only be done using a single longline with a maximum of 30 hooks	<=30	hameçons	1
	90		90	Gear setting limitation	СОМ	GTR	Trammel net	The trammel net may not have a stall time exceeding 5 hours	<=5	heures	1
			90	Gear setting limitation	СОМ	PS_SNY	Yellowtail snapper (<i>Ocyurus chrysurus)</i> seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine: it's prohibited to seine on funds less than 10 meters	<10	m depth	1
			100	Mesh size limitation	СОМ	FPO	pots	Traps and pots for capturing benthic fish may not have a mesh less than 38 mm. The mesh is determined by the smallest height measured between two parallel sides of a fence hexagon	>=38	mm	1





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	100	Mesh size limitation	СОМ	FPO	traps	Traps and pots for capturing benthic fish may not have a mesh less than 38 mm. The mesh is determined by the smallest height measured between two parallel sides of a fence hexagon	>=38	mm	1
	100	Mesh size limitation	СОМ	GNS	Gillnets	the use of any gillnets with a mesh size less than 60 mm (120 mm stretched mesh) is prohibited	>=60	mm	1
	100	Mesh size limitation	СОМ	GNS	Straight net	straight nets whose mesh has not, in the wet state at least 35 mm sideways (70 mm stretched), are prohibited	>=35	mm	1
	100	Mesh size limitation	СОМ	GTR	Trammel net	Trammel net: the mesh of the central tablecloth has to do, in a humid state, at least 40 mm (80 mm stretched)	>=40	mm	1
	100	Mesh size limitation	СОМ	GNS	Trammel net	Trammel net : the mesh of the outer tablecloths has to do, in the wet state, at least 200 mm (400 mm stretched)	>=200	mm	1
	100	Mesh size limitation	СОМ	PS_SNY	Yellowtail snapper (Ocyurus chrysurus) seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine, minimum mesh size : 20 mm (40 mm stretched) in the wet state, for the seine sides	>=20	mm	1
	100	Mesh size limitation	СОМ	GNS	Yellowtail snapper (Ocyurus chrysurus) seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) purse seine, minimum mesh size: 35 mm (70 mm stretched) in the wet state for the land	>=35	mm	1
	120	Area fishery closure	COM/REC	ALL	river passes, between reefs, lagoons, ravines, canals and ponds	The barrage of passes between reefs, rivers, ravines, lagoons, canals and ponds, by any process is prohibited			1
	120	Area fishery closure	COM/REC	ALL	chlordecone	Prohibition of fishing of several species located in perimeters delimited by prefectural orders			2
	130	Marine protected area	COM/REC	ALL	Marine fishing reserve	In Malendure sector, professional and recreational maritime fishing (including underwater hunting) is prohibited. Pelagic seine and bait fishery are still possible for professional fishermen.			1
	130	Marine protected area	COM/REC	ALL	National Park of Guadeloupe	the National Park of Guadeloupe consists of: - A zone "Heart of Park" composed of: 1) 17 300 ha in the forest massif of the Basse-Terre; 2) 3 200 ha in the Grand Cul-de-Sac marin (Old Nature Reserve); 3) islets Kahouanne and Tête-à-l'Anglais; 4) Terrestrial and marine parts of the islets Pigeon; - an optimum area of membership of several communes; - an adjacent maritime area.			1
	130	Marine protected area	COM/REC	ALL	National natural reserve of La Désirade	Natural reserve of La Désirade perimeter			1
	130	Marine protected area	COM/REC	ALL	Natural reserve of islets of la Petite Terre	Natural reserve of la Petite Terre perimeter			1
	130	Marine protected area	COM/REC	ALL	Natural reserve of Saint- Martin)	Natural reserve of Saint-Martin perimeter			1
	130	Marine protected area	COM/REC	ALL	Natural marine reserves	hooks and lines, nets or pots and traps are prohibited. The collect of animals alive or dead, as well as the underwater hunting with a harpoon or any other similar instrument are also prohibited. By way of exception, it is possible that professional fishing practices may be authorized by prefectural order.			1
	140	Other	СОМ	FDV	Underwater fishery	In addition to being able to use collars professional fishermen can also use hook			1
	140	Other	COM/REC	FDV	Underwater fishery	the simultaneous detention on board a vessel of respiratory equipment and special equipment for underwater fishing is prohibited (except in derogations)			1







			140	Other	REC	FDV	Underwater fishery	all gear other than sandow harpoons or snares are prohibited in for recreational fishing.			1
			170	Fishery licence without numerus clausus	СОМ	MZZ	catches of ornamental and aquarium fish	request prior authorisation to the Regional Direction of Maritime Affairs of Guadeloupe for the catches of ornamental and aquarium fish			1
		170	Fishery licence without numerus clausus	СОМ	PS_SNY	Authorization for purse seine fishing	request prior authorisation to the Regional Direction of Maritime Affairs of Guadeloupe for purse seine fishing of Yellowtail snapper (<i>Ocyurus chrysurus</i>)			1	
		190	Individual territorial use rights	СОМ	PS_SNY	Around a float which mark a sector to seine	During 10 days maximum when the professional put a float to mark a seine sector, unless on this time he gives his seine shot	<=10	days	1	
Access regulation measures	regulation Coastal fisheries	eries benthic fishery 20	200	Conflicts regulation	СОМ	GNR	Around a float which mark a sector to seine	It's prohibited, when a float mark an area that a professional wishes to seine, within a radius of 500 meters around the float, to stall straight or trammel nets.	<=500	m	1
ineasures			200	Conflicts regulation	СОМ	GNS	Around a float which mark a sector to seine	It's prohibited, when a float mark an area that a professional wishes to seine, within a radius of 500 meters around the float, to stall straight or trammel nets.	<=500	m	1
			200	Conflicts regulation	СОМ	PS	Around a float which mark a sector to seine	It's prohibited, when a float mark an area that a professional wishes to seine, within a radius of 500 meters around the float, to use purse seine.	<=500	m	1
			200	Conflicts regulation	СОМ	PS_SNY	Sector subject to Memorandum of understanding/Purse seine	Yellowtail snapper (<i>Ocyurus chrysurus</i>) fishing with purse seine known as "Gabaille" on the area inside the "Grande Vigie - islet tête à l'Anglais" line, is subject to Memorandum of understanding			1
Total											40

Table 20. Coastal fisheries - 6.1.3.4.1 Demersal and benthic fishery - measures





3.1.4.4.2 Small pelagic fishery

The catch of small pelagics in the water column, above the insular shelf, involve the use of an encircling nets. This fishing technique is practiced in coastal areas in general where depth is low. In 2017, total effort was estimated to around 3580 days at sea (8%) for 265 tons of landings (9% of total) and 1.33 M€ (5% of total landings value in Guadeloupe). The most important métier in terms is the encircling gillnets targeting the Bigeye scad (*Selar crumenophthalmus*) with 142 tons landed¹³⁵. Other métier target the so called balaous (*Hemiramphus spp*) (72.1 tons landed in 2017)¹³⁶, Needlefishes, etc. nei (*Belonidae*) (31.2 tons landed in 2017, 88.2% of catches of the métier encircling gillnet to Needlefishes, etc. nei (*Belonidae*)¹³⁷. Is also concerned the harvesting of so called caillus (12.4 tons landed in 2017, 96.4% of catches of the métier)¹³⁸

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value
GNCBH	Encircling nets for balaous (Hemiramphus spp)	48	900	75.4	358.2
GNCOR	Encircling nets for Needlefishes, etc. nei (Belonidae)	21	437	35.4	249.3
GNCCC	Encircling nets for Bigeye scad (Selar crumenophthalmus)	20	238	141.7	658.8
GNCSH	Encircling nets for caillus	8	410	12.9	63.8

Table 21. Key figures of the Small pelagic fishery

For harvesting these species, there is an exception to the general ban on gillnets with a mesh size of less than 60 mm (120 mm stretched mesh) as the minimum mesh size used could be up to 14 mm (28 mm stretched) in the wet state¹³⁹. The encircle net forBigeye scad (*Selar crumenophthalmus*) knows less limitations than those existing for the catches of the Yellowtail snapper (*Ocyurus chrysurus*) since the minimum mesh size of the seine need to be at a minimum of 20 mm (40 mm stretched) in the wet state (*measure 100. Mesh size limitation*).

The general norms setting a minimum catch size of 10 centimeters (measure 40. Min. Landing size or weight) also knows some exceptions since are not concerned the fishery to Redear herring/False herring (Harengula humeralis/Harengula Culpeola), Mackerel scad (Decapterus macarellus), Dwarf round herring (Jenkinsia Lamprotaenia/Stipes Lyolepsis/Artherinomerus).

¹³⁹ Art 9, Prefectural order n° 2002/1249, 19 august 2002





^{135 &}lt;u>SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Filet encerclant à Coulirous - Année</u> 2017 - Guadeloupe

¹³⁶ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Filet encerclant à balaous - Année 2017 - Guadeloupe

¹³⁷ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Filet encerclant à orphies - Année 2017 - Guadeloupe

¹³⁸ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Filet encerclant à caillus - Année 2017 - Guadeloupe

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Prior authorisation for operating these metiers is required from the Direction of the sea of Guadeloupe (measure 170. Fishery license without numerus clausus). Are concerned the fishing of Bigeye scad (Selar crumenophthalmus), balaous (Hemiramphus spp), Needlefishes, etc. nei (Belonidae), Clupeoids nei (Clupeoidei)¹⁴⁰.

The so-called pisquette fishery using a hawk net, in the perimeter of the islet Fajou, classified as a natural reserve, is also possible by authorization, from 1st September to 31 December¹⁴¹.

Finally, encircle net for Bigeye scad (*Selar crumenophthalmus*) is subject to two distinct norms. The first one generates a temporary appropriation of the marine space for 28 days¹⁴² when a float marks a Bigeye scad area that a purser wishes to seine (*measure 190. Individual territorial use rights*). It's then forbidden, within a radius of 500 meters around the float, to lay straight or trammel nets, as well as to seine in this perimeter. This right will expire when a seine shot is given¹⁴³. In order to regulate the potential conflicts between the different métiers (*measure 200. Conflicts regulation*), the Bigeye scad (*Selar crumenophthalmus*) purse seine fishery on the banks of the Pointe d'Antigues, Anse-Bertrand, Anse Colas, Trou à vache (sector Port-Louis) is subject to memorandum of understanding ¹⁴⁴.

¹⁴⁴ Art 9, Prefectural order n° 2002/1249, 19 august 2002





¹⁴⁰ Art 9, Prefectural order n° 2002/1249, 19 august 2002

¹⁴¹ Art 49, Prefectural order n° 2002/1249, 19 august 2002

¹⁴² Art 9, Prefectural order n° 2002/1249, 19 august 2002

¹⁴³ Art 9, Prefectural order n° 2002/1249, 19 august 2002

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Value	Units	Total
			100	Mesh size limitation	СОМ	GNCBEN	Encircling gillnets to Needlefishes, etc. nei (Belonidae)	minimum mesh size: 14 mm (28 mm stretched) in the wet state	>=14	mm	1
Conservation	Coastal fisheries	Small pelagic	100	Mesh size limitation	СОМ	GNCBIS	Encircling gillnets to Bigeye scad (Selar crumenophthalmus)	minimum mesh size: 20 mm (40 mm stretched) in the wet state	>=20	mm	1
measures	iisneries	fishery	100	Mesh size limitation	СОМ	GNCCLU	Encircling gillnets to Clupeoids nei (Clupeoidei)	minimum mesh size: 14 mm (28 mm stretched) in the wet state	>=14	mm	1
			100	Mesh size limitation	СОМ	GNCHAX	Encircling gillnets to balaous (Hemiramphus spp)	minimum mesh size: 14 mm (28 mm stretched) in the wet state	>=14	mm	1
			170	Fishery licence without numerus clausus	СОМ	FCNCJL/EAY	Authorization to ask for bait (pisquette) fishing (hawk net)	Authorization to ask to the Regional Direction of Maritime Affairs of Guadeloupe for the bait Fishery (pisquettes) using a hawk net, in the perimeter of the islet Fajou, classified as a natural reserve, from 1 st September to 31 December			1
			170	Fishery licence without numerus clausus	СОМ	GNCBEN	Authorization to ask for Needlefishes, etc. nei (Belonidae) fishing with encircling gillnets	Authorization to ask to the Regional Direction of Maritime Affairs of Guadeloupe for Needlefishes, etc. nei (Belonidae) fishing with encircling gillnets			1
			170	Fishery licence without numerus clausus	СОМ	GNCBIS	Authorization to ask for Bigeye scad (Selar crumenophthalmus) fishing with encircling gillnets	Authorization to ask to the Regional Direction of Maritime Affairs of Guadeloupe for Bigeye scad (Selar crumenophthalmus) fishing with encircling gillnets			1
Access regulation measures	Coastal fisheries	Small pelagic fishery	170	Fishery licence without numerus clausus	СОМ	GNCCLU	Authorization to ask for Clupeoids nei (Clupeoidei) fishing with encircling gillnets	Authorization to ask to the Regional Direction of Maritime Affairs of Guadeloupe for Clupeoids nei (Clupeoidei) fishing with encircling gillnets			1
			170	Fishery licence without numerus clausus	СОМ	GNCHAX	Authorization to ask for balaous (Hemiramphus spp) fishing with encircling gillnets	Authorization to ask to the Regional Direction of Maritime Affairs of Guadeloupe for balaous (Hemiramphus spp) fishing with encircling gillnets			1
			190	Individual territorial use rights	СОМ	GNCBIS	In a radius of 500 meters around the float marking a Bigeye scad (Selar crumenophthalmus) seine shot sector	At the setting up of the float marking an area of Bigeye scad (Selar crumenophthalmus) to seine, the purser retains his right to seine for a maximum of 28 days, until he has given his seine shot	<=28	days	1
			200	Conflicts regulation	СОМ	GNCBIS	Sectors subject at memorandum of understanding / Encircling gillnets to Bigeye scad (Selar crumenophthalmus)	the Bigeye scad (<i>Selar crumenophthalmus</i>) purse seine fishery on the banks of the Pointe d'Antigues, Anse-Bertrand, Anse Colas, Trou à vache (sector Port-Louis) is subject to memorandum of understanding			1
Total											11

Table 22. Coastal fisheries - 6.1.3.4.2 Small pelagic fishery - measures





3.1.4.4.3 Spiny lobster fishery

The main gears used in the spiny lobster fishery are trammel nets (4590 days at sea), snorkeling and pots (not assessed here because considered as a bycatch of other métiers). In 2017, trammel nets estimated landings were 88 tons (3%) for a total value of 1.68M€ (6.5%).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value
GTRLG	Trammel net for spiny lobster	173	4589	87.9	1 694.3
FDVVLO	Snorkeling métier *		*Cf. snorkel	ing métier	
FPOVLO	Pots and traps for spiny lobster*	<u>*Cf. m</u>	étier 'Pots ai	nd traps - Fin	fish'
GNSVLO	Gillnets for spiny lobster*		*Cf. métier	'gillnets'	

Table 23. Key figures of the Spiny lobster fishery

The lobster fishery is governed by 4 conservation measures. Spiny lobsters (*Panulirus Argus*) and (*Panulirus guttatus*) are to a minimum catch size (*measure 40. Min. Landing size or weight*), respectively 21 cm and 14 cm. The size must be calculated from the tip of the rostrum at the posterior end of the telson, excluding the setae. Both of these measures apply to recreational and commercial fishing. It's the same for the catch ban (*measure 50. Species harvesting prohibited*) of Spiny Lobsters with eggs which applies at all times and places, in order to enable a reproductive cycle of the species. A final measure is also established prohibiting recreational underwater fishery of Spiny lobsters, since it's forbidden to use any type of harpoons in order to harvesting them (*measure 60. Gear prohibited*).

No license system is in place for these métiers. In view of the economic stakes represented by this species, a license for the lobster fishery could be established.

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Value	Units	Total
			40	Min. landing size or weight	COM/REC	NLG	Spotted spiny lobster (Panulirus guttatus)	>=14	cm	1
Conservation		Spiny	40	Min. landing size or weight	COM/REC	SLC	Caribbean spiny lobster (Panulirus argus)	>=21	cm	1
measures	Coastal fisheries	Spiny lobster fishery	50	Species harvesting prohibited	COM/REC	VLO	Spiny lobsters nei (Palinuridae)			1
			60	Gear prohibited	REC	HARVLO	Fishing spiny lobsters with an harpoons when diving			1
Access regulation measures										0
Total										4

Table 24. Coastal fisheries - 6.1.3.4.3 Spiny lobster fishery - measures



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3.1.4.4.4 Conch fishery

Queen conch (*Strombus gigas*) is primarily targeted by nets with in 2017, 62.9 tons of landings¹⁴⁵ (representing 97.4% of the catches of this métier). Underwater fishery is also significant with 9.9 tons of Queen conch landed in 2017 ¹⁴⁶ (representing 96.9% of the catches of this métier). Total effort is around 1770 days at sea (4% of total effort), 3% of landings (75 tons) and 6% of value (1.47 M€).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
GNSLB/GTRLB	Nets to Queen conch	140	1 544	64.6	1 263.9
APNLB	Underwater fishery to Queen conch	28	231	10.2	207.9

Table 25. Key figures of Conch fishery

Mollusks of the family Strombidae are also subject to 6 measures that are specific to them¹⁴⁷. If recreational fishing is prohibited (measure 50. Species harvesting prohibited), commercial fishing is permitted but Queen conch harvested but with a minimum weight of 250 g and pavilion must be formed (measure 40. Min. Landing size or weight). It's possible to regret the absence of an indication of a minimum size to respect for determining if the pavilion of a Queen conch is formed or not. The last measures relating to the Queen conch are periods of fishery closure (measure 110. Seasonal closure) on different sectors. The Queen conch fishery is banned from the shore to the funds less than 25 meters depth, from 1st January to 30 September included. It's also prohibited beyond the 25 meters depth, from 1st February to 30 September included. The catch of the Queen conch is possible at any depth from the beginning of the October month until the end of the month of December. The fishery is also prohibited from 1st April to 31 August inclusive, in the northern islands.

Again, there is no provision for regulation of access in the case of the Queen conch fishery.

¹⁴⁷ Art 16 and Annex II, Prefectural order n° 2002/1249, 19 august 2002





¹⁴⁵ <u>SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Filets à lambis - Année 2017 - Guadeloupe</u>

¹⁴⁶ SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Apnée à lambis - Année 2017 - Guadeloupe

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_ label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	СОМ	coo	Queen conch (Strombus gigas)	The Queen conch need to have a pavilion formed			1
			40	Min. landing size or weight	СОМ	coo	Queen conch (Strombus gigas)		>=250	800	1
Conservation			50	Species harvesting prohibited	REC	coo	Queen conch (Strombus gigas)				1
measures	Coastal fisheries	Conch fishery	110	Seasonal closure	СОМ	coo	Queen conch (Strombus gigas)	fishing prohibited beyond 25 meters depth	01/02- 30/09	périod	1
			110	Seasonal closure	СОМ	coo	Queen conch (Strombus gigas)	fishing prohibited in the Northern islands	01/04- 31/08	périod	1
			110	Seasonal closure	сом	coo	Queen conch (Strombus gigas)	Fishhing prohibited from the shore to 25 meters depths funds	01/01- 30/09	périod	1
Access regulation measures											0
Total											6

Table 26. Coastal fisheries – 6.1.3.4.4 Conch fishery - measures

3.1.4.4.5 Urchin fishery

In Guadeloupe and St. Martin, regulation of urchin fishery focuses on sea eggs (*Tripneustes ventricosus*) by 3 norms¹⁴⁸. 1 ton of this species is catches by the métier 'underwater fishery for urchin'¹⁴⁹ (representing 100% of Catches of this métier).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
FDVECH	Underwater fishery for urchin and echinoderms	11	29	1	54.1

Table 27. Key figure of Urchin fishery

A catch size limit (measure 40. Min. Landing size or weight) is set for both commercial and recreational fishing since only urchins with a size greater than or equal to 10 centimeters can be kept on board. A relatively long period of fishery closure is also set (measure 110. Seasonal closure). Indeed, fishing, peddling, exposure to sale or even sale, of sea eggs is prohibited every year from January 15 to December 15. This leaves only a one-month period every year for harvesting them. For the 2018-2019 this period was more reduced since a deliberation of the CRPMEM of Guadeloupe made possible the fishing of eggs from 15 December to 31 December¹⁵⁰. It's possible to indicate that a request for prior authorization (measure

¹⁵⁰ Deliberation n° 18/2018, CRPMEM of Guadeloupe, 13 December 2018







¹⁴⁸ Art 18 and Annex II, Prefectural order n° 2002/1249, 19 august 2002

¹⁴⁹ <u>SIH - Réseau d'observation des ressources halieutiques et des usages - Fiche Métier : Apnée à Oursins, Echinodermes - Année 2017 - Guadeloupe</u>

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170. Fishery license without numerus clausus) have to be addressed to the Direction of the sea of Guadeloupe. The métier concerned here is the underwater fishery métier.

Conservation measures/ Access regulation measures	Fishery _ level2	Fishery _ level1	Manageme nt measure number	Management measures per type	Application (REC/COM)	Variabl e_code	Variable_ label	Value	Units	Tot al
Conservation			40	Min. landing size or weight	COM/REC	TWV	Sea eggs (Tripneust es ventricosu s)	>=10	cm	1
measures	Coastal fisherie s	Urchin fishery	110	Seasonal closure	COM/REC	TWV	Sea eggs (Tripneust es ventricosu s)	15/01- 15/12	pério d	1
Access regulation measures			170	Fishery licence without numerus clausus	СОМ	FDVTW V	Authorizati on for fishing Sea eggs			1
Total										3

Table 28. Coastal fisheries - 6.1.3.4.5 Urchin fishery - measure

3.1.4.4.6 Shore fishing

The shore fishing can be given 6 measures. First, 4 minimum catch sizes (measure 40. Min. Landing size or weight) are posed for both professional and recreational fishing¹⁵¹. Thus, 'West Indian top shell' (Cittarium Pica) must do a minimum of 4 centimeters. It's the same for the fishing of Tiger lucine and Thick lucine. The harvesting of 'Atlantic thorny oyster' (Spondylus americanus) of or largest than 6 centimeters is impossible. Lastly, in the case of Triton (Charonia variegata), those conserved must have a size of or exceeding 25 centimeters.

Two other measures specific to recreational fishing gears (measure 80. Gear type limitation) can be classified in this shore fishing category. However, the measures remain valid for other sectors. A single fishing scoop is allowed on board of the boats, as well as a single spear or fish gaff, the choice is left to the recreational fisherman¹⁵².

¹⁵² Art 35, Prefectural order n° 2002/1249, 19 august 2002





¹⁵¹ Art 15 and Annex II, Prefectural order n° 2002/1249, 19 august 2002

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Table 29. Coastal fisheries - 6.1.3.4.6 Shore fishing - measures

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Value	Units	Total
			40	Min. landing size or weight	COM/REC	KUI	West Indian top shell (Cittarium pica)	>=4	cm	1
			40	Min. landing size or weight	COM/REC		Tiger Lucine and Thick Lucine	>=4	cm	1
Conservation measures	Coastal	Shore	40	Min. landing size or weight	COM/REC	DYM	Atlantic thorny oyster (Spondylus americanus)	>=6	cm	1
	fisheries	fishing	40	Min. landing size or weight	COM/REC		Triton (Charonia variegata)	>=25	cm	1
			80	Gear type limitation	REC	MIS	Fishing scoop	1	Fishing scoop	1
			80	Gear type limitation	REC		Fish gaff or a spear	1	Fish gaff or a spear	1
Access regulation measures										0
Total										6

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				Fishery_level2	Fishery_level1									
				Coastal fisheries						Offshore fisheries	All population	Segment	Shelf slope fisheries	Total
Conservation measures/ Access regulation measures	Management measure number	Management measures per type	Application (REC/COM)	Conch fishery	Demersal and benthic fishery	Shore fishing	Small pelagic fishery	Spiny lobster fishery	Urchin fishery	Large pelagic fishery & MFADs		Segment	Snappers fishery	
	10	TAC or global/regional quota	COM/REC							4				4
	20	Segment capacity limitation	СОМ									4		4
	40	Min. landing size or weight	СОМ	2										2
	40	Min. landing size or weight	COM/REC		1	4		2	1				1	9
	50	Species harvesting prohibited	COM/REC					1			18			19
	50	Species harvesting prohibited	REC	1										1
	60	Gear prohibited	COM/REC								1			1
	60	Gear prohibited	REC					1		1				2
	70	Gear dimension limitation	СОМ		5									5
Conservation	80	Gear type limitation	СОМ		2									2
measures	80	Gear type limitation	REC		3	2								5
	90	Gear setting limitation	СОМ		2								1	3
	100	Mesh size limitation	СОМ		8		4							12
	110	Seasonal closure	СОМ	3										3
	110	Seasonal closure	COM/REC						1					1
	120	Area fishery closure	COM/REC		3									3
	130	Marine protected area	COM/REC		6									6
	140	Other	СОМ		1									1
	140	Other	COM/REC		1									1
	140	Other	REC		1									1
	150	Permit to enter the fishery sector	СОМ								1			1
	170	Fishery licence without numerus clausus	СОМ		2		5		1	1			3	12
Access regulation	180	Vessel or individual quota/Bag limit	REC							7				7
measures	190	Individual territorial use rights	СОМ		1		1			1				3
	200	Conflicts regulation	СОМ		4		1			2				7
	200	Conflicts regulation	REC							1				1
Total				6	40	6	11	4	3	17	20	4	5	116

Table 30. General table





Conservation measures/ Access regulation measures	Management measure number #	Management measures per type	Application (REC/COM)	Effectivity of the regulation of the rule	Total
	#10	TAC or global/regional quota	COM/REC	1	3
	#10	TAC or global/regional quota	COM/REC	2	1
	#20	Segment capacity limitation	СОМ	0	2
	#20	Segment capacity limitation	СОМ	1	1
	#20	Segment capacity limitation	СОМ	4	1
	#40	Min. landing size or weight	COM	NA	2
	#40	Min. landing size or weight	COM/REC	2	1
	#40	Min. landing size or weight	COM/REC	NA	8
	#50	Species harvesting prohibited	COM/REC	1	1
	#50	Species harvesting prohibited	COM/REC	2	3
	#50	Species harvesting prohibited	COM/REC	3	13
	#50	Species harvesting prohibited	COM/REC	4	2
	#50	Species harvesting prohibited	REC	2	1
	#60	Gear prohibited	COM/REC	4	1
	#60	Gear prohibited	REC	1	2
	#70	Gear dimension limitation	СОМ	1	1
Conservation measures	#70	Gear dimension limitation	СОМ	4	1
	#70	Gear dimension limitation	СОМ	NA	3
	#80	Gear type limitation	СОМ	1,5	1
	#80	Gear type limitation	СОМ	NA	1
	#80	Gear type limitation	REC	NA	5
	#90	Gear setting limitation	COM	1	1
	#90	Gear setting limitation	СОМ	2	2
	#100	Mesh size limitation	COM	4	2
	#100	Mesh size limitation	COM	NA	10
	#110	Seasonal closure	COM	3	3
	#110	Seasonal closure	COM/REC	3	1
	#120	Area fishery closure	COM/REC	2	2
	#120	Area fishery closure	COM/REC	NA	1
	#130	Marine protected area	COM/REC	3	6
	#140	Other	СОМ	NA	1
	#140	Other	COM/REC	3	1
	#140	Other	REC	NA	1
	#150	Permit to enter the fishery sector	СОМ	4	1
	#170	Fishery licence without numerus clausus	СОМ	1	12
	#180	Vessel or individual quota/Bag limit	REC	NA	7
Access regulation measures	#190	Individual territorial use rights	СОМ	3	1
repaid from medaules	#190	Individual territorial use rights	СОМ	NA	2
	#200	Conflicts regulation	СОМ	0	1
	#200	Conflicts regulation	СОМ	NA	6
	#200	Conflicts regulation	REC	NA	1
Total					116

3.1.5 Annexes Guadeloupe

Annex I: Summary of prefectural orders of 2013 and 2014 relating to Chlordecone

It follows from these prefectural orders that the "fishing of all species of marine fauna for the purpose of human or animal consumption or of their marketing for the same purposes is prohibited within the perimeter constituted as follows:

- On the one hand, by the line of coastline of the 'La Rose' tip on the Goyave communal at the Violon tip point on the Vieux-Fort communal.
- On the other hand, by the broken line joining the following points A to I (Reference geodetic System WGS 84):
 - o point A: 'La Rose tip' on the Goyave communal
 - o point B: Fortune islet 16°09.02'N 061°33.67'W
 - o point C: 16°07.67'N 061°33.13'W
 - o point D: 16°04.57'N 061°32.92'W
 - o point E: 16°01.66'N 061°33.41'W
 - o point F: 16°00.23'N 061°34.97'W
 - o point G: 15°57.66′N 061°37.95′W
 - o point H: 15°56.95′N 061°40.49′W
 - o point 1: Violon tip on the Vieux-Fort communal »

The harvesting and fishing of some crabs is also prohibited by the prefectural orders since the harvesting of the Giant land crab (*Cardisoma Guanhumi*) and the one of the Swamp ghost crab (*Ucides cordatus*) is excluded on the coastline as well as on the banks of the La Rose tip rivers on Goyave communal at the violin point on the town of Vieux-Fort communal. The fishing of Callinectes swimcrabs nei (*Callinectes spp*) is prohibited on the coastline of Sainte-Rose and Deshaies communal.

Fishing several species is also restricted in two areas:

- -Beyond the area of total prohibition previously mentioned, a partial prohibition zone bounded as follows:
 - -to the east: the meridian of the Verdure tip on the Gullet communal, then the line of coastline up to La Rose tip on the Goyave communal;
 - -To the West: the parallel of the Beaugendre tip on the Vieux-Habitant communal, then the line of coastline up to the Violin tip on the Vieux-Fort communal;
 - -Off by the isobath of 100 m;
- -The area "located in the area known as the big Cul-de-Sac Marin, south of a straight line joining the delta of the Great River at goyaves at the delta of the salt river".

In these two areas, fishing for all species of crabs, shrimps, mollusks, trevally, mullets, morays, hinds and groupers, cardinals, is prohibited. Fishing for the following species of snappers is also prohibited: Lane snapper (*Lutjanus synagris*), Dog snapper (*Lutjanus jocu*), Mutton snapper (*Lutjanus analis*). Other species are more precisely targeted:

- Spiny lobsters and Slipper lobsters: Spotted spiny lobster (*Panulirus guttatus*) Caribbean spiny lobster (*Palinurus argus*) if size under 25 cm Spanish slipper lobster (*Scyllarides aequinoctialis*);
- Elopiformes: Trapon (Megalops atlanticus);
- Perciformes: Mozambique tilapia (Oreochromis mossambicus);
- Gastropods: West Indian top shell (Cittarium pica);
- Others: "Blanche", "gros yaya" (*Diapterus rhombeus*) Guachanche barracuda (*Sphyraena guachancho*) Redear herring or "caillu" except for baits (*Harengula humeralis*) "Pisquettes" except for baits (*Engraulidae Atherinidae*) Common snook (*Centropumus undecimalis*).

3.2 Martinique

3.2.1 Main organizational and regulatory changes in fisheries over the last 30 years

In 1946, Martinique became a department and in 1982, as part of the decentralization process, the Regions were erected as territorial collectivities in the same way as the Departments. The overseas Departments and Regions are governed by Article 73 of the Constitution of the fifth French Republic¹⁵³: As a consequence, laws and regulations applicable in France mainland are also applicable as of right, but adaptations may exist. They are distinct from (OCs) Overseas Countries and Territories (OCTs).

The law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion¹⁵⁴ stated that, the decree-law of 1852 founder of the fisheries regulation in France mainland, also applies overseas departments. This law also specified that the competent prefects can make orders to regulate the exercise of fishing activities in the departments concerned. The regulation of fisheries in the Department of Martinique is quite old since a decree of 1928 is still in force¹⁵⁵. However, regulation will evolve in 2019 and two prefectural orders are currently under public consultation. One concerns the regulation of professional fishing¹⁵⁶ while the other is exclusively focused on recreational maritime fishing. The organizational framework is detailed below. In 2010, Directions of the Sea in French ORs were created by fusion of decentralized services responsible for maritime affairs¹⁵⁷. Finally, the Marine Natural Park of Martinique covereing all the EEZ was created in 2017¹⁵⁸.

As mentioned before and even if 1983 CFP regulations applied to the French ORs, the application of the Common Fisheries Policy has resulted mainly from the introduction of capacity ceilings (engine power and tonnage) which were applied in 1998 with like national scale, the application of implementation permits for the management of capacity at the regional level. These capacity ceilings were changed in 2002, 2004, 2007 and 2013. For Martinique, the main first key species under TAC was the blue marlin in 2013.

¹⁵³ Art 73, Constitution of the fifth French Republic, 4 october 1958

¹⁵⁴ Law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion

¹⁵⁵ Order which regulate fishing in Martinique, 12/01/1928

Prefectural order project which regulate professional fishing in Martinique

¹⁵⁷ These decentralized services were previously competent in fisheries regulation

¹⁵⁸ Decree N°. 2017-784 of 5 May 2017 establishing the marine Nature Park of Martinique

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

Deliverable #61

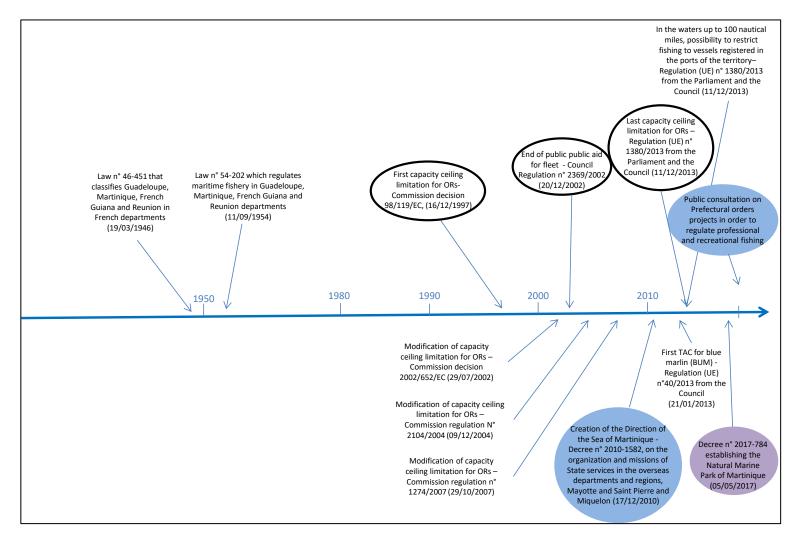


Figure 18. Time line of the main governance changes

3.2.2 Governance structure for fisheries & ecosystem management at regional level

3.2.2.1 General framework, status and role of each organization in ORs

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. This organizational framework is common to all French outermost regions even if some specificity may apply. This framework includes commercial fishers and their representation at regional and national levels through the so-called fisheries committees with their specific in the design and application of in fisheries regulation¹⁵⁹. More details about the organizational framework are available in the Guadeloupe section.

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¹⁵⁹ Art L 912-1 to L 912-5 and Art R 912-1 and next, CRPM

Deliverable #61

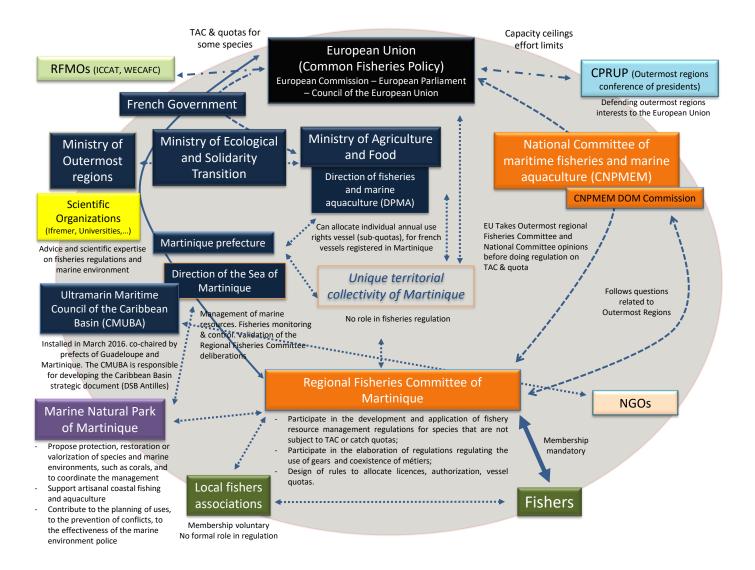


Figure 19. General organizational framework

3.2.3 Conservation and regulation access measures

The regulation of fisheries in the Department of Martinique is quite old since a decree of 1928 is still in force¹⁶⁰. However, regulation will evolve in 2019. Two orders are currently under public consultation. One concerns the regulation of professional fishing¹⁶¹ while the other is exclusively focused on recreational maritime fishing¹⁶².

The following analysis is mainly based on these two draft orders which are not yet enforceable and which may change. Other measures are derived from the Common Fisheries Policy, such as the ceilings on fishing capacity set for the purpose of framing the development of the professional fishing fleet. For Martinique these ceilings may not exceed 142 116 kW or 5 409 GT for vessels less than 12 meters and 3 294 Kw or 1 046 GT for those exceeding 12 meters¹⁶³. No subsidized fleet exit plan is implemented. The objective is mostly to identify and then classify the different regulations in order to establish a first diagnosis. The commercial fleet concerned by these measures is mainly composed of small scale vessels under 12 m but the fleet also includes vessels above 12m. The first part of the report presents the measures per type, the second part is complementary and more dedicated to an analysis per fishery or métier. In that case, it is possible to identify potential gaps in regulation.

Based on the census and classification of regulations measures according to the common typology, a total of 141 measures covering commercial and recreational fishing activities were identified. These measures can be divided in conservation measures (121/85.8% of the total) and access regulation measures to fisheries (20/14.2%). It should be recall that the major parts of these measures are not effective yet.

	Number of measures	Percentage
Conservation measures	121	85.8%
Access regulation measures	20	14.2%
Total	141	100%

Table31. Conservation and access regulation measures

Thus, of the totality of the measures, 96 (68.1%) are interested in the "Regulation of fisheries". This general group concerns the measures relating to species (sizes or weights to be respected, periods of prohibition of fishing for certain species), fishing gears (dimensions, prohibitions of use, limitation of mesh size, ...), or even preliminary authorizations for some métiers. Another group of 24 measures (17%) concerns biodiversity objectives, species for which harvesting is prohibited due to a potential risk of extinction. It also includes marine protected areas created to promote the protection of ecosystems. A final category concerns measures established in order to preserve human health. These standards prohibit the catch of some species on the grounds that they would be contaminated. Only one measure can be mentioned (0.7%).

¹⁶⁰ Order which regulate fishing in Martinique, 12/01/1928

¹⁶¹ Prefectural order project which regulate professional fishing in Martinique

¹⁶² Prefectural order project which regulate recreational fishing in Martinique

¹⁶³ Annex II, Regulation (EU) No 1380/2013 of the European Parliament and of the Council, 11 december 2013

	Type of measures	Total	Percent
	Fisheries regulation	96	68.1%
Conservation measures	Biodiversity conservation	24	17%
	Health preservation	1	0.7%
Access regulation measures	Fisheries regulation	20	14.2%
Total		141	100%

Table 22. Conservation and access regulation measures per "type of measures"

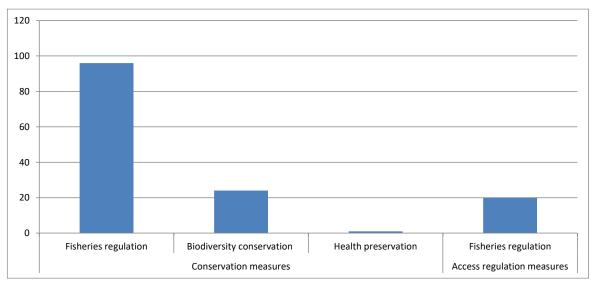


Figure 20. Measures representation per type

The origin of the measures presents some insights. Indeed, the result is that very few regulations come from the European Union (only 9 measures/6.4%). Three measures were established at national level (2.1%). This means that most of the regulations come from the regional level (129 over the 141 measures/91.5%).

	Measures origin	Total	Percent
	European union	8	5.7%
Conservation measures	National	2	1.4%
	Regional	111	78.7%
	European union	1	0.7%
Access regulation measures	National	1	0.7%
	Regional	18	12.8%
Total		141	100%

Table33. Conservation and access regulation measure per origin

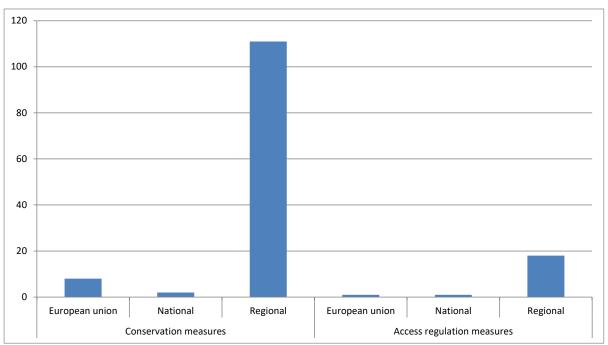


Figure 21. Measures representation per origin

	Type of measures	Measures origin	Total	Percent
	Fisheries regulation	European union	8	5.7%
	Fisheries regulation	Regional	88	62.4%
Conservation measures	Diadiversity consensation	National	2	1.4%
	Biodiversity conservation	Regional	22	15.6%
	Health preservation	Regional	1	0.7%
		European union	1	0.7%
Access regulation measures	Fisheries regulation	National	1	0.7%
ilicasules		Regional	18	12.8%
Total			141	100%

Table 34. Conservation and access regulation measures per type and origin

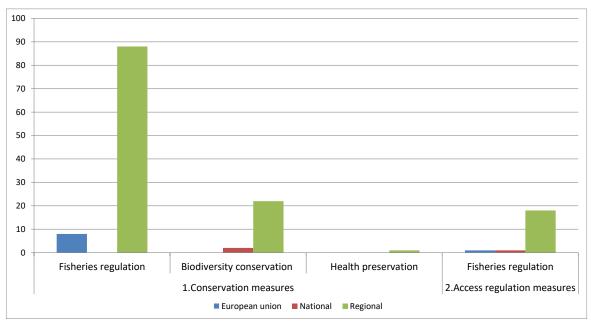


Figure 22. Measures representation per type and origin

All these measures may also be listed as relating exclusively to commercial fishing (COM), recreational fishing (REC), or even both (COM/REC). As shown in the table below, a balance between measures concerning professional fishing and those relating to recreational fishing, seems to exist. Indeed, 39 measures on 141 relate exclusively to commercial fishing (27.6%), which can be added to the 61 measures concerning both professional and recreational fisheries (37.9%). In an exclusive way recreational fishing is concerned by 41 measures (29.1%).

	Application (REC/COM)	Total	Percentage
	COM/REC	60	42.6%
Conservation measures	REC	34	24.1%
	COM	27	19.1%
A coose vegulation	COM	12	8.5%
Access regulation measures	REC	7	5%
illeasules	COM/REC	1	0.7%
Total		141	100%

Table35. Distribution of regulation between commercial and recreational fishing

It's also possible to classify each measure in a category of application; All population, Segment, Gear, Métier, Species. A regulation targeting Queen conch (*Lobatus gigas*) will enter the category "Species", whereas a norm for pots or traps is included in the category "Gear". 11 measures concern the entire population "All population" (7.8%) and 4 the fleet "Segments" (2.8%). A part of the regulation concern either "Gear" (38 measures – 27.1%) or the "Métiers" (16 measures – 11.2%).

The "Species' category is the one where the most measures are counted 71 measures -51.1%) but many of them as mentioned above are the result of regulations that are outside the fisheries policy (protected species, pollution, etc.).

Conservation measures/ Access regulation measures	Application (REC/COM)	Variable_type	Total	Percentage
		Species	48	34.1%
	COM/REC	All population	10	7.1%
		Gear	2	1.4%
	DEC	Species	17	12.1%
Conservation measures	REC	Gear	17	12.1%
	СОМ	Gear	19	13.6%
		Segment	4	2.8%
		Métier	3	2.1%
		Species	1	0.7%
		Métier	10	7%
	СОМ	Species	1	0.7%
A		All population	1	0.7%
Access regulation measures	DEC	Species	5	3.5%
	REC	Métier	2	1.4%
	COM/REC	Métier	1	0.7%
Total			141	100%

Table 36. Distribution of each measure in categories

Conservation and access control measures can also be sub-divided into "control measures by type" to clarify, on the one hand, the type of measure used to preserve the productive and reproductive capacity of the stocks and on the other hand, type of measure used to regulate access to resources.

	Management measure number	Management measures per type	COM/ REC	REC	СОМ	Total
	10	TAC or global/regional quota	4			4
	20	Segment capacity limitation			4	4
	40	Min. landing size or weight	15	10		25
	50	Species harvesting prohibited	27	6		33
	60	Gear prohibited	1	6	5	12
Conservation	70	Gear dimension limitation			2	2
measures	80	Gear type limitation		8	6	14
	100	Mesh size limitation			6	6
	110	Seasonal closure	2	1	1	4
	120	Area fishery closure	7			7
	130	Marine protected area	3			3
	140	Other	1	3	3	7

	150	Permit to enter the fishery				
	130	sector			5	5
	170 Fishery licence without					
Access	170	numerus clausus	1	1	4	6
regulation	100	Vessel or individual				
measures	180	quota/Bag limit		5	1	6
	190	Individual territorial use				
	190	rights			2	2
	200	Conflicts regulation		1	·	1
Total			61	41	39	141

Table 37. Classification of management measures per type

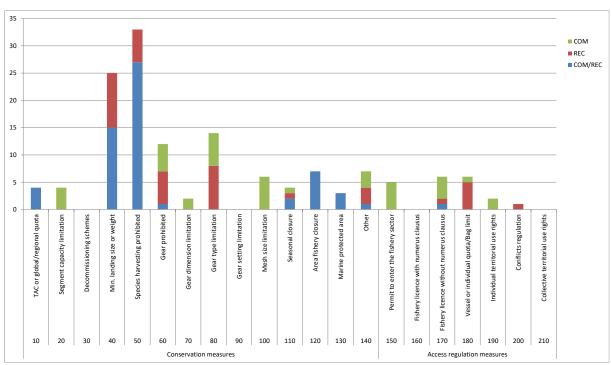


Figure 23. Classification of "management measures per type" by recreational or professional activities

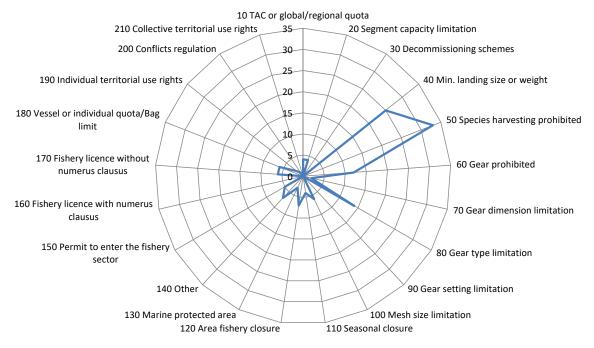


Figure 24. Classification of management measures per type

3.2.3.1 <u>Conservation measures</u>

3.2.3.1.1 TAC or global/regional quota (measure 10)

Within conservation measures, the only Total Allowable Catches (measure 10. TAC or global/regional quota) set by the European union are primarily from ICCAT¹⁶⁴, which is a regional fisheries management organization which establishes measures for large pelagic species. In fact, 4 species harvested in Martinique are under TAC: Blue Marlin (Makaira nigricans), White Marlin (Tetrapturus albidus), Yellowfin Tuna (Thunnus albacares) and Atlantic Sailfish (Istiophorus albicans).

For information, in 2018¹⁶⁵, the TACs for these different species were:

- Yellowfin tuna (Thunnus albacares) 111 000 tons;
- Blue Marlin (*Makaira nigricans*) 1 985 tones, including a quota of 364.31 tons allocated to France;
- Atlantic Sailfish (Istiophorus albicans) 1 030 tons;
- White Marlin (Tetrapturus albidus) 355 tons.

There is no TAC for benthic and demersal species exploited on the insular shelf or the slope or for small pelagic species. The establishment of the WECAFC as a RFMO is underway and could result in the medium-term in the implementation of management measures for species shared at regional level.

¹⁶⁴ https://iccat.int/en/

¹⁶⁵ Annex I d), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 January 2018

3.2.3.1.2 Segment capacity limitation (measure 20)

As seen before, capacity ceiling have been established for each outermost region since 1998 and reviewed in 2002, 2004, 2007 and 2013. The aim was to regulate he development of the commercial fishing fleet. For Martinique, fishing capacity ceilings may not exceed 142 116 KW or 5 409 GT for vessels less than 12 meters and 3 294 KW or 1 046 GT for vessels over 12 meters¹⁶⁶. No decommissioning fleet plan has ever been implemented in Guadeloupe to reduce fishing capacity (measure 30. Decommissioning schemes).

3.2.3.1.3 Minimum landing size or weight (measure 40)

Limit catch sizes and weights (measure 40. Min. Landing size or weight) are fixed by orders draft. Twenty five measures impose minimum sizes or weights to be respected. Among these measures, one is very general since the catch of all species of "marine fish NCA" (Osteichthyes) is only possible when they measure 15 centimeters or more¹⁶⁷. This general measure is not binding because the catch size is low and doesn't limit the sampling of larger individuals.

The catches of large pelagics are subject of some standards with regard to their size or minimum weight. This is the case for Atlantic bluefin tuna (*Thunnus thynnus*) and Common dolphinfish (*Coryphaena hippurus*)¹⁶⁸. The measures are exclusively addressed to recreational fishermen.

3.2.3.1.4 Species harvesting prohibited (measure 50)

The harvesting of some species can be prohibited (measure 50. Species harvesting prohibited). It is possible to count 33 measures creating bans but it is for other purposes than fisheries stock conservation. First, in order to promote the reproduction, egg-bearing Spiny lobsters (Panulirus spp) can't be kept¹⁶⁹.

Other forms of prohibitions concern protected species due to a risk of extinction such as marine turtles nei (*Testudinata*)¹⁷⁰.

It's the same for the harvest of marine mammals¹⁷¹ and some shark species in order to avoid a trade of their fins. For all shark species, it is forbidden to mutilate them whether they are alive or dead. It is also forbidden to buy, offer for sale or sell shark fins. Shark species harvesting prohibited for commercial or recreational fishing are¹⁷²: Hammerhead sharks nei (*Sphyrnidae spp.*), Silky shark (*Carcarhinus falciformis*), Thresher sharks nei (*Alopias spp.*), Whale shark (*Rhincodon typus*), Great white shark (*Carcharodon carcharias*), Basking shark (*Cetorhinus maximus*), Oceanic whitetip shark (*Carcharhinus longimanus*), Gulper shark (*Centrophorus granulosus*), Bluntnose sixgill shark (*Hexanchus griseus*), Kitefin shark (*Dalatias licha*), Sawfishes (*Pristidae family*), Mantas, devil rays nei (*Mobulidae family*), Spotted eagle ray (*Aetobatus narinari*).

¹⁶⁶ Annex II, Regulation (EU) No 1380/2013 of the European Parliament and of the Council, 11 december 2013

art 23.1, Prefectural order project which regulate professional fishing in Martinique

¹⁶⁸ art 16.1, Prefectural order project which regulate recreational fishing in Martinique

¹⁶⁹ art 22.2, Prefectural order project which regulate professional fishing in Martinique

¹⁷⁰ art 24.1, Prefectural order project which regulate professional fishing in Martinique

art 24.5, Prefectural order project which regulate professional fishing in Martinique

¹⁷² art 24.6, Prefectural order project which regulate professional fishing in Martinique

Still to protect biodiversity, the collect of corals, even dead (*orders of Scleractinia, Milleporina, Stylasterina and Antipatharia*), Gorgons (*order of Gorgonacea*) and sponges (*branch of Porifera*) is forbidden¹⁷³. It is the same for molluscs (*Mollusca*)¹⁷⁴. Their fishing, peddling, sale or purchase is prohibited except for the following species: Queen Conch (*Lobatus gigas*), West Indian top shell (*Cittarium pica*), Atlantic tiger lucine (*Codakia orbicularis and Phacoïdes pectinatus*), octopus (*Octopus vulgaris*).

Other species complete this list of species which harvesting is prohibited, both for recreational and professional fishing¹⁷⁵.

- Pipefishes, seahorses nei (Syngnatidae family);
- Echinoderms (*Echinodermata branch*): Starfish, Brittlestars, holothurians, sea urchins (except Sea egg (*Tripneustes ventricosus*) allowed for professional fishing;
- Groupers, seabasses nei (*Serranidae family*), except : Red hind (*Epinephelus guttatus*), Coney (*Cephalopholis fulva*) and Graysby (*Cephalopholis cruentata*);
- zawag bleu (Scarus coelestinus);
- zawag flamand (Scarus quacamaia);
- All species of Angelfishes nei (Pomacanthidae family).

Some catch bans are only for recreational fishermen. They cannot fish: Blue parrotfish (*Scarus coeruleus*), all the species of Cartilaginous fishes nei like fish skate and sharks (*Chondrichthyes family*), Queen triggerfish (*Balistes Vetula*), Atlantic spadefish (*Chaetodipterus Faber*), rostrate fish like Makaires,marlins,voiliers nca (*family of Istiophoridae and Swordfish*, (*Xiphias gladius*))¹⁷⁶.

Finally, a distinction must be made between the professional and recreational fishing of the Sea egg (*Tripneustes ventricosus*). Professional fishing is allowed, while recreational fishing is not¹⁷⁷.

3.2.3.1.5 Gears measures (measure 60 to 100)

As indicated above, fishing gears are also regulated wit total of 34 measures that affect them directly or indirectly. This regulation takes different forms starting with the prohibition of gears (measure 60. Gear prohibited), which includes 12 measures. For example, towed nets are bans for professional fishing 178, even more generally, all type of nets are bans for recreational fishing 179. Other restrictions are set on gears dimensions (measure 70. Gear dimension limitation), their maximum quantity (measure 80. Gear type limitation), with a respective number of 2 and 14 measures. The mesh of gears (measure 100. Mesh size limitation), especially for various nets used, is also regulated with 6 measures established.

It can be noticed the absence of specific measures dealing with the use of gears (measure 90. Gear setting limitation), like maximum set time or maximum depths to respect.

¹⁷³ art 24.2, Prefectural order project which regulate professional fishing in Martinique

art 23.2, Prefectural order project which regulate professional fishing in Martinique

¹⁷⁵ art 24.7, Prefectural order project which regulate professional fishing in Martinique

art 17.6, Prefectural order project which regulate recreational fishing in Martinique
 art 15.1, Prefectural order project which regulate recreational fishing in Martinique

art 10, Prefectural order project which regulate professional fishing in Martinique

¹⁷⁹ art 11, Prefectural order project which regulate recreational fishing in Martinique

3.2.3.1.6 Seasonal closure (measure 110)

The draft orders add 4 other measures, imposing periods when fishing is prohibited (measure 110. Seasonal closure). Each measure is intended to regulate the fishing of different species. These are Sea egg (Tripneustes ventricosus), Queen conch (Lobatus gigas), Giant land crab (Cardisoma Guanhumi) and Spiny Lobsters (Panulirus spp.) (cf. 6.2.3.3.3 Spiny lobster fishery; 6.2.3.3.1 Demersal and benthic fishery; 6.2.3.3.5 Urchin fishery; 6.2.3.3.4 Conch fishery; for details of these measures).

3.2.3.1.7 Area fishery closure (measure 120)

Some area fishery closures also called "cantonements" sectors are set in Martinique. Fishing in such sectors can be partially or temporarily prohibited¹⁸⁰. In the Martinique case, the three cantonment sectors are imposing a total ban of all fishing methods. These sectors are: the cantonment of the municipality of "Case-Pilote"¹⁸¹, the cantonment of "islet Ramiers" sector¹⁸², the cantonment in the "Tresor bay"¹⁸³.

In addition, one measure provides that river passes, between reefs, lagoons, ravines, canals and ponds, cannot be barred by fishing operations¹⁸⁴.

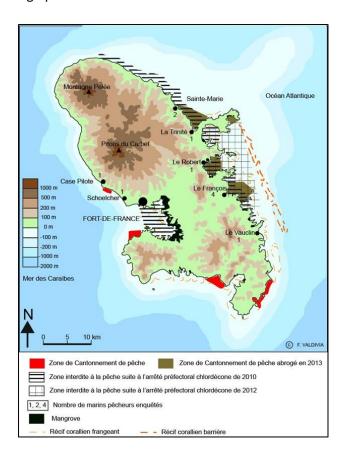


Figure 25. Cantonment areas after 2013 and prohibited fishing areas since prefectural orders dealing with chlordecone

¹⁸⁰ art 8, Prefectural order project which regulate professional fishing in Martinique

Order N° 2016/09/32 on the renewal of a fishing canton in the commune of Case-Pilot (Martinique), 21/09/2016

¹⁸² Prefectural Order N° 991527 banning fishing on the islet sector in Ramiers in the waters of the Department of Martinique, 27/06/1999

¹⁸³ Prefectural order N° 99 22 bis, banning the fishing in the Trésor Bay, in the waters of the Department of Martinique, 08/01/1999

¹⁸⁴ art 9, Prefectural order project which regulate professional fishing in Martinique

Another norm allows the Administration a possibility to prohibit in some sectors both professional and recreational fishing. This may be motivated by "unsanitary areas, areas subject to strong environmental protection, port areas, areas where fishing is not compatible with other uses (Protection of submarine cables, areas reserved for water activities)" ¹⁸⁵.

Finally, a final measure is set to prohibit fishing and selling all species of marine fauna in areas contaminated with chlordecone and delimited by the prefectural order n° 2012335-0003, November 30 2012¹⁸⁶

Conservatio n measures/ Access regulation measures	Fishery_ level1	Manageme nt measure number	Managemen t measures per type	Applicatio n (REC/CO M)	Variabl e_code	Variable_label	Conditions of application in national language	Total	
		120	Area fishery closure	COM/REC	ALL	Dam of some sectors	river passes, between reefs, lagoons, ravines, canals and ponds, cannot be barred by fishing operations	1	
		120	Area fishery closure	COM/REC	ALL	Sectors where fishing is prohibited	Professional and recreational fishing prohibited in some sectors determined by prefectural orders: unsanitary areas, areas subject to strong environmental protection, port areas, areas where fishing is not compatible with other uses (Protection of submarine cables, areas reserved for water activities)	1	
Conservatio n measures	Demersa I and benthic	120	Area fishery closure	COM/REC	ALL	Cantonment sectors	"Cantonment" zones may be partially or temporarily prohibited from fishing	1	
	fishery	120	Area fishery closure	COM/REC	ALL	Cantonment of the municipality of "Case-Pilote"	All fishing forms are prohibited	1	
		120	Area fishery closure	COM/REC	ALL	Cantonment of "islet Ramiers" sector	All fishing forms are prohibited	1	
		120	120	Area fishery closure	COM/REC	ALL	Cantonment in the "Tresor bay"	All fishing forms are prohibited	1
		120	Area fishery closure	COM/REC	ALL	Chlordecone	Prohibition of fishing several species located within defined perimeters	1	
Total								7	

Table 38. Area fishery closure measures

3.2.3.1.8 Marine protected area (mesure 130)

In order to preserve the resource, it is also possible to list the marine protected areas existing in Martinique (to the number of three). First, there is the « Loup Garou » islet on which a biotope order

¹⁸⁵ art 7, Prefectural order project which regulate professional fishing in Martinique

¹⁸⁶ Prefectural order N° 2012335-0003 regulating the fishing and placing on the market of species of marine fauna in certain maritime areas of Martinique in connection with the basins contaminated by chlordecone, 30/11/2012

hab been taken in 1995¹⁸⁷. Iselts of St-Anne are protected by a natural reserve since 1995¹⁸⁸. Finally, the Marine Natural Park of Martinique was created in 2017¹⁸⁹. It covers an area of 48 900 km² and integrates all the marine habitats of Martinique.

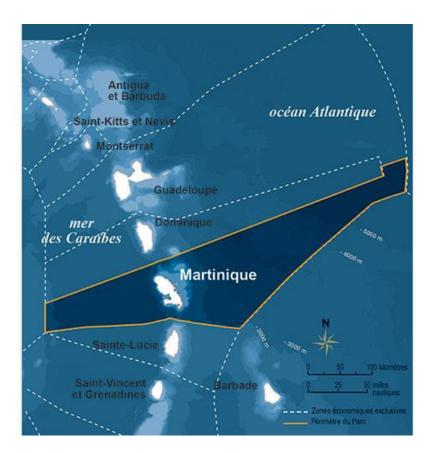


Figure 26. Marine Naturel Park of Martinique area

Table 39. Marine protected area measures

Conservation measures/ Access regulation measures	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Total
		130	Marine protected area	COM/REC	ALL	Natural Marine Park of Martinique	Decree N°. 2017-784 of 5 May 2017 establishing the marine Nature Park of Martinique	1
Conservation measures	Demersal and benthic fishery	130	Marine protected area	COM/REC	ALL	Biotope protection on « Loup Garou » islet	Order N°. 02348 establishing a zone of protection of the biotope of the islet Loup Garou	1
		130	Marine protected area	COM/REC	ALL	Natural reserve protection of St- Anne islets	Decree N°. 95-915 of 11 August 1995 establishing the nature reserve of the islets of Sainte-Anne (Martinique)	1
Total								3

¹⁸⁷ Order N°. 02348 establishing a zone of protection of the biotope of the islet Loup Garou

¹⁸⁸ Decree N°. 95-915 of 11 August 1995 establishing the nature reserve of the islets of Sainte-Anne (Martinique)

¹⁸⁹ Decree N°. 2017-784 of 5 May 2017 establishing the marine Nature Park of Martinique

3.2.3.1.9 Other (measure 140)

The description of the conservation measures ends with a category "Other" (Measure 140. Other) dealing with snorkeling and the use of viviers (total of 7 measures).

The draft orders mainly take national measures¹⁹⁰, which are not referenced in this work. The objective is to highlight the regional measures specific to Martinique. Four measures deserve to be highlighted in the context of professional or recreational snorkeling activities.

More precisely, this is the question of what devices can be used or not. Indeed, in the case of recreational fishing it is recalled that the use of mechanical propulsion equipment is prohibited. Also, snorkeling is permitted only with the following gears: sandow and pneumatic harpoons (excluding compressed air harpoons), spear, collars and glove¹⁹¹.

In addition, simultaneous holding on a vessel of respiratory equipment and a spear or special device for snorkeling is prohibited (except derogations)¹⁹².

The viviers have to be seen more as accessories than fishing gear. Therefore, they are also referenced in this category "Other". Three measures are set to regulate the use of viviers. For example, fish or crustaceans cages, which can be used as a temporary viviers, must be declared to the Direction of the Sea. If these viviers are permanent, an authorization to occupy the maritime public domain must be delivered¹⁹³.

The beach Seine can also be used to form a temporary viviers but they can not create an annoyance to other maritime activities¹⁹⁴.

In the two previously mentioned gears case, which can be used as viviers, it is not allowed to kept in some species that do not have the minimum landing size¹⁹⁵.

3.2.3.2 <u>Regulation access measures</u>

3.2.3.2.1 Permit to enter the fishery sector (*measure 150*)

As mentioned before, the implementation of measures to regulate access seems essential to "reduce the race to fish" and avoid fishing overcapacity in various fisheries as well as possible conflicts between fishing Métiers.

Doing professional foot fishing requires an authorization¹⁹⁶. The use of a vessel requires others permits for fishing in Martinique (measure 150. Permit to enter the fishery sector).

The PME should be obtained before the construction of a new vessel or the replacement of a vessel¹⁹⁷. The request for a PME is addressed to the public administration in charge of fisheries and in the case

¹⁹⁰ Article R921-92 Code Rural et de la Pêche Maritime

¹⁹¹ art 21, Prefectural order project which regulate recreational fishing in Martinique

art 8, Prefectural order project which regulate recreational fishing in Martinique

¹⁹³ art 17.1, Prefectural order project which regulate professional fishing in Martinique

art 17.2, Prefectural order project which regulate professional fishing in Martinique

¹⁹⁵ art 17.3, Prefectural order project which regulate professional fishing in Martinique

¹⁹⁶ art 4, Prefectural order project which regulate professional fishing in Martinique

¹⁹⁷ art L921-7 Rural and Maritime fishing Code

of a new vessel the request is submitted to the regional commission for the modernization of the fleet (COREPAM). The PME is delivered at regional level by the Prefect of the Region who is the authority representing the French State at regional level.

European fishing license must also be held¹⁹⁸ and is linked to the vessels capacity ceiling limits in Martinique laid down in the framework of the Common Fisheries Policy (cf. above). Up to a recent period, the capacity ceiling was not very restrictive both in terms of entry into the sector and change of vessel characteristics, especially engine power. Indeed, the power and tonnage of vessels has increased considerably within the fleet since the establishment in 1998 of a community register of fishing vessels in the outermost regions (see next figure). The next figure presents the evolution of engine power in kW of vessels present in the Community Fleet Register (CFR) for each year¹⁹⁹ and the capacity ceiling. In Martinique case, if it is possible to notice an increase in the total evolution of kilowatts (Kw) of vessels less than 12 meters, this total stays below the limit (142 116 KW) set by the European Union.

The draft orders add the obligation to hold a fishing or marine cultures license in order to be able to practice professional maritime fishing²⁰⁰.

Professional vessels flying a non-community flag must also have an authorization to be able to fish in the waters of the Department of Martinique²⁰¹.

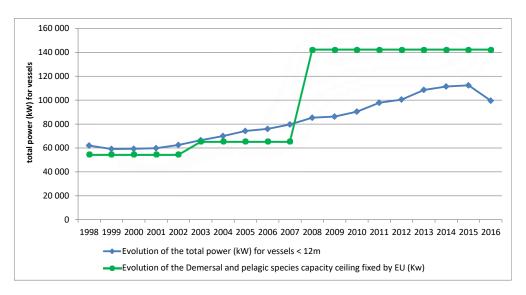


Figure 27. Total power evolution and maximum power allowed for vessels <12m

N.B. the total power (KW) series were calculated for all the vessels present in the fleet register in a given. It does not consider the situation the fleet at the end of the year. This could explain why ttotal KW is higher that capacity ceiling.

¹⁹⁸ art 4, Prefectural order project which regulate professional fishing in Martinique

¹⁹⁹ These values may differ from the engine power at the end of the year considering entry/exit mechanisms

²⁰⁰ art 4, Prefectural order project which regulate professional fishing in Martinique

²⁰¹ art 11, Prefectural order project which regulate professional fishing in Martinique

	Evolution of the total	Evolution of the Demersal
Year	power (kW) for	and pelagic species capacity
	vessels < 12m	ceiling fixed by EU (kW)
1998	62 030	54 584
1999	59 163	54 584
2000	59 269	54 584
2001	59 808	54 584
2002	62 513	54 584
2003	66 500	65 500
2004	70 018	65 500
2005	74 210	65 500
2006	75 947	65 500
2007	79 713	65 500
2008	85 355	142 116
2009	86 307	142 116
2010	90 401	142 116
2011	97 849	142 116
2012	100 485	142 116
2013	108 584	142 116
2014	111 425	142 116
2015	112 439	142 116
2016	99 531	142 116

Table 40. Total power evolution and maximum power allowed for vessels <12m

3.2.3.2.2 Fishery/métier license without numerus clausus (measure 170)

Among the main métiers practiced in Martinique (total number: 13²⁰²), 10 of them do not require licenses or authorizations in order to be practiced.

It's possible to count 6 cases where a fishing license without numerus clausus must be requested before the practice of the fishing activity related to it (measure 170. Fishery license without numerus clausus). In fact, these are more requests for authorizations to be sent to the Direction of the Sea of Guadeloupe. Thus, for professional fishing, the use of a beach seine, by means of vessels or not, is subject to authorization²⁰³. It is the same for the professional fishing of sea eggs²⁰⁴, the collect of algae and other marine plants²⁰⁵ and the harvesting of ornamental fish²⁰⁶.

An authorization from the director of the Sea is also necessary in order to be able to practice a recreational fishing activity around MFADs²⁰⁷. In the case of professional fishing around MFADs, it requires an "authorization (license) issued either by the CRPMEM or, by the administrative authority responsible for the management of fishery resources"²⁰⁸. The role played as a priority by the CRPMEM implies that it is a question of a true license needed for professional fishing around MFADs. However, the number of licenses that can be assigned isn't specified.

²⁰² Situation de la pêche en Martinique en 2016. Ifremer-sih-2017.05, 20 p.

art 19.1, Prefectural order project which regulate professional fishing in Martinique

²⁰⁴ art 22.1, Prefectural order project which regulate professional fishing in Martinique

art 24.3, Prefectural order project which regulate professional fishing in Martinique

²⁰⁶ art 24.4, Prefectural order project which regulate professional fishing in Martinique

²⁰⁷ art 9, Prefectural order project which regulate recreational fishing in Martinique

²⁰⁸ art 16.1, Prefectural order project which regulate professional fishing in Martinique

3.2.3.2.3 Vessel or individual quota/Bag limit (measure 180)

With the aim of avoiding or at least limiting, the trade of recreational fishing, 5 measures limits the maximum catches of some species²⁰⁹ (measure 180. Vessel or individual quota/Bag limit). These include the large pelagic since maximum daily catches may not exceed 3 fish per person.

Other species have the same catch limitation:

- Hogfish (Lachnolaimus maximus) and Snappers, jobfishes nei (Lutjanidae family);
- Parrotfishes nei (Scaridae family) and Surgeonfishes nei (Acanthuridae family);
- Queen conch (Lobatus gigas).

In Spiny Lobsters case (*Panulirus spp.*), for all type of species, the maximum daily catches may not exceed five Spiny Lobsters per person.

A sixth measure, only for recreational fishing, deals with fish skate and sharks for which fishing il allowed. The maximum daily catches may not exceed a maximum of 10 by output²¹⁰.

3.2.3.2.4 Individual territorial use rights (measure 190)

The draft decrees also set two measures for fishing activities around DCP²¹¹, which forms a temporary appropriation of the maritime area *(measure 190. Individual territorial Use rights)*. For the installation of a MFADs in territorial waters, an authorization for temporary occupancy of the maritime public domain must be granted.

Similarly, the installation of MFADs in the EEZ is subject to authorization issued by the competent administrative authority for the management of fisheries resources.

These authorizations seem to confer wners, some form of exclusive use around MFADs.

3.2.3.2.5 Conflicts regulation (measure 200)

A final conservation measure is posed, this time to prevent possible conflicts in the use of the maritime space (measure 200. Conflicts regulation). In the case of scientific research carried out in an area, fishing activities are prohibited within a half-mile circle centered on marking scientific or experimental research buoys²¹².

 $^{^{209}}$ art 18, Prefectural order project which regulate recreational fishing in Martinique

²¹⁰ art 25, Prefectural order project which regulate professional fishing in Martinique

²¹¹ art 16.1, Prefectural order project which regulate professional fishing in Martinique

²¹² art 10, Prefectural order project which regulate professional fishing in Martinique

3.2.4 Analysis of regulations for the sector and per fisheries

In a second step, it's also possible to list and classify the regulation in force according to a "fisheries" segmentation approach. Based on species targeted, gear used and area harvested, "fisheries" can be defined as "a management entity of a fishing capacity limited to a given geographical area, where different métiers operate. These métiers harvest species that occupy habitats of similar characteristics. The geographical area may be continuous or not, target and non-target species are taken into account" This approach makes possible to better identify how the various activities exploiting the different components of the ecosystem are regulated.

A large part of the regulation tends to cover the "Coastal fisheries" since 88 rules target these fisheries (62.4% of all measures). Thirty-six measures called "All population" (25.5%) apply without distinction to all fisheries. The "Offshore fisheries", mainly practiced around the MFADs, is subject to 13 norms (9.2%). Within this first segment, it is possible to operate a sub-classification of measures, depending on the fishing activities operated. Thus, for all fishing sectors without distinction, called "All population", some general measures also described as "All population" apply (36 measures). The fishing sector known as "Coastal fisheries", is composed of several fishing activities: Demersal and benthic fishery (47 measures); Small Pelagic fishery (21 measures); Conch fishery (4 measures); Shore fishing (7 measures); Spiny lobster fishery (6 measures); Urchin fishery (3 measures). Finally, the "Offshore fisheries", includes the fishing activity "Large pelagic fishery and MFADs" (13 measures).

Conservation measures/ Access regulation measures	Fishery_level2	Fishery_level1	COM/REC	REC	сом	Total
	All population	All population	26	5		31
	Segment	Segment			4	4
		Demersal and benthic fishery	18	11	16	45
Conservation		Small pelagic fishery	4	8	6	18
measures	Coastal fisheries	Spiny lobster fishery	3	2		5
illeasures		Shore fishing	2	3		5
		Conch fishery	3			3
		Urchin fishery		1	1	2
	Offshore fisheries	Large pelagic fishery & MFADs	4	4		8
	All population	All population		1	4	5
		Small pelagic fishery		2	1	3
		Demersal and benthic fishery	1		1	2
Access regulation	Coastal fisheries	Shore fishing			2	2
measures		Conch fishery		1		1
		Urchin fishery			1	1
		Spiny lobster fishery		1		1
	Offshore fisheries	Large pelagic fishery & MFADs		2	3	5
Total			61	41	39	141

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²¹³ Berthou et al. 2008. L'approche par pêcherie : définition de l'Ifremer, 4 p.

Table 41. Allocation of measures by fishery areas and fishery activities

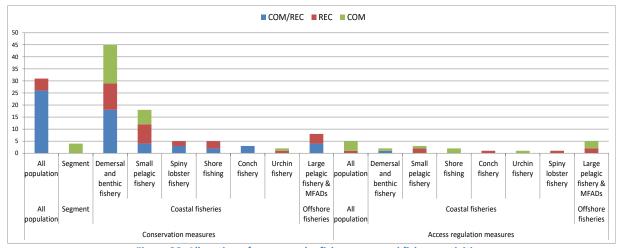


Figure 28. Allocation of measures by fishery area and fishery activities

Using the variable to classify measures by fisheries and those used to distinguish fishing activities, it's possible to cross them with the "management measure per type". And so, it's possible to show for each fishery and fishing activities the different types of management measures listed as well as their numbers. (Cf. Table 42. "Management measure per type" by fishery areas and fishery activities).

Conservation measures/ Access regulation measures	Fishery_level2	Fishery_level1	Management measure number	Management measures per type	Total
	All population	All population	50	Species harvesting prohibited	31
	Segment	Segment	20	Segment capacity limitation	4
	_		40	Min. landing size or weight	5
			60	Gear prohibited	9
			70	Gear dimension limitation	1
		Demersal and	80	Gear type limitation	9
		benthic fishery	100	Mesh size limitation	3
		bentine fishery	110	Seasonal closure	1
			120	Area fishery closure	7
			130	Marine protected area	3
			140	Other	7
			40	Min. landing size or weight	11
		Small pelagic	60	Gear prohibited	1
Conservation	Coastal fisheries	fishery	70 80	Gear dimension limitation Gear type limitation	2
measures			100	Mesh size limitation	3
			40	Min. landing size or weight	2
		Spiny lobster	50	Species harvesting prohibited	1
		fishery	60		1
		nisher y	110	Gear prohibited Seasonal closure	1
		Shore fishing	40	Min. landing size or weight	2
			80	Gear type limitation	3
		Conch fishery	40	Min. landing size or weight	2
			110	Seasonal closure	1
			50	Species harvesting prohibited	1
		Urchin fishery	110	Seasonal closure	1
			10	TAC or global/regional quota	4
	Offshore	Large pelagic	40	Min. landing size or weight	3
	fisheries	fishery & MFADs	60	Gear prohibited	1
			150	Permit to enter the fishery sector	4
	All population	All population	200	Conflicts regulation	1
		Small pelagic	170	Fishery licence without numerus clausus	1
		fishery	180	Vessel or individual quota/Bag limit	2
		Demersal and	170	Fishery licence without numerus clausus	1
		benthic fishery	180	Vessel or individual quota/Bag limit	1
		Series rosser y		· -	1
Access regulation	Coastal fisheries	Shore fishing	150	Permit to enter the fishery sector	1
measures			170	Fishery licence without numerus clausus	1
		Conch fishery	180	Vessel or individual quota/Bag limit	1
		Urchin fishery	170	Fishery licence without numerus clausus	1
		Spiny lobster fishery	180	Vessel or individual quota/Bag limit	1
			170	Fishery licence without numerus clausus	2
	Offshore	Large pelagic	180	Vessel or individual quota/Bag limit	1
	fisheries	fishery & MFADs	190	Individual territorial use rights	2
Total					141

Table 42. Management measure per type » by fishery areas and fishery activities

3.2.4.1 Sectorial/general measures applied to the fisheries in the Region

The sectorial/general measures, which apply to all fisheries, are mainly measures prohibiting fishing of some species for several reasons: reproduction, risk of extinction, risk to human health in case of consumption (cf. 6.2.2.1.4 Species harvesting prohibited (measure 50)).

In addition, professional fishing in Martinique requires holding a license. No license is required for recreational fishing (Cf. 6.2.2.2.1 Permit to enter the fishery sector (measure 150)).

Last general measure, concerns scientific research. Fishing activities are prohibited within a half-mile circle centered on marking scientific or experimental research buoys (Cf. 6.2.2.2.5 Conflicts regulation (measure 200)).

All these measures are resumed in a table in annex (Cf. Table Sectorial/general measures in force, annex I).

3.2.4.2 Offshore fisheries

3.2.4.2.1 Large pelagic & MFADs measures

Harvesting of large pelagic species corresponds to the practice of several métiers, even if the "MFADs" métier is the most exercised. In 2016, it was practiced by 246 vessels, operating approximately 4 909 days of sea for an estimated landed production of 375.5 tons and a value of 3 341.9 M $\,^{\circ}$ ²¹⁴. The species most targeted by this métier are: the Albacore (*Thunnus albacares*) representing on average 44.2% of the catches of this métier, the Blue Marlin (*Makaira nigricans*) and Tunas nei (*Thunnini*) representing respectively 19% and 10.4% of the catches of this metier.

Other métiers target large pelagic species such as: "Offshore Trolling Lines (fishing in Miquelon)". This seasonal activity is practiced during the passage of the Dolphinfishes between December and June. 170 vessels practise this metier and it represents on average 1 439 days of sea, 58 tons of catches and 532.8 M €²¹⁵. The Dolphinfishes nei (*Coryphaenidae*) constitute on average 69.9% of the catches of this métier (41 tons).

The metier "Coastal Trolling Line" is only exercised by 38 vessels, operating approximately 417 days of sea for an estimated landed production of 8.3 tonnes and 76.3 M €²¹⁶. Four species are mostly catches: Yellowfin Tuna (*Thunnus albacares*), Tunas nei (*Thunnini*), Barracudas nei (*Sphyraena SPP*), Dolphinfishes nei (*Coryphaenidae*), representing respectively: 36%, 17.9%, 15.6%, 14.9%, catches of this métier.

Only practiced by 6 vessels, it is also possible to mention the metier "Recreational fishing Charter (tourist activity)" which proposes fishing sessions to large pelagic harvesting²¹⁷.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
DCP	MFADs	246	4 909	375.2	3 341.9

²¹⁴ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : DCP - Année 2016 - Martinique

²¹⁵ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes traînantes au large (pêche à Miquelon) - Année 2016 - Martinique

²¹⁶ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes traînantes côtières - Année 2016 - Martinique

²¹⁷ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Promenade en Mer (Activité touristique) - Année 2016 - Martinique

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MIQ	Offshore Trolling Lines (fishing in Miquelon)	170	1 439	58	532.8
LTL	Coastal Trolling Lines	38	417	8.3	76.3
PRM	Recreational fishing Charter (tourist activity)	6			
Total			6 765	441.5	3 951

Table 43. Key figures of the Large pelagic & MFADs fishery

The large pelagic fishery is subject to 13 measures. Among the large pelagic targeted by small fishing in Martinique, only 4 are subject to Total Allowable Catches (TAC) (measure 10. TAC or global/regional quota) set by the European Union according to the ICCAT. These TAC concerns Blue marlin (Makaira nigricans), White marlin (Tetrapturus albidus), Yellowfin tuna (Thunnus albacares) and Atlantic sailfish (Istiophorus albicans). As a reminder, in the year 2018²¹⁸, the TAC to follow for these species was:

- -Yellowfin tuna (Thunnus albacares) 111 000 tons;
- -Blue Marlin (Makaira nigricans) 1 985 tons, including a quota of 364.31 tons attributed to France;
- -Atlantic sailfish (Istiophorus albicans) 1 030 tons;
- -White Marlin (Tetrapturus albidus) 355 tons.

The fishing of large pelagic species is mainly practiced around MFADs, therefore, measures relating to MFADs are present in this category. Recreational fishers are prohibited from setting MFADs (measure 60. Gear prohibited). However, recreational fishing is still permitted near MFADs set by professional fishermen, if they are authorized by the Director of the Sea of Martinique²¹⁹ (measure 170. Fishery licence without numerus clausus).

Professional fishermen keep the right to install MFADs, but they must have an authorization issued by the competent administrative authority for the management of fishery resources if the installation is in EEZ (measure 190. Individual territorial use rights). If it is an installation in the territorial sea, a temporary authorization to occupy the maritime public domain must be obtained²²⁰.

In addition to this first authorization, in order to be able to exercise the fishery work around MFADs (measure 170. Fishery license without numerus clausus) the fisherman need a license issued by the CRPMEM or, failing that, by the administrative authority responsible for the management of fishery resources.

If professional fishing is not affected by quotas or minimum catch sizes of large pelagic species, to be respected, for recreational fishing two large pelagic species have a minimum catch size (measure 40. Min. landing size or weight). These are the Atlantic bluefin tuna (Thunnus thynnus) and the Dolphinfishes nei (Coryphaenidae)²²¹. Atlantic bluefin tuna must necessarily measure a minimum of 115 cm to be kept on board. In addition, a minimum weight of 30 kg is also fixed. The Dolphinfishes must make a minimum size of 56 cm.

In addition, maximum daily catches are limited to 3 large pelagic species per fisher²²² (measure 180. Vessel or individual quota/bag limit), for the following species: Dolphinfishes nei (Coryphaenidae), Mackerels/Tunas/Bonitos (Scombridae family), Rainbow runner and Carangida nei (Carangidae family),

²¹⁸ Annex I d), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 january 2018

art 9, Prefectural order project which regulate recreational fishing in Martinique

²²⁰ art 16.1, Prefectural order project which regulate professional fishing in Martinique

²²¹ art 16.1, Prefectural order project which regulate recreational fishing in Martinique

²²² art 18, Prefectural order project which regulate recreational fishing in Martinique

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Great barracuda (*Sphyraena barracuda*). However, this limitation is not applied during fishing competitions.

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Value	Units	Total
			10	TAC or global/regional quota	COM/REC	BUM	Blue Marlin (Makaira nigricans)	French quota	364,31	tons	1
			10	TAC or global/regional quota	COM/REC	SAI	Atlantic sailfish (Istiophorus albicans)	TAC Atlantic Ocean, West of 45° O	1030	tons	1
			10	TAC or global/regional quota	COM/REC	WHM	White Marlin (Tetrapturus albidus)	TAC Atlantic Ocean	355	tons	1
Conservation	Offshore	Large pelagic	10	TAC or global/regional quota	COM/REC	YFT	Yellowfin tuna (Thunnus albacares)	TAC Atlantic Ocean	111000	tons	1
measures	fisheries	fishery & MFADs	40	Min. landing size or weight	REC	BFT	Atlantic bluefin tuna (Thunnus thynnus)	Atlantic bluefin tuna minimum size: 115 cm (recreational fishing)	>=115	cm	1
			40	Min. landing size or weight	REC	BFT	Atlantic bluefin tuna (Thunnus thynnus)	Atlantic bluefin tuna minimum weight: 30 kg (recreational fishing)	>=30	kg	1
			40	Min. landing size or weight	REC	DOL	Dolphinfishes nei (Coryphaenidae)	Dolphinfishes nei minimum size : 56 cm (recreational fishing)	>=56	cm	1
			60	Gear prohibited	REC	MFADs	MFADs setting	Recreational fishermen can't set a MFADs			1
			170	Fishery licence without numerus clausus	REC	MFADs	Recreational fishing around MFADs	recreational fishing is still permitted near MFADs by authorization from the Director of the Sea of Martinique			1
			170	Fishery licence without numerus clausus	СОМ	MFADs	MFADs licenses	in order to be able to exercise the fishery work around MFADs the fisherman need a license issued by the CRPMEM or, failing that, by the administrative authority responsible for the management of fishery resources			1
Access regulation measures	Offshore fisheries	Large pelagic fishery & MFADs	180	Vessel or individual quota/Bag limit	REC	LPF	Large pelagic fishing	Daily catches are limited to 3 large pelagic species per fisher for the following species: Dolphinfishes nei (Coryphaenidae), Mackerels/Tunas/Bonitos (Scombridae family), Rainbow runner and Carangids nei (Carangidae family), Great barracuda (Sphyraena barracuda). This limitation is not applied during fishing competitions	<=3	quantity	1
			190	Individual territorial use rights	СОМ	MFADs	Authorization to exploit MFADs	To install MFADs in EEZ, fishermen must have an authorization issued by the competent administrative authority for the management of fishery resources			1
			190	Individual territorial use rights	СОМ	MFADs	Authorization to exploit MFADs	To install MFADs in the territorial sea, a temporary authorization to occupy the maritime public domain must be obtained			1
Total											13
			l	T 11 44 000 1	6.1	40041	1 : 0 : 45.5		1		

Table 44. Offshore fisheries - 6.1.3.3.1 Large pelagic & MFADs - measures

3.2.4.3 Coastal fisheries

Coastal fisheries are operated on the insular shelf. According to our classification, the following fisheries can be distinguished: demersal and benthic fishery, small pelagic fishery, spiny lobster fishery, conch fishery, urchin fishery, shore fishing.

3.2.4.3.1 Demersal and benthic fishery

Within the coastal fisheries, the demersal and benthic fishery is composed of a high diversity of métiers (*cf. next table*) targeting a large species spectrum. The main métiers operated is traps (6 838 days at sea), Gillnets (2 535), Snorkeling (1 361), Trammel nets (658), Handlines also called "Doucine" (677), Longlines (100). Among the species caches through these métiers we find Parrotfishes nei (*Scaridae*) (8.8% of Gillnets métier catches), the Red lionfish (*Pterois volitans*) and Filefishes, leatherjackets nei (*Monacanthidae*) (8.3% and 6.7% of traps métier catches), Queen snapper (*Etelis oculatus*) (41.9% of longlines catches).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
FPO	Pots and traps	401	6 838	153.8	1 802.1
APN	Snorkeling	124	1 361	20.1	1 030.2
GNS	Gillnets	171	2 535	51	680.1
GTR	Trammel nets	35	658	25.3	532.6
LHPTH	Handlines "Doucine"	31	677	18	164.7
LL	Longlines	42	100	1.8	16.7
Total			12 169	270	4 226.4

Table 45. Key figures of the 6.2.3.3.1 Demersal and benthic fishery

The diversity of métiers practiced on the coastal sector requires a first approach, exclusively focused on the regulation of fishing gears (measure 60. Gear prohibited / measure 70. Gear dimension limitation / measure 80. Gear type limitation / measure 100. Mesh size limitation).

Draft orders ban several fishing gears in the waters of Martinique department. First, the use of electric devices is prohibited²²³. The use of nets is also prohibited in the context of recreational fishing activities²²⁴.

Regarding professional fishery, the draft orders provide for a prohibition of trammel nets, starting from 1^{st} January 2020^{225} . A ban on bottom trawling is also fixed ²²⁶. However, the use of towed nets is still permitted even if their use stay banned three miles from the coast ²²⁷.

The maximum height of fall of a bottom gillnet may not exceed 4 meters²²⁸.

²²³ art 13, Prefectural order project which regulate professional fishing in Martinique

²²⁴ art 11, Prefectural order project which regulate recreational fishing in Martinique

²²⁵ art 18, Prefectural order project which regulate professional fishing in Martinique

²²⁶ art 14, Prefectural order project which regulate professional fishing in Martinique

²²⁷ art 10, Prefectural order project which regulate professional fishing in Martinique

²²⁸ art 18.3, Prefectural order project which regulate professional fishing in Martinique

Starting from 1st January 2020, all nets whose mesh will not measure, in the wet state, at least 80 mm (stretched mesh) will be banned²²⁹.

In addition, unmarked nets are prohibited at all times and in all places. When they are not watched, a ring attached to the net must mention the vessel registration number²³⁰. It is the same for traps and pots. The use of traps or pots is only permitted in the context of professional fishing²³¹. Their locker must have a square opening hatch with a minimum size of 30 cm x 30 cm located on one side face (excluding the faces containing the openings)²³².

The panel must also be fixed with a twine of biodegradable materials (untreated, unplasticized), so that, in case of prolonged immersion related to the loss of the trap/pots, it can fully release the hatch after deterioration of the twine.

Always on the subject of traps/pots, starting 1st January 2020, those with a mesh size less than 34 millimeters will be banned²³³. The mesh is determined by the smallest height measured between two parallel sides of a grid hexagon or a square.

Recreational fishing is also regulated²³⁴ since it is forbidden to use trolling or bottom lines with more than 12 hooks. Longline fishing can only be done using a single longline with a maximum of 30 hooks. On recreational snorkeling, most of the regulation in force has been mentioned previously (cf. 6.2.2.1.9 other (measure 140)). It is possible to add the possibility to use and keep on board, sandows harpoons or pneumatic harpoons, and also collars, during the snorkeling practice.

Some measures are of interest to benthic species, such as the general measure prohibiting catches of fish that have not reached the minimum size of 15 cm²³⁵ (size measured from the muzzle to the end of the caudal fin) (measure 40. Min. landing size or weight). Some species are not affected by this measure: the Sicydium SPP and the Red lionfish/Devil firefish (Pterois volitans and Pterois miles). The Octopus (Octopus vulgaris) does not have a minimum size to respect, but rather a weight of 750 grams²³⁶. In the case of the Giant land crab (Cardisoma guanhumi) the width of its shell must be at least 7 cm²³⁷. The harvesting, hawking, storage, sale or purchase of Giant land crab is, moreover, forbidden from June 16 to February 14 of each year²³⁸ (measure 110. Seasonal closure).

The capture of ornamental fish is subject to prior authorization²³⁹ (measure 170. Fishery license without numerus clausus).

Finally, a quota for professional fishermen is fixed for authorized skate fish or shark species fishing. Indeed, catches are limited to a maximum of 10 skate fish or sharks by day²⁴⁰ (measure 180. Vessel or individual quota/bag limit).

²²⁹ art 18.2, Prefectural order project which regulate professional fishing in Martinique

 $^{^{230}}$ art 21, Prefectural order project which regulate professional fishing in Martinique

art 11, Prefectural order project which regulate recreational fishing in Martinique

²³² art 20.1, Prefectural order project which regulate professional fishing in Martinique

art 20.1, Prefectural order project which regulate professional fishing in Martinique

²³⁴ art 11, Prefectural order project which regulate recreational fishing in Martinique

art 23.1, Prefectural order project which regulate professional fishing in Martinique

²³⁶ art 23.2, Prefectural order project which regulate professional fishing in Martinique

²³⁷ art 23.3, Prefectural order project which regulate professional fishing in Martinique ²³⁸ art 22.4, Prefectural order project which regulate professional fishing in Martinique

art 24.4, Prefectural order project which regulate professional fishing in Martinique

²⁴⁰ art 25, Prefectural order project which regulate professional fishing in Martinique

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_code	Variable_label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	COM/REC	IXC	Titiri (Sicydium spp)	exception, no minimum size			1
			40	Min. landing size or weight	COM/REC	KDG	Giant land crab (Cardisoma guanhumi)	width of Giant land crab shell must be at least 7 cm	>=7	cm	1
			40	Min. landing size or weight	COM/REC	MZZ	Marine fishes nei (Osteichthyes)	fish that have not reached the minimum size of 15 cm can't be kept on board (size measured from the muzzle to the end of the caudal fin)	>=15	cm	1
			40	Min. landing size or weight	COM/REC	осс	Poulpe (Octopus vulgaris)	Minimal weight : 750 g	>=750	g	1
			40	Min. landing size or weight	COM/REC	PZO	Red lionfish/Devil firefish (Pterois volitans and Pterois miles)	exception, no minimum size			1
			60	Gear prohibited	СОМ	FPO	Traps/pots marking	Traps/pots unmarked are prohibited. When they are not watched, a ring attached to the net must mention the vessel registration number			1
		Demersal	60	Gear prohibited	СОМ	GNC/GNS/GTR	Nets marking	Nets unmarked are prohibited. When they are not watched, a ring attached to the net must mention the vessel registration number			1
Conservation measures	Coastal fisheries	and benthic	60	Gear prohibited	СОМ	GTR	Trammel nets	prohibition of trammel nets, starting from 1st January 2020			1
measures	Honeres	fishery	60	Gear prohibited	СОМ	TOWED	Towed nets	towed nets are allowed. They can't be used three miles from the coast	<3	miles	1
			60	Gear prohibited	СОМ		bottom trawling	bottom trawling is ban			1
			60	Gear prohibited	REC	FPO	lockers	lockers are prohibited in the context of recreational fishing activities			1
			60	Gear prohibited	REC	FPO	traps	traps are prohibited in the context of recreational fishing activities			1
			60	Gear prohibited	REC	GNC/GNS/GTR	nets	nets are prohibited in the context of recreational fishing activities			1
			60	Gear prohibited	COM/REC		Electric devices	Fishing with electric devices is not allowed			1
			70	Gear dimension limitation	СОМ	GNSMZZ	Bottom gillnet	The maximum height of fall of a bottom gillnet may not exceed 4 meters	<=4	m	1
			80	Gear type limitation	СОМ	FPO	Lockers, size of the opening hatch	lockers must have a square opening hatch with a minimum size of 30 cm x 30 cm located on one side face (excluding the faces containing the openings)	30 x 30	cm	1
			80	Gear type limitation	СОМ	FPO	Lockers, hatch closing	The panel must also be fixed with a twine of biodegradable materials (untreated, unplasticized), so that, in case of			1

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						prolonged immersion related to the loss of the trap/pots, it can fully release the hatch after deterioration of the twine.			
	80	Gear type limitation	СОМ	FPO	Traps, size of the opening hatch	Traps must have a square opening hatch with a minimum size of 30 cm x 30 cm located on one side face (excluding the faces containing the openings)	30 x 30	cm	1
	80	Gear type limitation	сом	FPO	Traps, hatch closing	The panel must also be fixed with a twine of biodegradable materials (untreated, unplasticized), so that, in case of prolonged immersion related to the loss of the trap/pots, it can fully release the hatch after deterioration of the twine.			1
	80	Gear type limitation	REC	HARV	Sandows/pneumatic harpoons	quantity not regulated			1
	80	Gear type limitation	REC	LHP	Trolling or bottom lines	it is forbidden to use trolling or bottom lines with more than 12 hooks	<=12	hooks	1
	80	Gear type limitation	REC	LL	Longline		1	longline	1
	80	Gear type limitation	REC	LL	Longline		<=30	hooks	1
	80	Gear type limitation	REC		Collars	quantity not regulated			1
	100	Mesh size limitation	сом	FPO	Lockers	starting 1 st January 2020, lockers with a mesh size less than 34 millimeters will be banned. The mesh is determined by the smallest height measured between two parallel sides of a grid hexagon or a square.	>=34	mm	1
	100	Mesh size limitation	сом	FPO	Traps	starting 1st January 2020, traps/pots with a mesh size less than 34 millimeters will be banned. The mesh is determined by the smallest height measured between two parallel sides of a grid hexagon or a square.	>=34	mm	1
	100	Mesh size limitation	СОМ		All nets	Starting from 1st January 2020, all nets whose mesh will not measure, in the wet state, at least 80 mm (stretched mesh) will be banned (except beach seine)	>=80	mm	1
	110	Seasonal closure	COM/REC	KDG	Giant land crab (Cardisoma guanhumi)	capture, hawking, storage, sale or purchase of Giant land crab is forbidden from June 16 to February 14 of each year	16/06- 14/02	period	1
	120	Area fishery closure	COM/REC	ALL	Dam of some sectors	river passes, between reefs, lagoons, ravines, canals and ponds, cannot be barred by fishing operations			1
	120	Area fishery closure	COM/REC	ALL	Sectors where fishing is prohibited	Professional and recreational fishing prohibited in some sectors determined by prefectural orders: unsanitary areas, areas subject to strong environmental protection, port areas, areas where fishing is not compatible with other uses (Protection of submarine cables, areas reserved for water activities)			1
	120	Area fishery closure	COM/REC	ALL	Cantonment sectors	"Cantonment" zones may be partially or temporarily prohibited from fishing			1
	120	Area fishery closure	COM/REC	ALL	Cantonment of the municipality of "Case- Pilote"	All fishing forms are prohibited			1

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			120	Area fishery closure	COM/REC	ALL	Cantonment of "islet Ramiers" sector	All fishing forms are prohibited			1
			120	Area fishery closure	COM/REC	ALL	Cantonment in the "Tresor bay"	All fishing forms are prohibited			1
			120	Area fishery closure	COM/REC	ALL	Chlordecone	Prohibition of fishing several species located within defined perimeters			1
			130	Marine protected area	COM/REC	ALL	Natural Marine Park of Martinique	Decree N°. 2017-784 of 5 May 2017 establishing the marine Nature Park of Martinique			1
			130	Marine protected area	COM/REC	ALL	Biotope protection on « Loup Garou » islet	Order N°. 02348 establishing a zone of protection of the biotope of the islet Loup Garou			1
			130	Marine protected area	COM/REC	ALL	Natural reserve protection of St-Anne islets	Decree N°. 95-915 of 11 August 1995 establishing the nature reserve of the islets of Sainte-Anne (Martinique)			1
			140	Other	СОМ		viviers	It is not allowed to kept in some species that do not have the minimum landing size			1
			140	Other	СОМ		viviers	Beach Seine can also be used to form a temporary viviers but they can not create an annoyance to other maritime activities			1
			140	Other	СОМ		viviers	Fish or crustaceans cages, which can be used as a temporary viviers, must be declared to the Direction of the Sea. If these viviers are permanent, an authorization to occupy the maritime public domain must be delivered			1
			140	Other	REC	FDV	Snorkeling	simultaneous holding on a vessel of respiratory equipment and a spear or special device for snorkeling is prohibited (except derogations)			1
			140	Other	REC	FDV	Snorkeling, gears allowed	snorkeling is permitted only with the following gears: sandow/pneumatic harpoons (excluding compressed air harpoons), spear, collars and glove			1
			140	Other	REC	FDV	Snorkeling, propulsive device	in the case of recreational fishing the use of mechanical propulsion equipment is prohibited			1
			140	Other	COM/REC	FDV	Snorkeling	use of any respiratory equipment, autonomous or not, allowing to remain immersed and breathe without going back to the surface, are forbidden			1
Access requileties	Coastal	Demersal and	170	Fishery licence without numerus clausus	COM/REC	MZZ	Ornamental fish	The capture of ornamental fish is subject to prior authorization			1
Access regulation measures	fisheries	benthic fishery	180	Vessel or individual quota/Bag limit	СОМ		Authorized skate fish or shark	A quota for professional fishermen is fixed for authorized skate fish or shark species fishing. Catches are limited to a maximum of 10 skate fish or sharks by day	<=10	quantity	1
Total											47

Table 46. Coastal fisheries - 6.1.3.4.1 Demersal and benthic fishery - measures

3.2.4.3.2 Small pelagic fishery

The catch of small pelagics in the water column, above the insular shelf, involve the use of a encircling gillnets, beach seines, and to a lesser extent the "Doucine". These fishing techniques are practiced in coastal areas in general where depth is low.

The "encircling gillnets" métier was practiced in 2016 per 38 vessels, representing on average, 1 322 days at sea (39.5 tons - 199 M €)²⁴¹. The Balao halfbeak (*Hemiramphus balao*) is the only species catch per this métier.

The "Seine" métier was practiced in 2016 per 57 vessels, representing on average, 1 713 days at sea $(26.5 \text{ tons} - 189.5 \text{ M} \ \text{€})^{242}$. The two species the most catches are the Bigeye scad (*Selar crumenophthalmus*) (17.5 tons and 66% of catches) and the Mackerel scad (*Decapturus macarellus*) (5.9 tons and 22.2% of catches).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)	
GNC	Encircling gillnets	38	1 322	39.5	199	
SB_SV	Beach seines	57	1 713	26.5	189.8	
LHPTH	Handline "Doucine"	" *Cf. métier 'Doucine'				

Table 47. Key figures of the Small pelagic fishery

For harvesting these small pelagic species, there is an exception to the general ban of all nets which does not respect a minimum mesh size of 80 mm (wet-stretched mesh), starting 1st January 2020.

From the same date, the mesh of the central part of the seine, may not be less than 38 mm (19 mm side), measured in the wet state²⁴³ (measure 100. Mesh size limitation). This fishing gear targeting mainly small pelagic fish can also catch some of demersal species. But, the seine fishery for demersal juvenile fish is forbidden²⁴⁴ (measure 80. Gear type limitation). It should be added that using a beach seine, by means of ships or not, is only possible for professional fishermen²⁴⁵ (measure 60. Gear prohibited). This métier is also subject to special authorization²⁴⁶ (measure 170. Fishery license without numerus clausus).

The use of surface drifting gillnets is only allowed for Flyingfishes nei (*Exocoetidae*) fishing²⁴⁷ (*measure 80. Gear type limitation*). These nets may not exceed an individual or accumulated length exceeding 1.5 kilometers²⁴⁸ (*measure 70. Gear dimension limitation*). The minimum mesh size of these nets must be 38 mm stretched mesh in the wet state (19 mm side mesh)²⁴⁹ (*measure 100. Mesh size limitation*).

Non-drifting surface nets also allow the capture of Balao halfbeak (*Hemiramphus balao*). Only for the capture of this species, the mesh of the nets must do a minimum of 32 mm stretched mesh in the wet state (16 mm side mesh)²⁵⁰.

²⁴¹SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Filets de surface - Année 2016 - Martinique

²⁴² SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Sennes - Année 2016 - Martinique

art 19.2, Prefectural order project which regulate professional fishing in Martinique

²⁴⁴ art 19.3, Prefectural order project which regulate professional fishing in Martinique

²⁴⁵ art 11, Prefectural order project which regulate recreational fishing in Martinique

²⁴⁶ art 19.1, Prefectural order project which regulate professional fishing in Martinique

art 18.5, Prefectural order project which regulate professional fishing in Martinique
 art 18.4, Prefectural order project which regulate professional fishing in Martinique

art 18.4, Prefectural order project which regulate professional fishing in Martinique and 18.2, Prefectural order project which regulate professional fishing in Martinique

²⁵⁰ art 18.2, Prefectural order project which regulate professional fishing in Martinique

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Species are also subject to some measures, including minimum catch sizes (measure 40. Min. landing size or weight). If there is a general rule that species less than 15 centimeters have to be released, exceptions exist like for the Bigeye scad (Selar crumenophthalmus), Scads nei (Decapterus spp.), Mackerel scad (Decapturus macarellus), Herrings, sardines nei, ... (Clupeidae family, Engraulidae and Atherinidae). These species do not benefit from a minimum catch size²⁵¹.

Conversely, only for recreational fishing, Parrotfishes (*Scaridae family*) and Surgeonfishes nei (*Acanthuridae family*) have a minimum catch size of 22 cm²⁵².

Always for recreational fishing, the following species cannot be conserved if their size is less than 40 centimeters: Hogfish (*Lachnolaimus maximus*), Mutton snapper (*Lutjanus analis*), Yellowtail snapper (*Ocyurus chrysurus*), Dog snapper (*Lutjanus jocu*), Cubera snapper (*Lutjanus cyanopterus*)²⁵³.

Finally, still concerning recreational fishing, it is not permit to catch per day and per person (measure 180. Vessel or individual quota/bag limit) more than 3 Hogfish (Lachnolaimus maximus), Snappers, Jobfishes nei (Lutjanidae family). A same bag limit applies for Parrotfishes nei (Scaridae family) and Surgeonfishes nei (Acanthuridae family)²⁵⁴. These limitations do not apply during fishing competitions.

²⁵¹ art 23.1, Prefectural order project which regulate professional fishing in Martinique

²⁵² art 16.1, Prefectural order project which regulate recreational fishing in Martinique

²⁵³ art 16.1, Prefectural order project which regulate recreational fishing in Martinique

²⁵⁴ art 18, Prefectural order project which regulate recreational fishing in Martinique

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	REC	LCX	Hogfish (Lachnolaimus maximus)	Exception, minimal size: 40 cm (recreational fishing)	>=40	cm	1
			40	Min. landing size or weight	REC	LJJ	Dog snapper (Lutjanus jocu)	Exception, minimal size: 40 cm (recreational fishing)	>=40	cm	1
			40	Min. landing size or weight	REC	LJN	Mutton snapper (Lutjanus analis)	Exception, minimal size : 40 cm (recreational fishing)	>=40	cm	1
			40	Min. landing size or weight	REC	LJY	Cubera snapper (Lutjanus cyanopterus)	Exception, minimal size: 40 cm (recreational fishing)	>=40	cm	1
			40	Min. landing size or weight	REC	PWT	Parrotfishes (Scaridae family)	Exception, minimal size : 22 cm (recreational fishing)	>=22	cm	1
			40	Min. landing size or weight	REC	SNY	Yellowtail snapper (Ocyurus chrysurus)	Exception, minimal size : 40 cm (recreational fishing)	>=40	cm	1
			40	Min. landing size or weight	REC	SUR	Surgeonfishes nei (Acanthuridae family)	Exception, minimal size : 22 cm (recreational fishing)	>=22	cm	1
		Small	40	Min. landing size or weight	COM/REC	BIS	Bigeye scad (Selar crumenophthalmus)	Exception to minimum size (15cm), no regulation			1
Conservation measures	Coastal fisheries	pelagic fishery	40	Min. landing size or weight	COM/REC	MSD	Mackerel scad (Decapturus macarellus)	Exception to minimum size (15cm), no regulation			1
		listici y	40	Min. landing size or weight	COM/REC	WEC	Scads nei (Decapterus spp.)	Exception to minimum size (15cm), no regulation			1
			40	Min. landing size or weight	COM/REC		Herrings, sardines nei, (Clupeidae family, Engraulidae and Atherinidae)	Exception to minimum size (15cm), no regulation			1
			60	Gear prohibited	REC	SB	Beach seine	Beach sein gears not allowed for recreational fishing			1
			70	Gear dimension limitation	СОМ	GNDFLY	Surface drifting gillnets	Surface drifiting gillnets may not exceed an individual or accumulated length exceeding 1.5 kilometers	<=1 500	m	1
			80	Gear type limitation	СОМ	GNDFLY	Surface drifting gillnets	The use of surface drifting gillnets is only allowed for Flyingfishes nei (Exocoetidae) fishing			1
			80	Gear type limitation	СОМ	SB	Beach seine	Beach seine gear for demersal juvenile fishing is forbidden			1
			100	Mesh size limitation	СОМ	GNCHAX	Surface nets for Balao halfbeak (Hemiramphus balao)	The minimum mesh size of surface nets for Balao halfbeak fishing must be 32 mm stretched mesh in the wet state (16 mm side mesh)	>=32	mm	1
			100	Mesh size limitation	СОМ	GNDFLY	Surface drifting fillnets for Flyingfishes nei (Exocoetidae)	The minimum mesh size of surface nets for Flyingfishes nei fishing must be 38 mm stretched mesh in the wet state (19 mm side mesh)	>=38	mm	1
			100	Mesh size limitation	СОМ	PS	Beach seine	starting 1 st January 2020, the mesh of the central part of the seine, may not be less than 38 mm (19 mm side), measured in the wet state	>=38	mm	1
	Coastal fisheries		170	Fishery licence without numerus clausus	СОМ	PS	Beach seine, authorization	The use of beach seine for professional, is subject to special authorization			1

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Access regulation	Small pelagic	180	Vessel or individual quota/Bag limit	REC	LCX/SNX	Hogfish (Lachnolaimus maximus), Snappers, jobfishes nei (Lutjanidae family)	it is not permit to catch per day and per person more than 3 Hogfish (Lachnolaimus maximus), Snappers, Jobfishes nei (Lutjanidae family). These limitations do not apply during fishing competitions.	<=3	quantity	1
measures	fishery	180	Vessel or individual quota/Bag limit	REC	USX/AXQ	Parrotfishes nei (Scaridae family) and Surgeonfishes nei (Acanthuridae family)	it is not permit to catch per day and per person more than 3 Parrotfishes nei (Scaridae family) and Surgeonfishes nei (Acanthuridae family). These limitations do not apply during fishing competitions.	<=3	quantity	1
Total										21

Table 48. Coastal fisheries - 6.1.3.4.2 Small pelagic fishery - measures

3.2.4.3.3 Spiny lobster fishery

The main gears used for the spiny lobster fishery are: "Pots and traps", "Gillnets" and "Trammel nets". The "pots and trap" métier enables to catch Caribbean spiny lobsters (*Panulirus Argus*) (20.9 tons - 13.6% of catches of this métier), Tropical spiny lobsters nei (*Panulirus spp.*) (2.1 tons - 1.4% of catches of this métier), Spotted spiny lobsters (*Panulirus guttatus*) (0.9 tons - 0.3% of catches of this métier). Spiny lobsters also can be catches with gillnets: Caribbean spiny lobsters (*Panulirus Argus*) (4 tons-7.9% of catches of this métier), Spotted spiny lobsters (*Panulirus guttatus*) (2.6 tons - 5.1% of catches of this métier), Tropical spiny lobsters nei (*Panulirus spp.*) (1.8 tons - 3.5% of catches of this métier). The "trammel net" allows the capture of 4.8 tons of Caribbean spiny lobsters (*Panulirus Argus*), representing 18.8% of the catches of this métier

representing 18.8% of the catches of this métier.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
FPO	Pots and traps	<u>Cf. r</u>	nétier "pots	and traps"	
GNS	Gillnets	9	Cf. métier "G	illnets"	
GTR	Trammel nets	Cf. ı	métier "Tran	nmel nets"	

Table 49. Key figures of the Spiny lobster fishery

The spiny lobsters fishery is governed by five conservation measures and one access regulation measure from draft orders. Both professional and recreational fishing, the Caribbean spiny lobsters (*Panulirus Argus*) and Spotted spiny lobsters (*Panulirus guttatus*) minimum catch size (*measure 40. Min. Landing size or weight*), are respectively 8 cm and 6 cm²⁵⁵. The size must be calculated to the length of the carapace measured from the tip of the rostrum to the midpoint of the distal edge of the cephalothorax. It's the same for the catch ban (*measure 50. Species harvesting prohibited*) of egg-bearing Spiny lobsters (*Panulirus spp*) which applies at all times and places, in order to enable a reproductive cycle of the species²⁵⁶.

When they don't have eggs, the recreational fishing of spiny lobsters (all species) stay prohibited from 1^{st} June to 30 September (measure 110. Seasonal closure)²⁵⁷.

Again concerning the recreational fishing and the snorkeling, spiny lobsters can be captured only with a glove or a collar (measure 60. Gear prohibited)²⁵⁸.

Finally, if there is not a specific license for the capture of spiny lobsters, a specific quota is provided for recreational fishing (measure 180. Vessel or individual quota/bag limit) since it is forbidden, per person and per day, to catch more than 5 spiny lobsters, (all species confused)²⁵⁹ (limitation not applicable during fishing competitions).

²⁵⁵ art 23.3, Prefectural order project which regulate professional fishing in Martinique

²⁵⁶ art 22.2, Prefectural order project which regulate professional fishing in Martinique

²⁵⁷ art 15.2, Prefectural order project which regulate recreational fishing in Martinique

²⁵⁸ art 16.3, Prefectural order project which regulate recreational fishing in Martinique

²⁵⁹ art 18, Prefectural order project which regulate recreational fishing in Martinique

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_ label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	COM/REC	LOY	Caribbean spiny lobster (Panulirus argus)	Minimum length of the carapace measured from the tip of the rostrum to the midpoint of the distal edge of the cephalothorax: 8 cm	>=8	cm	1
Conservation	Coastal	Spiny lobster	40	Min. landing size or weight	COM/REC	NLG	Spotted spiny lobster (Panulirus guttatus)	Minimum length of the carapace measured from the tip of the rostrum to the midpoint of the distal edge of the cephalothorax: 6 cm	>=6	cm	1
measures	10		50	Species harvesting prohibited	COM/REC	VLO	Tropical egg- bearing spiny lobsters nei (Panulirus spp)	catch ban of egg-bearing Spiny lobsters at all times and places			1
			60	Gear prohibited	REC	VLO	Spiny lobsters fishing, gears forbidden	The spiny lobsters catches during snorkeling is only allowed with a glove or a collar			1
			110	Seasonal closure	REC	VLO	Tropical spiny lobsters nei (Panulirus spp)	the recreational fishing of spiny lobsters (all species) is prohibited from 1 st June to 30 September	01/06-30/09	period	1
Access regulation measures	Coastal fisheries	Spiny lobster fishery	180	Vessel or individual quota/Bag limit	REC	VLO	Tropical spiny lobsters nei (Panulirus spp)	A maximum of 5 spiny lobsters, (all species confused) per person and per day, (limitation not applicable during fishing competitions)	<=5	quantity	1
Total							to delegate delegate				6

Table 50. Coastal fisheries - 6.1.3.4.3 Spiny lobster fishery - measures

3.2.4.3.4 Conch fishery

The Queen conch fishery (*Lobatus gigas*) is possible with bottom gillnets and trammel nets. This species represents 78.1% (on average 20 tons) of catches in the "Trammel nets" métier²⁶⁰ and 12.2% (on average 6.2 tons) of catches in the "gillnets" métier²⁶¹.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
GNS	Gillnets		<u>Cf. métie</u>	r Gillnets	
GTR	Trammel nets		Cf. métier Ti	rammel nets	

Table 51. Key figures of Conch fishery

The Queen conch (*Lobatus gigas*) is subject of 4 measures relating to the possibilities of harvesting. First, to be kept on board, a Queen conch must have a formed pavilion (not breakable by hand), with a thickness greater than 7 mm. The flesh weight of the Queen conch must also represent a minimum of 250 grams²⁶² (*measure 40. Min. landing size or weight*).

A period of prohibition is provided for both professional and recreational fishing. It is forbidden to catch Queen conch from 1st January to 30 June²⁶³ (measure 110. Seasonal closure).

Recreational fishing is also subject to a limitation of catches of Queen conch, during the authorized period, it is not permitted to catch more than 3 per day and per person (limitation not applicable in fishing competitions)²⁶⁴ (measure 180. Vessel or individual quota/bag limit).

Conservation measures/ Access regulation measures	Fishery _ level2	Fishery _ level1	Managemen t measure number	Managemen t measures per type	Applicatio n (REC/COM	Variable _ code	Variable_ label	Conditions of application in national language	Value	Units	Total
	6		40	Min. landing size or weight	COM/REC	CON	Queen conch (Lobatus gigas)	Queen conch must have a formed pavilion (not breakable by hand), with a thickness greater than 7 mm	>7	mm	1
Conservatio n measures	Coastal fisherie s	Conch fishery	40	Min. landing size or weight	COM/REC	CON	Queen conch (Lobatus gigas)	flesh weight of the Queen conch must also represent a minimum of 250 grams	>=250	g	1
			110	Seasonal closure	COM/REC	CON	Queen conch (Lobatus gigas)	It is forbidden to catch Queen conch from 1 st January to 30 June	01/01 - 30/06	period	1
Access regulation measures	Coastal fisherie s	Conch fishery	180	Vessel or individual quota/Bag limit	REC	CON	Queen conch (Lobatus gigas)	it is not permitted to catch more than 3 per day and per person (limitation not applicable in	<=3	quantit y	1

²⁶⁰ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Trémails - Année 2016 - Martinique

²⁶¹ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Filets maillants de fond - Année 2016 - Martinique

²⁶² art 23.2, Prefectural order project which regulate professional fishing in Martinique

art 22.3, Prefectural order project which regulate professional fishing in Martinique

²⁶⁴ art 18, Prefectural order project which regulate recreational fishing in Martinique

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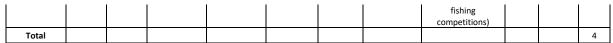


Table 52. Coastal fisheries – 6.1.3.4.4 Conch fishery - measures

3.2.4.3.5 Urchin fishery

The Urchin fishing is done exclusively through the "snorkeling" métier. The sea eggs (*Tripneustes ventricosus*) are the most targeted. In 2016, their fishery represented 73.8% of catches and on average 14.8 tons of the "snorkeling" métier²⁶⁵.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)		
APN	snorkeling	Cf. métier snorkeling					

Table 53. Key figure of Urchin fishery

Three measures regulate the fishing of sea eggs (*Tripneustes ventricosus*). Recreational fishing of this species is prohibited at all times and places (except derogatory authorization or specific prefectural orders)²⁶⁶. For commercial fishing, the opening of this fishery is regulated by annual prefectural orders²⁶⁷. These orders must specify the terms and conditions for the exercise of this fishery. In addition, the professional fishing of sea eggs is subject to a special authorization.

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_ label	Conditions of application in national language	Total
Conservation	Coastal fisheries	Urchin	50	Species harvesting prohibited	REC	TWV	Sea eggs (Tripneustes ventricosus)	sea eggs (Tripneustes ventricosus) recreational fishing is prohibited at all times and places (except derogatory authorization or specific prefectural orders	1
measures		fishery	110	Seasonal closure	сом	TWV	Sea eggs (Tripneustes ventricosus)	commercial fishing of sea eggs is regulated by annual prefectural orders . These orders must specify the terms and conditions for the exercise of this fishery	1
Access regulation measures	Coastal fisheries	Urchin fishery	170	Fishery license without numerus clausus	СОМ	TWV	Professional authorization, Sea eggs fishing (Tripneustes ventricosus))	professional fishing of sea eggs is subject to a special authorization	1
Total									3

Table 54. Coastal fisheries - 6.1.3.4.5 Urchin fishery - measure

3.2.4.3.6 Shore fishing

The shore fishing can be given 6 measures. First, 2 minimum catch sizes (measure 40. Min. Landing size or weight) are fixed for both professional and recreational fishing²⁶⁸. Thus, the 'West Indian top shell'

²⁶⁵ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Plongée en apnée - Année 2016 - Martinique

²⁶⁶ art 15.1, Prefectural order project which regulate recreational fishing in Martinique

²⁶⁷ art 22.1, Prefectural order project which regulate professional fishing in Martinique

²⁶⁸ art 23.2, Prefectural order project which regulate professional fishing in Martinique

(*Cittarium pica*) must measure a minimum of 6 centimeters. The capture of clams (*Codakia orbicularis and Phacoides Pectinatus*) smaller than 4 centimetres is prohibited. Three other measures specific to recreational fishing gears (*measure 80. Gear type limitation*) can be classified in this shore fishing category²⁶⁹. However, the measures remain valid for other sectors. Only one fishing scoop is allowed on board, just like a single fish gaff and one spear.

In order to regulate access to resources, an authorization must be held for foot professional fishing activity²⁷⁰ (measure 150. Permit to enter the fishery sector). On the same logic, where the purpose of the activity is the collect of algae and other marine plants, an authorization must have been previously delivered²⁷¹ (measure 170. Fishery license without numerus clausus).

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_ label	Conditions of application in national language	Value	Units	Total			
			40	Min. landing size or weight	COM/REC	ККО	clams (Codakia orbicularis and Phacoides Pectinatus)		>=4	cm	1			
Conservation	Coastal fisheries	Shore fishing				40	Min. landing size or weight	COM/REC	KUI	'West Indian top shell' (Cittarium pica)		>=6	cm	1
measures	listieries		80	Gear type limitation	REC	MIS	Fishing scoop		1	Fishing scoop	1			
			80	Gear type limitation	REC	MIS	spear		1	spear	1			
			80	Gear type limitation	REC	MIS	Fishing gaff		1	Fishing gaff	1			
Access	Coastal	Shore fishing	150	Permit to enter the fishery sector	СОМ	ALL	Professional foot fishing	an authorization must be held for foot professional fishing activity			1			
regulation measures	Coastal fisheries		170	Fishery licence without numerus clausus	СОМ		Collect of algae and other marine plants	the collect of algae and other marine plants requires an authorization			1			
Total											7			

Table 55. Coastal fisheries - 6.1.3.4.6 Shore fishing - measures

²⁶⁹ art 11, Prefectural order project which regulate recreational fishing in Martinique

²⁷⁰ art 4, Prefectural order project which regulate professional fishing in Martinique

²⁷¹ art 24.3, Prefectural order project which regulate professional fishing in Martinique

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				Fishery_ level2	Fishery_ level1								
				Coastal fisheries						Offshore fisheries	Segment	All population	Total
Conservation measures/Access regulation measures	Management measure number	Management measures per type	Application (REC/COM)	Conch fishery	Demersal and benthic fishery	Shore fishing	Small pelagic fishery	Spiny lobster fishery	Urchin fishery	Large pelagic fishery & MFADs	Segment	All population	
	10	TAC or global/regional quota	COM/REC							4			4
	20	Segment capacity limitation	СОМ								4		4
	40	Min. landing size or weight	COM/REC	2	5	2	4	2					15
	40	Min. landing size or weight	REC				7			3			10
	50	Species harvesting prohibited	COM/REC					1				26	27
	50	Species harvesting prohibited	REC						1			5	6
	60	Gear prohibited	COM		5								5
	60	Gear prohibited	COM/REC		1								1
	60	Gear prohibited	REC		4			1		1			6
	70	Gear dimension limitation	COM		2								2
Conservation measures	80	Gear type limitation	COM		6								6
	80	Gear type limitation	REC		5	3							8
	100	Mesh size limitation	COM		3		3						6
	110	Seasonal closure	COM						1				1
	110	Seasonal closure	COM/REC	1	1								2
	110	Seasonal closure	REC					1					1
	120	Area fishery closure	COM/REC		7								7
	130	Marine protected area	COM/REC		3								3
	140	Other	COM		3								3
	140	Other	COM/REC		1								1
	140	Other	REC		3								3
	150	Permit to enter the fishery sector	COM			1						4	5
	170	Fishery licence without numerus clausus	COM		1	1			1	1			4
	170	Fishery licence without numerus clausus	COM/REC		1								1
A	170	Fishery licence without numerus clausus	REC							1			1
Access regulation measures	180	Vessel or individual quota/Bag limit	СОМ		1								1
	180	Vessel or individual quota/Bag limit	REC	1			2	1		1			5
	190	Individual territorial use rights	СОМ							2			2
	200	Conflicts regulation	REC									1	1
Total				4	52	7	16	6	3	13	4	36	141

Table 56. General table

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

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3.2.1 Annexes Martinique

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Value	Units	Total
			50	Species harvesting prohibited	COM/REC	ANG	All species of Angelfishes nei (Pomacanthidae family)				1
			50	Species harvesting prohibited	COM/REC	BSK	Basking shark (Cetorhinus maximus)				1
			50	Species harvesting prohibited	COM/REC	FAL	Silky shark (Carcarhinus falciformis)				1
			50	Species harvesting prohibited	COM/REC	GPX	Groupers, seabasses nei (Serranidae family)	Fishing of Groupers, seabasses nei (Serranidae family) is prohibited except: Red hind (Epinephelus guttatus), Coney (Cephalopholis fulva) and Graysby (Cephalopholis cruentata)			1
			50	Species harvesting prohibited	COM/REC	GUP	Gulper shark (Centrophorus granulosus)				1
			50	Species harvesting prohibited	COM/REC	HIC	Pipefishes, seahorses nei (Syngnatidae family)				1
			50	Species harvesting prohibited	COM/REC	MAM	marine mammals	fishing, hawking, conservation, sale or purchase of all species of marine mammals, living or dead, is prohibited at all times and all places			1
Conservation measures	All populati on	All populati on	50	Species harvesting prohibited	COM/REC	MOL	molluscs (Mollusca)	fishing, hawking, conservation, sale or purchase of all species of molluscs is prohibited, except for the following species: Queen conch (Lobatus gigas), West Indian top shell (Cittarium pica), lucine (Codakia orbicularis and Phacoïdes pectinatus), octopus (Octopus vulgaris).			1
			50	Species harvesting prohibited	COM/REC	ocs	Oceanic whitetip shark (Carcharhinus longimanus)				1
			50	Species harvesting prohibited	COM/REC	RHN	Whale shark (Rhincodon typus)				1
			50	Species harvesting prohibited	COM/REC	RSK	sharks	For all shark species, it is forbidden to mutilate them whether they are alive or dead. It is also forbidden to buy, offer for sale or sell shark fins			1
			50	Species harvesting prohibited	COM/REC	SAW	Sawfishes (Pristidae family)				1
			50	Species harvesting prohibited	COM/REC	SBL	Bluntnose sixgill shark (Hexanchus griseus)				1
			50	Species harvesting prohibited	COM/REC	SCK	Kitefin shark (Dalatias licha)				1
			50	Species harvesting prohibited	COM/REC	SPY	Hammerhead sharks nei (Sphyrnidae spp.)				1
			50	Species harvesting prohibited	COM/REC	SRX	Spotted eagle ray (Aetobatus narinari)				1
			50	Species harvesting prohibited	COM/REC		Mantas, devil rays nei (Mobulidae family)				1

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			50	Species harvesting prohibited	COM/REC	THR	Thresher sharks nei (Alopias spp.)				1
			50	Species harvesting prohibited	COM/REC	TTX	Marine turtles nei (Testudinata)	fishing, hawking, conservation, sale or purchase of any species of marine turtles is prohibited. Accidental catches to be reported immediately to CROSS Antilles-Guyane.			1
			50	Species harvesting prohibited	COM/REC	WSH	Great white shark (Carcharodon carcharias)				1
			50	Species harvesting prohibited	COM/REC		Echinoderms (Echinodermata branch)	The fishing of Echinoderms (Echinodermata branch): Starfish, Brittlestars, holothurians, sea urchins is prohibited, except Sea egg (Tripneustes ventricosus) allowed for professional fishing;			1
			50	Species harvesting prohibited	COM/REC		Gorgons (order of Gorgonacea)			1	1
			50	Species harvesting prohibited	COM/REC		zawag bleu (Scarus coelestinus)			1	1
			50	Species harvesting prohibited	COM/REC		corals (orders of Scleractinia, Milleporina, Stylasterina and Antipatharia)	the collect of corals, even dead (orders of Scleractinia, Milleporina, Stylasterina and Antipatharia) is prohibited			1
			50	Species harvesting prohibited	COM/REC		sponges (branch of Porifera)			1	1
			50	Species harvesting prohibited	COM/REC		zawag flamand (Scarus guacamaia)			1	1
			50	Species harvesting prohibited	REC	BLV	Queen triggerfish (Balistes Vetula)			1	1
			50	Species harvesting prohibited	REC	HRF	Atlantic spadefish (Chaetodipterus Faber)				1
			50	Species harvesting prohibited	REC	SRX	fish skate and sharks (Chondrichthyes family)				1
			50	Species harvesting prohibited	REC	USU	Blue parrotfish (Scarus coeruleus)			1	1
			50	Species harvesting prohibited	REC		rostrate fish like Makaires,marlins,voiliers nca (family of Istiophoridae and Swordfish, (Xiphias gladius)				1
			150	Permit to enter the fishery sector	СОМ	ALL	European fishing license	The exercise of professional maritime fishing requires the holding of Community fishing licenses			1
			150	Permit to enter the fishery sector	СОМ	ALL	Professional vessels flying a non- community flag	Professional vessels flying a non-community flag must also have an authorization to be able to fish in the waters of the Department of Martinique			1
Access regulation	All populati	All populati	150	Permit to enter the fishery sector	СОМ	ALL	Fishing or marine cultures license	The exercise of professional maritime fishing requires a fishing or marine cultures license			1
measures	on	on	150	Permit to enter the fishery sector	СОМ	ALL	The exploitation permit (PME)	The PME should be obtained before the construction of a new vessel or the replacement of a vessel			1
			200	Conflicts regulation	REC	ALL	Scientific research area	In the case of scientific research carried out in an area, fishing activities are prohibited within a half-mile circle centered on marking scientific or experimental research buoys	<=0,5	milles	1
Total										i '	36

Table 57. Sectorial/general measures in force

3.3 French Guiana

3.3.1 Main organizational and regulatory changes in fisheries over the last 30 years

In 1946, French Guiana became a department and in 1982, as part of the decentralization process, the Regions were erected as territorial collectivities in the same way as the Departments. In 2015, French Guiana became a unique territorial collectivity. The overseas Departments and Regions are governed by Article 73 of the Constitution of the fifth French Republic²⁷²: As a consequence, laws and regulations applicable in France mainland are also applicable as of right, but adaptations may exist. They are distinct from (OCs) Overseas Countries and Territories (OCTs).

The law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion²⁷³ stated that, the decree-law of 1852 founder of the fisheries regulation in France mainland, also applies overseas departments. This law also specified that the competent prefects can make orders to regulate the exercise of fishing activities in the departments concerned. In 2010, Directions of the Sea in French ORs were created by fusion of decentralized services responsible for maritime affairs²⁷⁴. Finally, the Marine Natural Park of Martinique covereing all the EEZ was created in 2017²⁷⁵.

As mentioned before and even if 1983 CFP regulations applied to the French ORs, the application of the Common Fisheries Policy has resulted mainly from the introduction of capacity ceilings (engine power and tonnage) which were applied in 1998 with like national scale, the application of implementation permits for the management of capacity at the regional level. These capacity ceilings were changed in 2002, 2004, 2007 and 2013. For French Guiana, the main first key species under TAC was prawn in 1995.

²⁷² Art 73, Constitution of the fifth French Republic, 4 october 1958

²⁷³ Law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion

²⁷⁴ These decentralized services were previously competent in fisheries regulation

²⁷⁵ Decree N°. 2017-784 of 5 May 2017 establishing the marine Nature Park of Martinique

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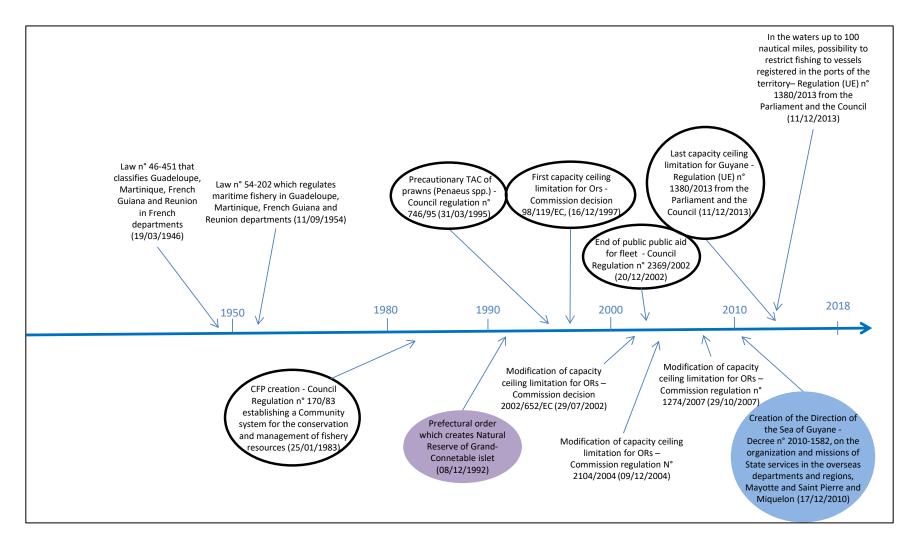


Figure 29. Time line of the main governance changes

N.B. Date of the creation of the CRPMEM of French Guiana is missing

3.3.2 Governance structure for fisheries & ecosystem management at regional level

3.3.2.1 General framework, status and role of each organization in ORs

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. This organizational framework is common to all French outermost regions even if some specificity may apply. This framework includes commercial fishers and their representation at regional and national levels through the so-called fisheries committees with their specific in the design and application of in fisheries regulation²⁷⁶. More details about the organizational framework are available in the Guadeloupe section.

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²⁷⁶ Art L 912-1 to L 912-5 and Art R 912-1 and next, CRPM

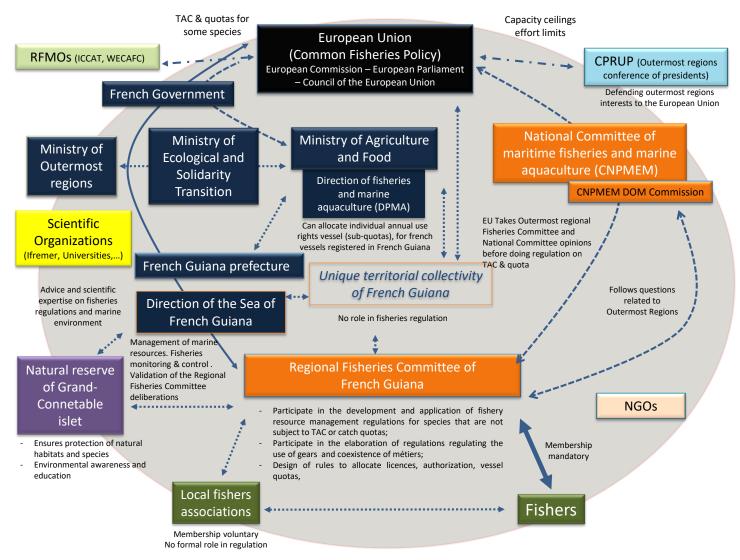


Figure 30. General organizational framework

Even if the regulations in the case of French Guiana were registered in the data set, the detailed analysis of current conservation and regulation access measures was not carry out in the context of the report. However, the synthesis provided before includes the data from this region.

3.4 Canaries Islands

3.4.1 Main organizational and regulatory changes in fisheries over the last 30 years

In 1964, the European Fisheries Convention, ratified by Spain, recognized the possibility of extending maritime jurisdiction over fishing to a maximum of 12 nautical miles. Thus, Law 20/1967 and Royal Decree 2510/1977 deal with this extension from the definition of normal baselines (low tidewater) or, if there are, straight baselines (depending on the coastal layout). In addition, they delimited the internal waters as those that are between these straight baselines and the coast. On the other hand, Law 15/1978 defined for Spain the Exclusive Economic Zone that covers up to 200 nautical miles measured from those baselines, and must also consider in its layout the Exclusive Economic Zones of neighboring countries. In 1982 the United Nations Convention on the Law of the Sea was approved (which Spain ratified in 1997) and after that a series of areas were defined: Interior Water, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ) and High Mar, which provide complexity in the legal order due to the plurality of the Law of the Sea in relation to sovereignty, uses, rights and obligations. Finally, following the Spanish Constitution (1978), the Statute of Autonomy of the Canary Islands (1982) and Royal Decree 1938/1985, maritime fishing divided the powers between the Interior Waters (hereinafter AI) of the Autonomous Communities and the Territorial Sea and EEZ (hereinafter MZ). In the Canary Islands, there is currently no official layout of the EEZ - (see next figure²⁷⁷. Thus, there is a State fishing law²⁷⁸ and an Autonomic Fishing Law²⁷⁹, without prejudice to what can be dictated by the European Union, since Community Law is part of the Spanish internal order. On the other hand, Als also include the intertidal zone. In addition, shellfishing is solely autonomous competition²⁸⁰. Fishing can be developed by both professional fishermen and recreational fishermen,

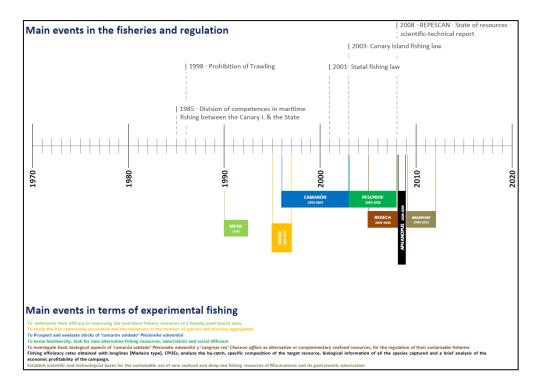
²⁷⁷ A. Bilbao Sieyro et al., "Tiburones y rayas. Los elasmobranquios y las competencias espaciales pesqueras en Canarias," Okéanos, vol. 5, no. julio-diciembre, pp. 8–11, 2017.

²⁷⁸ España, "Ley 3/2001, de 26 de marzo, de Pesca Marítima del Estado. TEXTO CONSOLIDADO. Última modificación: 27 de diciembre de 2014.," BOE, no. 75, 27 de diciembre, pp. 1–48, 2001.

²⁷⁹ Canarias, "Ley 17/2003, de 10 de abril, de Pesca de Canarias," BOC, no. 77, 23 de abril, pp. 1–22, 2003.

²⁸⁰ España, "Real Decreto 1938/1985, de 9 de octubre, sobre traspaso de funciones del Estado a la Comunidad Autónoma de Canarias en materia de pesca en aguas interiores, marisqueo y acuicultura.," Boletín Of. Canar., no. 254, pp. 33410–33412, 1985

and the main characteristic that distinguishes them is that professionals can sell their catch but recreational fishermen cannot.



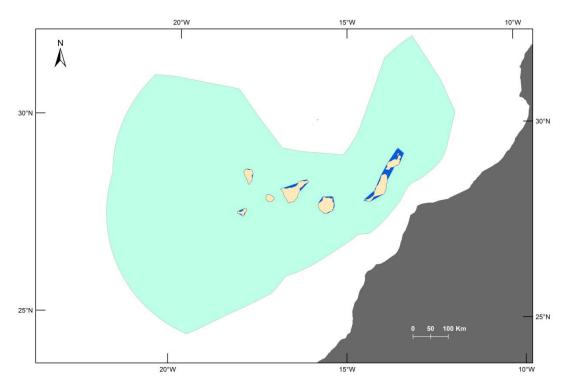


Figure 31. Competence areas, State and Autonomous, fishing in the Canary Islands. The Autonomous Community has competencies in the "Interior Waters" (AI) in dark blue and the State in the

"Territorial Sea and the Exclusive Economic Zone (MZ) in light blue. Unofficial map. Data: AI, GMR Canarias S.A.U.; MZ, <u>www.marineregions.org</u>. Source²⁸¹

3.4.2 Governance structure for fisheries & ecosystem management at regional level

3.4.2.1 General framework, status and role of each organization in ORs

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. In the Canary Islands, the 'Cofradías' (spanish term, like guilds) and Cooperatives share many similarities in terms of their general functioning. 'Cofradías' are corporations of public law, non-profit making, representing economic interests, which act as consultation and collaboration bodies of the competent administrations in matters of maritime fishing and fisheries management. The 'Cooperatives' share many similarities with the 'Cofradias', and almost what differentiates one or the other is, in general terms, that the cooperatives do have a profit motive. The 'Producer Organizations' are constituted at the initiative of the producers of one or several fishery products, including those of aquaculture, whose purpose is to adopt the necessary measures to guarantee the rational exercise of fishing and the improvement of fishing conditions and sale of the production. The 'Federations of 'Cofradías' are constituted by all those that voluntarily request their affiliation, have their own legal personality and full capacity to act for the fulfillment of their purposes, having the same consideration of public law corporations as the 'Cofradías', and they will also act as representative bodies of the brotherhoods before the Administration, channeling their proposals before the same, and serving as a body for consultation, collaboration and advice on topics of general interest in fisheries. There are two administrations with powers in fisheries matters and that are exercised by the 'Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente (MAPAMA) del Gobierno de España' – by the 'Secretaría General de Pesca' – and for the 'Consejería de Agricultura, Ganadería, Pesca y Aguas del Gobierno de Canarias' – by the 'Dirección General de Pesca'. Thus, there is a State fishing law²⁸² and an Autonomic Fishing Law²⁸³, without prejudice to what can be dictated by the European Union, since Community Law is part of the Spanish internal order.

²⁸¹ A. Bilbao Sieyro et al., "Tiburones y rayas. Los elasmobranquios y las competencias espaciales pesqueras en Canarias," Okéanos, vol. 5, no. julio-diciembre, pp. 8–11, 2017.

²⁸² España, "Ley 3/2001, de 26 de marzo, de Pesca Marítima del Estado. TEXTO CONSOLIDADO. Última modificación: 27 de diciembre de 2014.," BOE, no. 75, 27 de diciembre, pp. 1–48, 2001.

²⁸³ Canarias, "Ley 17/2003, de 10 de abril, de Pesca de Canarias," BOC, no. 77, 23 de abril, pp. 1–22, 2003.

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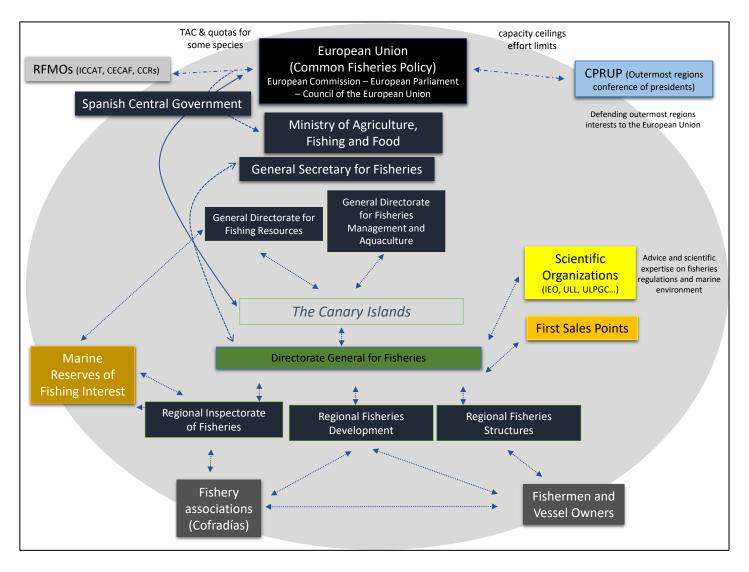


Figure 32. General organizational framework

3.4.2.2 Fisheries regulation administrations

There are two administrations with powers in fisheries matters and that are exercised by the 'Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente (MAPAMA) del Gobierno de España' – by the 'Secretaría General de Pesca' – and for the 'Consejería de Agricultura, Ganadería, Pesca y Aguas del Gobierno de Canarias' – by the 'Dirección General de Pesca'

3.4.2.3 Fishers representative organizations

Considering the possibilities provided by national fisheries legislation [2] and regional [3], in the Canary Islands there are 4 types of agents in the professional fishing sector:

1. "Cofradías"

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- 2. Cooperatives
- 3. Producer Organizations
- 4. Federations of 'Cofradías'

According to the indicated norm the 'Cofradías' are corporations of public law, non-profit making, representing economic interests, which act as consultation and collaboration bodies of the competent administrations in matters of maritime fishing and fisheries management. The 'Cooperatives' have many similarities in terms of the 'Cofradias', and almost what differentiates one or the other is, in general terms, that the cooperatives do have a profit motive. The 'Producer Organizations' are constituted at the initiative of the producers of one or several fishery products, including those of aquaculture, whose purpose is to adopt the necessary measures to guarantee the rational exercise of fishing and the improvement of fishing conditions and sale of the production. The 'Federations of 'Cofradías' are constituted by all those that voluntarily request their affiliation, have their own legal personality and full capacity to act for the fulfillment of their purposes, having the same consideration of public law corporations as the 'Cofradías', and they will also act as representative bodies of the brotherhoods before the Administration, channeling their proposals before the same, and serving as a body for consultation, collaboration and advice on topics of general interest in fisheries.

In the Canary Islands the 'Cofradías' (spanish term, like guilds) and Cooperatives and share many similarities in terms of their general functioning. Most of the 'Cofradías' of the Canary Islands, are constituted as such from 1978, after the publication of Royal Decree 670/1978, of March 11, on Fishermen's Associations, which does not imply that previously they were not functioning as guilds of fishing professionals. In general, all the 'Cofradías' perform the same administrative functions, providing a series of essential services for the exercise of professional fishing of their associates, such as the necessary procedures for the dispatch of ships, registration and cancellation, work of advising on matters of subsidies, information and advice on fisheries legislation of application, representation of the interests of the associates before the Administrations, etc. The development of tasks related to the representation of its members in relation to the Administrations varies a lot from one 'Cofradía' to another even within the same insular area, some of them very participative and others less, this fact can not be related to the size of the 'Cofradía' or insularity. It should be noted that, in most of the 'Cofradías' (within the framework of this study), the percentage of participation of the associates in

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the General Assemblies is rather low, making it difficult to take common positions with the administration or the low participation in the electoral processes. In this sense, the relationship between 'Cofradías' of the same island and those of the remaining islands is quite close, the degree of fraternization between entities being variable. However, traditionally it is a difficult sector to motivate for joint decision-making. Regarding accessory activities for the exercise of fishing, in general all the 'Cofradías' provide the same services, with more or less adequacy of the infrastructures or more or less degree of professionalization of the same. Thus, in general, the 'Cofradías' provide their partners with services of landings, supplies (water, light, fuel, ice) and cleaning ".

According to the data analyzed to date, in relation to the agents of the fishing sector, in the Canary Islands there are 26 'Cofradías' (72%), 4 Producer Organizations (11%), 3 Cooperatives (8%) y 5 Federations (8%). Considering the agents of insular scope (that is to say, excluding the Federations and an Organization of Producers) the islands of Tenerife and Gran Canaria group 58% of these organizations [Tenerife (35%), Gran Canaria (24%), Lanzarote (15 %), Fuerteventura (9%), El Hierro (6%); La Gomera (5%) and La Palma (6%) (

Table).

Table 58. List of fishers organizations in the Canary Islands considering the definitions of the State and Canarian fishing laws [2] [3]. Source: GMR.

Туре	Island	Denomination
'Cofradía'	El Hierro	CP "Nª Sª de los Reyes"
'Cofradía'	Gran Canaria	CP Agaete
'Cofradía'	Gran Canaria	CP Arguineguin
'Cofradía'	Gran Canaria	CP Castillo del Romeral
'Cofradía'	Gran Canaria	CP Playa de Mogán
'Cofradía'	Lanzarote	C.P. "San Ginés"
'Cofradía'	Fuerteventura	C.P. "Corralejo"
'Cofradía'	Fuerteventura	C.P. "Gran Tarajal"
'Cofradía'	Fuerteventura	C.P. "Morro Jable"
'Cofradía'	La Gomera	CP "Nª Sª del Carmen-Valle Gran Rey"
'Cofradía'	La Gomera	CP "Ntra. Sª de Guadalupe"
'Cofradía'	La Palma	CP "Nª Sª de las Nieves"
'Cofradía'	La Palma	CP "Ntra. Sra. del Carmen (Tazacorte)
'Cofradía'	Lanzarote	C.P. "La Graciosa"
'Cofradía'	Lanzarote	C.P. "La Tiñosa"
'Cofradía'	Lanzarote	C.P. "Playa Blanca"
'Cofradía'	Tenerife	CP " El Pris" Nuestra Señora del Carmen
'Cofradía'	Tenerife	CP Gran Poder de Dios
'Cofradía'	Tenerife	CP Nuestra Sra. De Candelaria
'Cofradía'	Tenerife	CP Nuestra Sra. De la Luz (Alcala)
'Cofradía'	Tenerife	CP Nuestra Sra.de la Consolación
'Cofradía'	Tenerife	CP San Andrés
'Cofradía'	Tenerife	CP San Marcos
'Cofradía'	Tenerife	CP San Miguel de Tajao
'Cofradía'	Tenerife	CP San Roque e Isla Baja
'Cofradía'	Tenerife	CP Nuestra Sra. De las Mercedes
Cooperatives	Gran Canaria	Cooperativa Pescatobal
Cooperatives	Gran Canaria	Sociedad CL Playa de Melenara
Cooperatives	El Hierro	Sociedad Cooperativa del Mar "Pescarestinga"
Federations	Tenerife	Federación Provincial de Cofradías de S/C de Tenerife
Federations	Gran Canaria	Federación Provincial de Cofradías de Las Palmas
Federations	Todas	Federación Regional de Cofradías de Pescadores de Canarias
Producer Organizations	Lanzarote	Organización de Productores de túnidos y pesca fresca (Optuna № 42)
Producer Organizations	Todas	Organización de Productores (O.P.ANACEF)
Producer Organizations	Gran Canaria	Organización de Productores, pesca artesanal Gran Canaria (O.P.P. 48)
Producer Organizations	Tenerife	O. P.P. y pesca fresca de Tenerife (ISLATUNA)

3.4.2.4 <u>Scientific (Institutes/Universities) & technical support organizations</u>

In general terms there are 3 research entities with application in the field of fisheries:

Instituto Español de Oceanografía (IEO). Centro Oceanográfico de Canarias

The IEO is an autonomous organization, attached to the 'Ministerio de Ciencia y Tecnología', with the status of a Public Research Organization, of a sectoral and multidisciplinary nature, endowed with

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

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personality and its own patrimony, at the service of the State's scientific and technological policy, in matter of oceanography and sea fishing.

Research Groups of the 'Universidad de la Las Palmas de Gran Canaria (ULPGC)'

- 1. ECOAQUA- Biodiversidad y Conservación
- 2. Instituto de Estudios Ambientales y Recursos Naturales (IUNAT): (i) Ecología Marina Aplicada y Pesquerías y (ii) Biología Integrativa y Recursos Biologicos
- 3. Instituto Universitario de Sistemas Inteligentes y Aplicaciones Numéricas en Ingeniería (SIANI): Robótica y Oceanografía Computacional

Research Groups of the 'Universidad de la Laguna (ULL)'

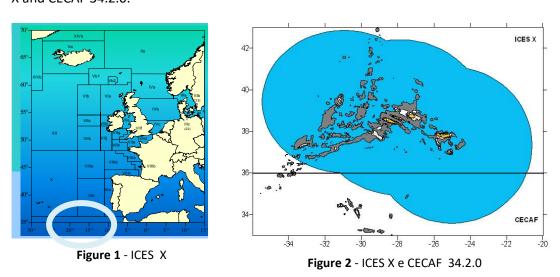
- 1. Ecología de Comunidades Marinas y Cambio Climático
- 2. Ecología y Biogeografía Insular
- 3. Biodiversidad, Ecología marina y Conservación (BIOECOMAC)
- 4. Pesca, turismo, migraciones y gestión de recursos naturales (PESCATUR)

Even if the regulations in the case of Canaries islands were registered in the data set, the detailed analysis of current conservation and regulation access measures was not carry out in the context of the report. However, the synthesis provided before includes the data from this region.

3.5 Azores

3.5.1 Governance structure for fisheries & ecosystem management at regional level

The Azorean Exclusive Economic Zone (EEZ) (figs. 1 and 2) represents, currently, 55% of the portuguese EEZ and 6% of the european EEZ. It has an area, approximately, of 957.292 km2, integrating both ICES X and CECAF 34.2.0.



The Azorean EEZ has very low amount of fish due to the average depth of 2.500 meters. The areas that have less than 600 meters of depth represent only 0.8% of the total Azorean EEZ. This means that the fishing area is very small, because we don't have a large continental shelf.

3.5.1.1 General framework, status and role of each organization in ORs

The management of the Azorean fisheries is shared among government bodies in partnership with the associations of fishing professionals (fig 3). Relatively to government bodies, are responsible the Ministry of the Sea (national) and the Secretariat of the Sea, Cience and Tecnology (regional) – directly or through the Regional Directorate of Fisheries. The Secretariat of the Sea, Cience and Tecnology has the responsibility to manage one of the main factors of development of Azores – the Sea – including in its variety of competences the fisheries, aquaculture, the oceanographic exploration, the licensing uses of the sea and its funds, the coastal bands and the cooperation with the Maritime Police. The Regional Fisheries Inspection oversees, in partnership with other authorities, the maritime activities.

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

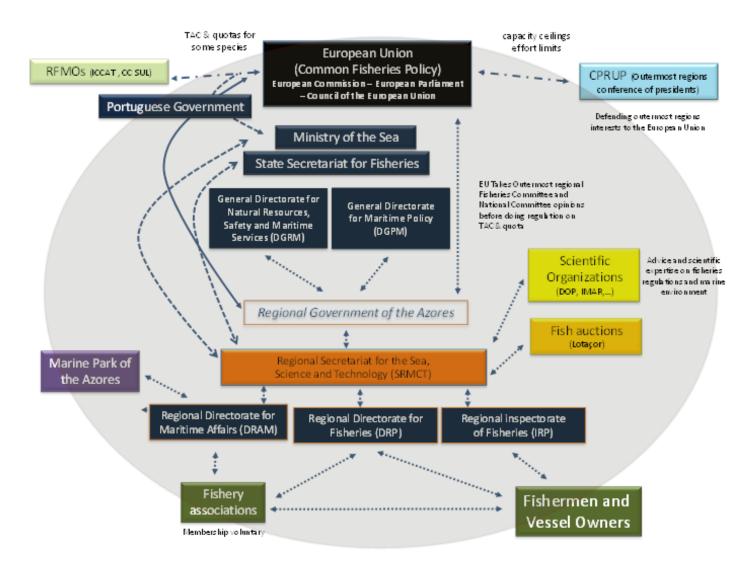


Figure 33 - Azorean fisheries management

As for professional associations, we have in the archipelago 19 professional fishing associations, which 14 are part of the Federation of Fisheries of the Azores, having associations in all of the nine islands of the region.

The Fisheries and Oceanography Department aims to teach, produce and disclose the scientific knowledge of the Cience and Technology of the Sea area, contributing to the advanced formation of human resources, the disclosure of this knowledge and to the definition of the conservation and management marine resources policies. IMAR/Okeanos is an I&D center of the University of Azores designed to study the marine living resources in the Azores archipelago. All islands have fish auctions, managed by Lotaçor, where the captured fish is landed.

3.5.1.2 <u>Professional Fishing Associations</u>

The purpose of the fishers and shipowners associations is to take appropriate measures to ensure the rational exercise of fishing, to improve the conditions of sale or recovery of the fish caught by its members and, in general, and to take all appropriate measures to improve the income of its members. In Azores the following associations have to be considered:

- Associação de Apanhadores do Pico
- Associação de Armadores da Pesca Artesanal do Pico (FPA member)
- Associação de Pescadores da Ilha de Santa Maria (FPA member)
- Associação de Pescadores da Ilha de São Jorge (FPA member)
- Associação de Pescadores da Ilha do Corvo (FPA member)
- Associação de Pescadores de Lagoa Açores Bom Porto
- Associação de Pescadores Florentinos (FPA member)
- Associação de Pescas de Rabo de Peixe (FPA member)
- Associação de Produtores de Amêijoa da Fajã de Santo Cristo (FPA member)
- Associação de Produtores de Espécies Demersais dos Açores (FPA member)
- Associação dos Pescadores Graciosenses (FPA member)
- Associação Marítima de Pescas e Aquicultura da Ilha Terceira
- Associação Sete Mares dos Açores (FPA member)
- Associação Terceirense de Armadores (FPA member)
- Cooperativa de Economia Solidária dos Pescadores da Ribeira Quente (FPA member)

A producers oganization has the main objective to establish common rules, for the first sale of fish. In Azores we have the following organizations:

- Associação de Produtores de Atum e Similares dos Açores (FPA member)
- Cooperativa de Pescas Açoriana, OP, CRL
- Porto de Abrigo Organização de Produtores da Pesca, C.R.L

The emergence of the association of the women in fisheries in the Azores (Associação de Mulheres na Pesca nos Açores) came because of the need to value more the women in the fisheries sector. Created

in 2008, it has been developing important actions involving the women in fisheries with many activities, like participation and partnerships in some initiatives and organisations of the sector for equality.

• Ilhas em Rede - Associação de Mulheres na Pesca nos Açores.

Financial support to projects of fisher associations

Operational Program MAR 2020

The Operational Program MAR 2020, is part of the Europe 2020 strategy, contributing to the growth of the fisheries sector, aquaculture, canning industry and marketing and to turn this sector an inteligent (knowledge and innovation), sustainable (eficient use of the resources and biodiversity promotion) and inclusive (creation and diversification of employment in coastal areas and in gender equality), ensuring the implementation of Common Fisheries Policy and competing to the dynamization of the remaining components of the Integrated Maritime Policy (IMP). In this context, it's important to make the sector more competitive until 2020, ensuring its sustainability around three essential factors – economic, social and environmental – and paying attention to the features and specific needs of the outermost regions (Azores and Madeira).

The sector development strategy must focus in the main objective of "promote the competitiveness based in the knowledge and innovation, ensure the sustainable exploration of the living biological resources, contribute to the good state of the marine waters environment and the coastal areas employment and promote the integrated maritime policy. MAR 2020 program, approved by the European Commission C (2015) 8642, in November 30th, financed by the European Maritime and Fisheries Fund, aims the following priorities of the European Union (EU):

- Promote sustainable fisheries, efficient in the use of the resources, innovative, competitive and based in the following specific objectives;
- Promote a sustainable aquaculture, efficient in the use of the resources, innovative, competitive and based in the following specific objectives;
- Promote the execution of the Common Fisheries Policy, based on the following specific objectives;
- Increase employment and territorial cohesion, through the specific objective of promotion of
 the economic growth, social inclusion, jobs creation, support to employability and labour
 mobility in the coastal and interior communities dependent of fisheries and aquaculture,
 particularly, the activities diversity in the fisheries dominion and in other sectors of the
 maritime economy;
- Promote the commercialization and transformation, through the following specific objectives;
- Promote the execution of the Integrated Maritime Policy (IMP).

Community-based Local development measures

Community-based Local development measures are another way to finance the fisheries Azores sector, through the European Maritime and Fisheries Fund and by the Azores Autonomous Region Budget. To manage this measures, have been created three Fishing Local Action Groups (GAL Pesca)

of Azores and they are: "Adeliaçor Mar" (Corvo, Flores, Faial, Pico and São Jorge islands), "Grater Mar" (Terceira and Graciosa) and GAL Pescas Mar Açores Oriental (São Miguel e Santa Maria).

In an inclusive way and considering the specific realities of each coastal community, GAL Pesca will be capable to develop new strategies that will introduce innovation in the sector which also may contribute to the preservation, conservation and valorization of our resources. In Azores « is possible to observe a change in the fisheries sector paradigm », because fishing associations and fishermen are « more involved in the commercialization circuit ».

In some islands, the fishing associations have been creating alternative incoming through the creation of fishmongers, reinforcement of the innovation in fishing products, monetization of species with low commercial value, pesca-tourism activities or algae exportation (Gui Menezes, Maio 2018).

- In Terceira and Graciosa islands, GRATER MAR defined the following strategic intervention lines:
- Qualification and diversification of the sea economy activities;
- Affirmation of the coastal identity;
- Capacitation of the human capital to the sea activities;
- Promotion of cooperation and involvement of local actors.

Even if the regulations in the case of Azores were registered in the data set, the detailed analysis of current conservation and regulation access measures was not carry out in the context of the report. However, the synthesis provided before includes the data from this region.

3.6 La Réunion

3.6.1 Main organizational and regulatory changes in fisheries over the last 30 years

In 1946, La réunion became a department and in 1982, as part of the decentralization process, the Regions were erected as territorial collectivities in the same way as the Departments. The overseas Departments and Regions are governed by Article 73 of the Constitution of the fifth French Republic²⁸⁴: As a consequence, laws and regulations applicable in France mainland are also applicable as of right, but adaptations may exist. They are distinct from (OCs) Overseas Countries and Territories (OCTs).

The law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion²⁸⁵ stated that, the decree-law of 1852 founder of the fisheries regulation in France mainland, also applies overseas departments. This law also specified that the competent prefects can make orders to regulate the exercise of fishing activities in the departments concerned. In La Réunion, prefectural orders were established in 2008 to regulate commercial and recreational fishing activities. In 2010, Directions of the Sea in French ORs were created by fusion of decentralized services responsible for maritime affairs²⁸⁶. The National Park of Guadeloupe which has objectives of protection of biodiversity was created in 1989²⁸⁷ and the extension of its marine perimeter dates from 2009.

As mentioned before and even if 1983 CFP regulations applied to the French ORs, the application of the Common Fisheries Policy has resulted mainly from the introduction of capacity ceilings (engine power and tonnage) which were applied in 1998 with like national scale, the application of implementation permits for the management of capacity at the regional level. These capacity ceilings were changed in 2002, 2004, 2007 and 2013. For Guadeloupe, the main first key species under TAC was the blue marlin in 2013.

²⁸⁴ Art 73, Constitution of the fifth French Republic, 4 october 1958

²⁸⁵ Law N ° 54-902 of September 11, 1954 regulating the exercise of the marine fishing in the departments of Guadeloupe, Martinique, French Guiana and Réunion

²⁸⁶ These decentralized services were previously competent in fisheries regulation

²⁸⁷ Decree n°89-144 which creates National Park of Guadeloupe (20/01/1989)

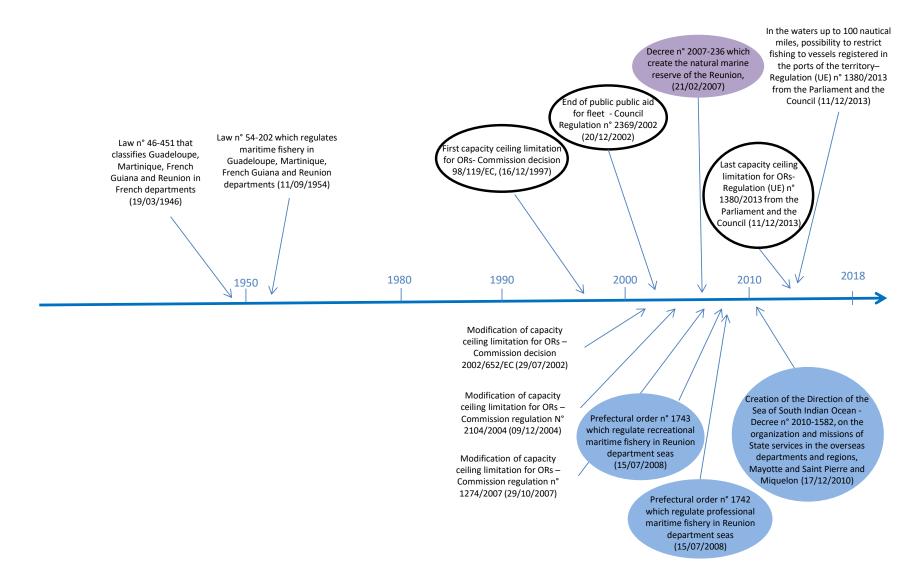


Figure 34. Time line of the main governance changes

3.6.2 Governance structure for fisheries & ecosystem management at regional level

3.6.2.1 General framework, status and role of each organization in ORs

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. This organizational framework is common to all French outermost regions even if some specificity may apply. This framework includes commercial fishers and their representation at regional and national levels through the so-called fisheries committees with their specific in the design and application of in fisheries regulation²⁸⁸. More details about the organizational framework are available in the Guadeloupe section.

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²⁸⁸ Art L 912-1 to L 912-5 and Art R 912-1 and next, CRPM

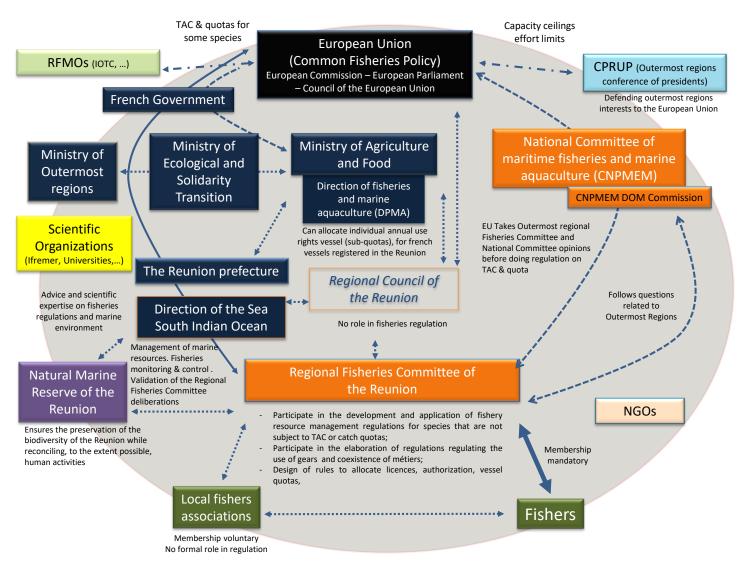


Figure 35. General organizational framework

3.6.3 Conservation and regulation access measures

In The Reunion, Prefectural Orders N° 1742²⁸⁹ and N° 1743²⁹⁰ regulates commercial recreational fishing. In 2018, the wish of a revision of these orders has been expressed by the actors during a consultation to establish a management plan for demersal species.

The majority of the regulations identified derived from these orders. The analysis covers EU, national, regional or local regulation but does not focus on the application and effectiveness of the measures adopted even if the conditions for the application of measures are the subject of a preliminary analysis. The objective is mostly to identify and then classify the different regulations in order to establish a first diagnosis. The first part of the report presents the measures per type, the second part is complementary and more dedicated to an analysis per fishery or métier. In that case, it is possible to identify potential gaps in regulation.

Based on the census and classification of regulations measures according to the common typology, a total of 91 measures covering commercial and recreational fishing activities were identified. These measures can be divided in conservation measures (77/84.6% of the total) and access regulation measures to fisheries (13/14.3%). In addition, a management plan for the fishery also exists (1 measure/1.1%).

	Number of measures	Percentage
Conservation measures	77	84.6%
Access regulation measures	13	14.3%
Management plan for the fishery	1	1.1%
Total	91	100%

Table 59. Conservation and access regulation measures

Thus, of the totality of the measures, 74 (81.4%) are interested in the "Regulation of fisheries". This general group concerns the measures relating to species (sizes or weights to be respected, periods of prohibition of fishing for certain species), fishing gears (dimensions, prohibitions of use, limitation of mesh size, ...), or even preliminary authorization for the practice of some métiers. Another group of 16 measures (19%) concerns biodiversity objectives, species for which harvesting is prohibited due to a potential risk of extinction. It also includes marine protected areas created to promote the protection of ecosystems. A final category concerns measures established in order to preserve human health. At the number of five (4.3%), these standards prohibit the catch of some species on the grounds that they would be contaminated.

²⁸⁹ Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

²⁹⁰ Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

	Type of measures	Total	Percentage
	Fisheries regulation	60	66%
Conservation measures	Biodiversity conservation	16	17.5%
	Health preservation	1	1.1%
Access regulation measures	Fisheries regulation	13	14.3%
Management plan for the fishery	Fisheries regulation	1	1.1%
Total		91	100%

Table 60. Conservation and access regulation measures per "type of measures"

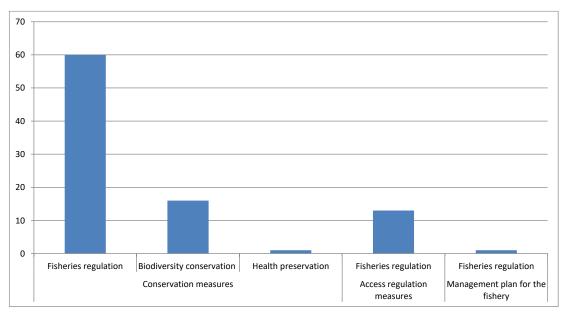


Figure 36. Measures representation per type

The origin of the measures presents some insights. Indeed, the result is that very few regulations come from the European Union (only 5 measures/5.5%). Three measures were established at national level (3.3%). This means that most of the regulations come from the regional level (83 over the 91 measures/91.2%).

	Measures origin	Total	Percent
	European union	5	5.5%
Conservation measures	National	1	1.1%
	Regional	71	78%
Access regulation managemen	National	2	2.2%
Access regulation measures	Regional	11	12.1%
Management plan for the fishery	Regional	1	1.1%
Total		91	100%



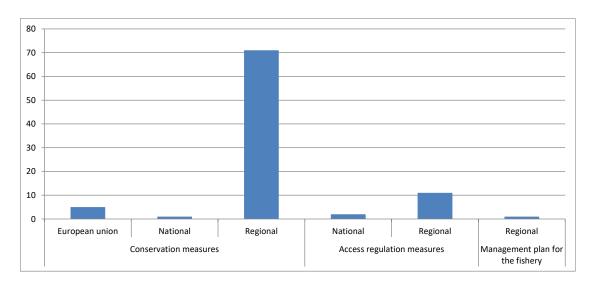


Figure 37. Measures representation per origin

Conservation measures/ Access regulation measures	Type of measures	Measures origin	Total	Percent
	Fisheries regulation	European union	5	5.5%
	risileries regulation	Regional	55	60.4%
Conservation measures	Biodiversity	National	1	1.1%
	conservation	Regional	15	16.5%
	Health preservation	Regional	1	1.1%
Access regulation measures	Fisheries regulation	National	2	2.2%
Access regulation measures	risileries regulation	Regional	11	12.1%
Management plan for the fishery	Fisheries regulation	Regional	1	1.1%
Total			91	100%

Table 62. Conservation and access regulation measures per type and origin

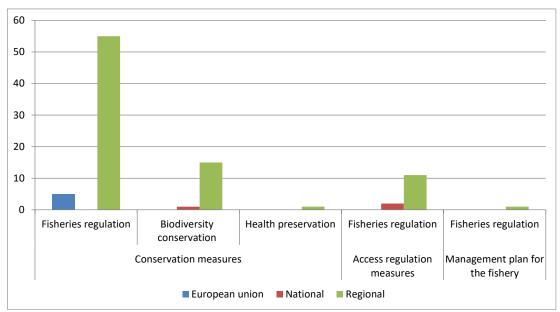


Figure 38. Measures representation per type and origin

All these measures may also be listed as relating exclusively to commercial fishing (COM), recreational fishing (REC), or even both (COM/REC). As shown in the table below, there is a balance between the recreational fishing and the professional fishing measures. Indeed, 27 measures on the 91 relate exclusively to commercial fishing (29.7%), which can be added to the 40 measures concerning both professional and recreational fisheries (43.9%). In an exclusive way recreational fishing is concerned by 24 measures (26.4%).

Conservation measures/ Access regulation measures	Application (REC/COM)	Total	Percentage
	COM/REC	38	41.7%
Conservation measures	REC	20	22%
	СОМ	19	20.9%
	СОМ	8	8.8%
Access regulation measures	REC	4	4.4%
	COM/REC	1	1.1%
Management plan for the fishery	COM/REC	1	1.1%
Total		91	100%

Table 63. Distribution of regulation between commercial and recreational fishing

It's also possible to classify each measure in a category of application; All population, Segment, Gear, Métier, Species. A regulation targeting the Yellowstripe goatfish (*Mulloidichthys flavolineatus*) will enter the category "Species", whereas a norm dealing with nets for Yellowstripe goatfish fishing is included in the category "Gear". 18 measures concern the entire population "All population" (19.8%) and 4 the fleet "Segments" (4.4%). A large part of the regulation concern either "Gear" (33 measures

-36.2%) or the "Métiers" (13 measures -14.3%). The essential of the regulation is therefore technical and concerns the modalities of the practice of fishing techniques that are numerous in the Reunion. 23 measures focus on "Species" catches (25.3%) but many of them as mentioned above are the result of regulations that are outside the fisheries policy (protected species, pollution, etc.).

Conservation measures/ Access regulation measures	Application (REC/COM)	Variable_type	Total	Percentage
		Species	20	22%
	CON A /DEC	All population	8	8.8%
	COM/REC	Gear	6	6.6%
		Métier	4	4.4%
		Gear	14	15.3%
Conservation measures	REC	All population	5	5.5%
		Species	1	1.1%
		Gear	13	14.3%
	СОМ	Segment	4	4.4%
		Species	1	1.1%
		Métier	1	1.1%
	6014		5	5.5%
	СОМ	All population	3	3.3%
A		All population	2	2.2%
Access regulation measures	REC	Species	1	1.1%
		Métier	1	1.1%
	COM/REC	Métier	1	1.1%
Management plan for the fishery	COM/REC	Métier	1	1.1%
Total			91	100%

Table 64. Distribution of each measure in categories

Conservation and access control measures can also be sub-divided into "control measures by type" to clarify, on the one hand, the type of measure used to preserve the productive and reproductive capacity of the stocks and on the other hand, type of measure used to regulate access to resources.

Conservation measures/ Access regulation measures	Management measure number	Management measures per type	COM/REC	СОМ	REC	Total
	10	TAC or global/regional quota	1			1
	20	Segment capacity limitation		4		4
	40	Min. landing size or weight	3			3
	50	Species harvesting prohibited	10			10
Conservation measures	60	Gear prohibited		7	3	10
incusures	70	Gear dimension limitation	3	2		5
	80	Gear type limitation	1	1	9	11
90		Gear setting limitation	3	1		4
	100	Mesh size limitation	1	2		3

	110	Seasonal closure	4	1	1	6
	120	Area fishery closure	3			3
	130	Marine protected area	7		2	9
	140	Other	2	1	5	8
	150	Permit to enter the fishery sector		3		3
	160	Fishery licence with numerus clausus		1		1
Access regulation measures	170	Fishery licence without numerus clausus		3	1	4
measures	180	Vessel or individual quota/Bag limit			1	1
	200	Conflicts regulation	1	1	2	4
Management plan for the fishery	220	Management plan	1			1
Total			40	27	24	91

Table 65. Classification of management measures per type

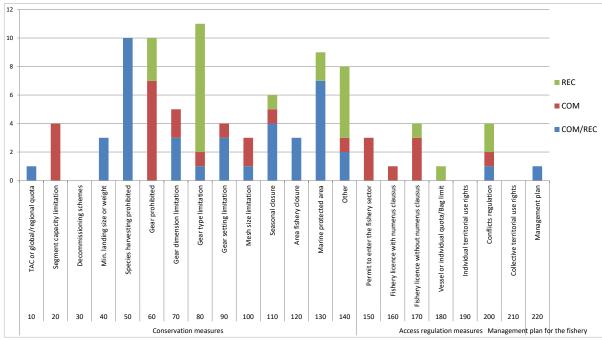


Figure 50. Classification of "management measures per type" by recreational or professional activities

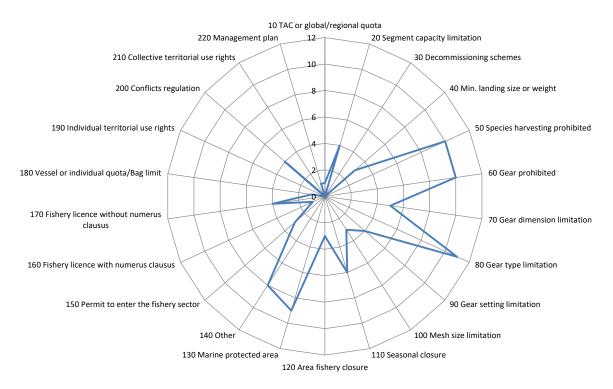


Figure 51. Classification of management measures per type

3.6.3.1 Conservation measures

3.6.3.1.1 TAC or global/regional quota (measure 10)

Within conservation measures, the total allowable catches (measure 10. TAC or global/regional quota) set by the European Union are primarily from the IOTC²⁹¹, which is a regional fisheries management organization which establishes measures for the management of tuna and related species in the Indian Ocean. In fact, only one species harvested in the Réunion is under TAC: Yellowfin tuna (*Thunnus albacares*).

For information, in 2018²⁹², the TACs for this species was 77 698 tons, including a quota of 29 501 tons allocated to France.

3.6.3.1.2 Segment capacity limitation (measure 20)

As seen before, capacity ceiling have been established for each outermost region since 1998 and reviewed in 2002, 2004, 2007 and 2013. The aim was to regulate he development of the commercial fishing fleet. For the Reunion, fishing capacity ceilings may not exceed 19 320 Kw or 1 050 GT for vessels less than 12 meters and 31 465 Kw 1 002 GT for vessels over 12 meters²⁹³. No decommissioning fleet plan has ever been implemented in the Reunion to reduce fishing capacity (measure 30. Decommissioning schemes).

²⁹¹ http://www.iotc.org/node

²⁹² Annex I k), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 January 2018

²⁹³ Annex II, Regulation (EU) No 1380/2013 of the European Parliament and of the Council, 11 December 2013

3.6.3.1.3 Minimum landing size or weight (measure 40)

Limit catch sizes and weights (measure 40. Min. Landing size or weight) are fixed by Prefectural Orders N° 1742 and 1743. Only three measures impose minimum sizes or weights to be respected. Among these measures, one is very general since the catch of all species of "marine fish NCA" (Osteichthyes) is only possible when they measure 10 centimeters or more²⁹⁴. This general measure is not binding because the catch size is low and doesn't limit the sampling of larger individuals.

No regulation, either in terms of weight or size, concerns the catches of large pelagic species.

3.6.3.1.4 Species harvesting prohibited (measure 50)

Prefectural Orders N° 1742 and 1743 are more exhaustive on the prohibition of the catch of certain species (measure 50. Species harvesting prohibited), since it is possible to count 10 measures creating bans but it is for other purposes than fisheries stock conservation. The exception is the harvesting of egg-bearing Spiny lobsters (*Palinuridae*) which is prohibited In order to promote the reproduction²⁹⁵. The ban on the capture and conservation of eggs of fish or crustaceans is also added²⁹⁶.

Other forms of prohibitions concern protected species due to a risk of extinction but also to avoid a trade like for sharks. Thus, fishing, conservation on board, transhipment, landings, storage and sale of the following species is prohibited²⁹⁷: Silvertip shark (*carcharhinus albimarginatus*), Grey reef shark (*carcharhinus amblyrhynchos*), Whitetip reef shark (*triaenodon obesus*), Blacktip reef shark (*carcharhinus melanopterus*), Tawny nurse shark (*nebrius ferrugineus*). Accidental catch are to be put back to the water immediately and must be reported to the Direction of Sea.

Nevertheless, it is possible to regret the absence of regional measures to ban the catches of sea turtles (*Testudinata*).

All species of shells are protected²⁹⁸ (except mussels) and also coral whose collect, whether alive or dead, is prohibited²⁹⁹.

Another form of catch ban, this time, is due to a risk of impacting human health by some poisonous or venomous species. Species like: bouftangues or boultangues (*Tétrodons sp., Diodons sp.*) and Sea toads (Synance sp., scorpionfish) are concerned³⁰⁰.

3.6.3.1.5 Gears measures (measure 60 to 100)

As indicated above, fishing gears are also regulated with total of 33 measures that affect them directly or indirectly. This regulation takes different forms starting with 10 norms that come to forbid the use of some gears (measure 60. Gear prohibited) like trawls and dredges³⁰¹, but also restrictions on their dimensions (measure 70. Gear dimension limitation), to their quantity (measure 80. Gear type limitation), but also

²⁹⁴ Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

²⁹⁵ Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

²⁹⁷ Art 18 bis (modified), Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

Art 17, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

²⁹⁹ Art 16, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁰⁰ Art 18, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁰¹ Art 9, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

for their use (measure 90. Gear setting limitation), with a respective number of 5, 11 and 4 measures. The mesh of gears (measure 100. Mesh size limitation), especially for various nets used, is also regulated with 3 measures established.

3.6.3.1.6 Seasonal closure (measure 110)

Prefectural Orders includes other periods when fishing is prohibited (measure 110. Seasonal closure). This concerns the catch of: the Spiny lobsters (Palinuridae) (1 measure), the Bichiques (Sicyopterus lagocephalus) (1 measure) and the Yellowstripe goatfish (Mulloidichthys flavolineatus) (4 measures). (Cf. below: 6.3.3.3.2 Small pelagic fishery; 6.3.3.3.3 Spiny lobster fishery; 6.3.3.3.4 Shore fishing; for details of these measures).

3.6.3.1.7 Area fishery closure (measure 120)

There isn't a cantonment zone in the Reunion (measure 120. Area fishery closure). However, fishing activities are prohibited in some areas, such as 50 meters around artificial reefs that have been authorized and reported. In such areas, professional fishing keeps a possibility to fish with the so called "mitraillettes" (hooks) for small pelagic baits. This right is every day of the week, from 15:00 to 9:30 the next morning³⁰².

For the Bichiques (*Sicyopterus Lagocephalus*) fishing, in order to promote all the year their ascent in ponds and rivers, at the site of the Thalweg a channel with a minimum breadth of two meters must be maintained and can be obstructed by fishing nets.

The Yellowstripe goatfish (*Mulloidichthys Flavolineatus*) fishing is only permitted in 6 demarcated geographical areas³⁰³ (*cf. annex 1*). Fishing these species in other areas is prohibited. Moreover, in these 6 areas, the fishing of the Yellowstripe goatfish is only possible in the sandy depression between the highest water limit (shoreline of the sea) and the reef plate, and up to 25 meters maximum of this limit of the highest waters.

Conservation measures/ Access regulation measures	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variabl e_code	Variable_ label	Conditions of application in national language	Total
Conservation measures	Demersal and benthic fishery	120	Area fishery closure	COM/REC	ALL	Fishing around artificial reefs	Fishing activities are prohibited 50 meters around artificial reefs that have been authorized and reported. In such areas, professional fishing keeps a possibility to fish with mitraillettes small pelagic baits. This right is every day of the week, from 15:00 to 9:30 the next morning	1
	Shore fishing	120	Area fishery closure	COM/REC	IYL	Bichiques (Sicyopterus lagocephalus)	at the site of the Thalweg a channel with a minimum breadth of two meters must be maintained and can be obstructed by fishing nets, to allow the ascent of the Bichiques in ponds and rivers	1

³⁰³ Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁰² Art 11, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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Table 66. Area fishery closure measures

3.6.3.1.8 Marine protected area (mesure 130)

If the Reunion does not have a Marine Natural Park covering all its waters, a Natural Marine Reserve exists since 2007³⁰⁴. This reserve covers a small part of the maritime public domain of the Reunion (*cf. Figure 52*). Within this Natural Marine Reserve the recreational fishing is forbidden by night. It's allowed by day³⁰⁵. With the exception of the lagoons included in the perimeter of the Natural Marine Reserve, boats with a length of less than 20 meters can be used³⁰⁶. Fishing in these lagoons is subject to special declaration of catches.

Two types of protection zones are created in this Natural Marine Reserve: enhanced protection areas and integral protection areas³⁰⁷. In enhanced protection areas, professional fishing is prohibited except for the fishing of Spanner crab (*Ranina ranina*), the Yellowstripe goatfish (*Mulloidichthys flavolineatus*) and the fishing of squids and pelagic fish³⁰⁸ in a perimeter fixed by Order N 1742³⁰⁹. The recreational fishing is prohibited.

In full protection areas all forms of fishing are prohibited³¹⁰.

³⁰⁴ Decree n° 2007-236 which create the natural marine reserve of the Reunion, 21/02/2007

Art 18, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

Art 18, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas; Art 25, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁰⁷ Cf. Annex III, 'Professional fishing areas inside Natural Marine Reserve of the Reunion'; prefectural order n° 1742

³⁰⁸ Art 26, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁰⁹ Cf. Annex II, 'Professional fishing areas inside Natural Marine Reserve of the Reunion'; prefectural order n° 1742

³¹⁰ Art 27, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

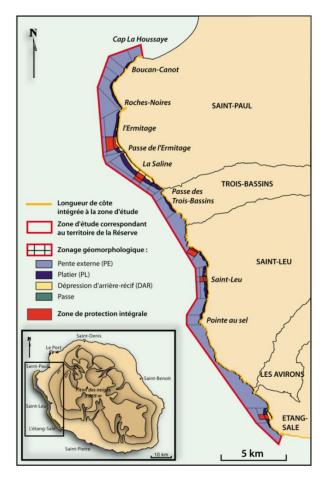


Figure 52. Reunion Natural Marine reserve perimeter

Also considered to belong to this category of marine protected areas, some fishing reserves have been established. These are mainly reef platforms of the island (commonly qualified as "lagoons"), comprising the reefs backchannels and coral flats, from the beach to the coral reef. In these lagoons, only Yellowstripe goatfish (*Mulloidichthys flavolineatus*) fishing and the foot fishing with lines without reels (fishing at the twig) are permitted, by day and on the only sandy funds, within the limit of 25 meters of the highest water line³¹¹.

Another fishing reserve called 'Sainte-Rose fishing reserve' was created in 2010. This reserve extends from the shore of the beginning of the Eastern River to the "Pointe Corail" and to several hundred meters offshore (*Cf. annex II – Perimeter fishing St. Rose*). Within this perimeter, fishing including snorkeling is prohibited, except fishing from the shore³¹².

³¹¹ Art 27, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³¹² Art 27, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

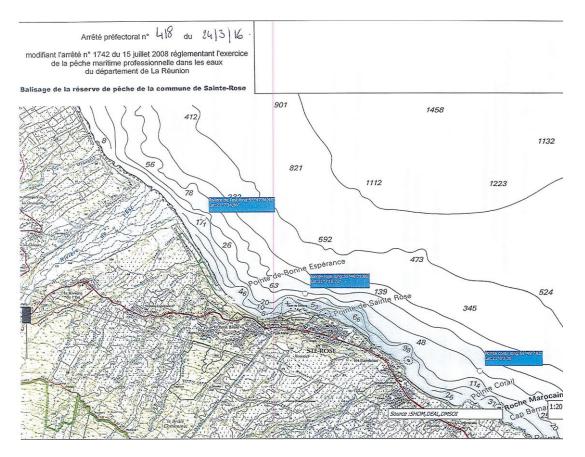


Figure 53. Fishing reserve area of Sainte Rose (in blue)

Conservation measures/ Access regulation measures	Fishery_ Level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_ label	Conditions of application in national language	Total
		130	Marine protected area	COM/REC	ALL	Natural Marine Reserve perimeter	Decree n° 2007-236 which create the natural marine reserve of the Reunion, 21/02/2007	1
		130	Marine protected area	REC	ALL	Natural Marine Reserve, periods	In the Natural Marine Reserve the recreational fishing is forbidden by night. It's allowed by day.	1
		130	Marine protected area	REC	ALL	Natural Marine Reserve, boats allowed	In the perimeter of the Natural Marine Reserve, boats with a length of less than 20 meters can be used (except in the lagoon)	1
		130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, fishing in the Lagoon	In the perimeter of the Natural Marine Reserve, fishing with a boat isn't allowed in the Lagoon. Fishing in these lagoons is subject to special declaration of catches.	1
		130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, integral protection areas	In full protection areas all forms of fishing are prohibited (annexe III prefectural order n° 1742)	1
Conservation measures	Demersal and benthic fishery	130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, enhanced protection areas	In enhanced protection areas, professional fishing is prohibited except for the fishing of Spanner crab (Ranina ranina), the Yellowstripe goatfish (Mulloidichthys flavolineatus) and the fishing of squids and pelagic fish in a perimeter fixed by Order N 1742 (annex II). The recreational fishing is prohibited.	1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, lagoons	Fishing reserves are mainly reef platforms of the island (commonly qualified as "lagoons"), comprising the reefs backchannels and coral flats, from the beach to the coral reef.	1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, lagoons (fishing methods allowed)	In these fishing reserves, only Yellowstripe goatfish (Mulloidichthys flavolineatus) fishing and the foot fishing with lines without reels (fishing at the twig) are permitted, by day and on the only sandy funds, within the limit of 25 meters of the highest water line	1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, Sainte-Rose	In Saint-Rose fishing reserve, fishing including snorkeling is prohibited, except fishing from the shore	1
Total								9

Table 67. Marine protected area measures

3.6.3.1.9 Other (measure 140)

The description of the conservation measures ends with a category "Other" (Measure 140. Other) dealing with four general measures and four measures concerning snorkeling.

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Among these general measures, it is recalled, that fishing inside the Natural Marine Reserve is subject to a special declaration of catches³¹³. It is also indicated that the owners of nets, pots or traps, and other gears, are required to identify them by affixing their boat's registration numbers³¹⁴. Only for recreational fishing, the use of unlicensed boats for fishing is not allowed³¹⁵. Also, the sale of products from the maritime recreational fishery is ban³¹⁶.

About snorkeling, the orders mainly take national measures³¹⁷, which are not referenced in this work. The objective is to highlight the regional measures specific to the Reunion. Four measures deserve to be highlighted in the context of professional or recreational snorkeling activities.

Professional snorkeling is prohibited³¹⁸ while recreational snorkeling fishing can be allowed by orders. This activity stay prohibited in enhanced protection areas and integral protection areas³¹⁹. Inside the Natural Marine Reserve, the use of a spear is prohibited³²⁰.

In addition, the use of autonomous respiratory devices is prohibited during the practice of snorkeling 321

3.6.3.2 Regulation access measures

3.6.3.2.1 Permit to enter the fishery sector (measure 150)

As mentioned before, the implementation of measures to regulate access seems essential to "reduce the race to fish" and avoid fishing overcapacity in various fisheries as well as possible conflicts between fishing Métiers. If foot professional fishing requires a permit³²², the exploitation permit is necessary for fishing with a vessel in the Reunion³²³ (measure 150. Permit to enter the fishery sector). The PME should be obtained before the construction of a new vessel or the replacement of a vessel. The request for a PME is addressed to the public administration in charge of fisheries and in the case of a new vessel the request is submitted to the regional commission for the modernization of the fleet (COREPAM). The PME is delivered at regional level by the Prefect of the Region who is the authority representing the French State at regional level. Although not mentioned in orders N° 1742 and 1743, an European fishing license must also be held³²⁴ and is linked to the vessels capacity ceiling limits in the Reunion laid down in the framework of the Common Fisheries Policy (cf. above). Up to a recent period, the capacity ceiling was not very restrictive both in terms of entry into the sector and change of vessel characteristics, especially engine power. Indeed, the power and tonnage of vessels has increased considerably within the fleet since the establishment in 1998 of a community register of fishing vessels in the outermost regions (see next figure). The next figure presents the evolution of engine power in kW of vessels present in the Community Fleet Register (CFR) for each year³²⁵ and the capacity ceiling.

³¹³ Art 28, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³¹⁴ Art 22, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³¹⁵ Art 2, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

Art 3, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³¹⁷ Article R921-92 Code Rural et de la Pêche Maritime

³¹⁸ Art 4, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

Art 4 and Art 22, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

Art 22, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³²¹ Art 4, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

Art 3, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³²³ Art L921-7 Rural and Maritime fishing Code

³²⁴ Articles R921-15 to R921-19 Code Rural et de la Pêche Maritime

³²⁵ These values may differ from the engine power at the end of the year considering entry/exit mechanisms

In the Reunion case if it is possible to notice an increase of the total evolution of kilowatts (Kw) of vessels less than 12 meters, this total remains below the limit (19 320 Kw - 1 050 GT) set by the European Union.

The Pescatourisme activity practiced at the Reunion is also subject to specific regulations³²⁶. The no respect of the established rules leads to an inability to carry out the activity.

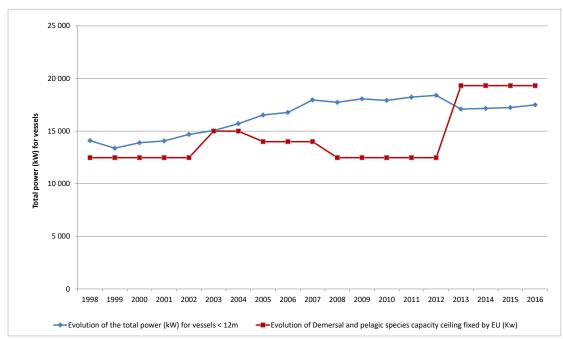


Figure 54. Total power evolution and maximum power allowed for vessels <12m

Year	Evolution of the total power (kW) for vessels < 12m	Evolution of Demersal and pelagic species capacity ceiling fixed by EU (Kw)
1998	14 099	12 475
1999	13 373	12 475
2000	13 894	12 475
2001	14 066	12 475
2002	14 683	12 475
2003	15 051	15 000
2004	15 704	15 000
2005	16 531	14 000
2006	16 774	14 000
2007	17 960	14 000
2008	17 731	12 475
2009	18 064	12 475
2010	17 913	12 475
2011	18 227	12 475
2012	18 399	12 475
2013	17 088	19 320
2014	17 158	19 320
2015	17 237	19 320
2016	17 492	19 320

Table 68. Total power evolution and maximum power allowed for vessels <12m

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³²⁶ PV n° INF 24/01 regional security commission

3.6.3.2.2 Fishery/métier license with numerus clausus (measure 160)

Only one fishing activity needs before its practice a fishing license without numerus clausus. The "minilong line" license introduced in 2017 is about the pelagic fishery with horizontal surface longlines between 12 and 20 miles³²⁷. A request must be made to the CRPMEM. The number of licenses that can be assigned is set at 17 licenses.

3.6.3.2.3 Fishery/métier license without numerus clausus (measure 170)

Other licenses, in the number of 4, are not subject to a numerus clausus. First of all, a "DCP" license is required to be able to practice professional fishing around the MFADs³²⁸. A "Natural Marine Reserve" license is also necessary in order to be able to fish inside the perimeter of the Natural Marine Reserve³²⁹.

In addition to these two licenses, professional fishermen have to declare mosquito nets³³⁰ for bichiques fishing (*Sicyopterus lagocephalus*), as well as for recreational fishers when they have an electric vireline device³³¹.

3.6.3.2.4 Vessel or individual quota/Bag limit (measure 180)

Few maximum catches are set by Orders N° 1742 and 1743. A single measure can be listed. This relates to recreational fishing in fishing reserves and in the Natural Marine Reserve. A 5 Kg maximum catches per day and per recreational fishermen is permitted in these areas³³².

3.6.3.2.5 Conflicts regulation (measure 200)

Conflicts that may happen are the subject of four measures. It is only concerning fishing around MFADs. The aim is to avoid conflicts between professional and recreational fishing around MFADs.

3.6.3.2.6 Management plan (measure 220)

Still on MFADs, since 2016, there is a management plan for the fishery on MFADs. Its objective is to ensure the sustainability of the MFADs ark and participate to a better understanding of the impact of this fishery on the exploited resource and on the ecosystem.

³²⁷ CRPMEM of the Reunion deliberation, n°14/2017, 02/11/2017

³²⁸ CRPMEM of the Reunion deliberation, n°13/2017, 02/11/2017

³²⁹ CRPMEM of the Reunion deliberation, n°12/2017, 02/11/2017

³³⁰ Art 11, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³³¹ Art 5, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³³² Art 17 and Art 21, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

3.6.4 Analysis of regulations for the sector and per fisheries

In a second step, it's also possible to list and classify the regulation in force according to a "fisheries" segmentation approach. Based on species targeted, gear used and area harvested, "fisheries" can be defined as "a management entity of a fishing capacity limited to a given geographical area, where different métiers operate. These métiers harvest species that occupy habitats of similar characteristics. The geographical area may be continuous or not, target and non-target species are taken into account"³³³. This approach makes possible to better identify how the various activities exploiting the different components of the ecosystem are regulated.

A large part of the regulation tends to cover the "Coastal fisheries" since 53 rules target these fisheries (58.2% of all measures). Twenty-one measures called "All population" (23%) apply without distinction to all fisheries. The "Offshore fisheries", mainly practiced around the MFADs, is subject to 13 norms (14.3%). Within this first segment, it is possible to operate a sub-classification of measures, depending on the fishing activities operated. Thus, for all fishing sectors without distinction, called "All population", some general measures also described as "All population" apply (21 measures). The fishing sector known as "Coastal fisheries", is composed of several fishing activities: Demersal and benthic fishery (29 measures); Small Pelagic fishery (10 measures); Shore fishing (6 measures); Spiny lobster fishery (3 measures). Finally, the "Offshore fisheries", includes the fishing activity "large pelagic fishery and MFADs" (13 measures).

Conservation measures/ Access regulation measures	Fishery_level2	Fishery_level1	COM/REC	сом	REC	Total
	All population	All population	9	7	3	19
		Demersal and benthic fishery	12	2	12	26
	Coastal fisheries	Small pelagic fishery	7	2	1	10
Conservation measures		Shore fishing	5	2	2	9
illeasures		Spiny lobster fishery	3			3
	Offshore fisheries	Large pelagic fishery & MFADs	2	2	2	6
	Segment	Segment		4		4
	All population	All population		2		2
Access regulation	Coastal fisheries	Demersal and benthic fishery		1	2	3
measures		Shore fishing		2		2
	Offshore fisheries	Large pelagic fishery & MFADs	1	3	2	6
Management plan for the fishery	Offshore fisheries	Large pelagic fishery & MFADs	1			1
Total			40	27	24	91

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³³³ Berthou et al. 2008. L'approche par pêcherie : définition de l'Ifremer, 4 p.

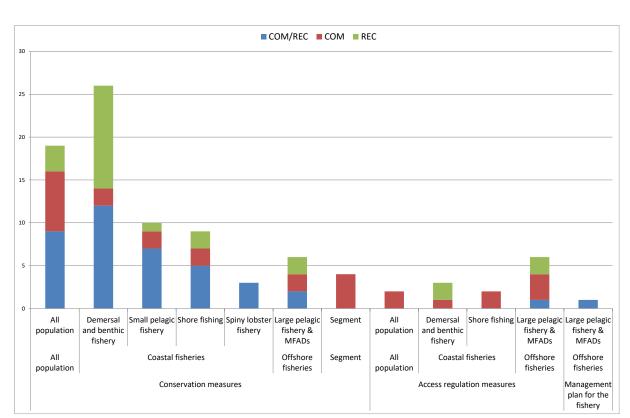


Table 69. Allocation of measures by fishery areas and fishery activities

Figure 55. Allocation of measures by fishery area and fishery activities

Using the variable to classify measures by fisheries and those used to distinguish fishing activities, it's possible to cross them with the "management measure per type". And so, it's possible to show for each fishery and fishing activities the different types of management measures listed as well as their numbers. (Cf. Table 70. "Management measure per type" by fishery areas and fishery activities).

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Total
	All		50	Species harvesting prohibited	8
	All population		60	Gear prohibited	8
	p o p a man a m		140	Other	3
			40	Min. landing size or weight	1
			80	Gear type limitation	7
Conservation measures			90	Gear setting limitation	2
	Coastal	Demersal and benthic fishery	100	Mesh size limitation	1
	fisheries	Sentino nonei y	120	Area fishery closure	1
			130	Marine protected area	9
			140	Other	5
			70	Gear dimension limitation	2

Small pelagic fishery				80	Gear type limitation	1
120			Small pelagic	100	Mesh size limitation	2
Shore fishing		Segment All population Coastal fisheries offshore fisheries nent the y Offshore fisheries	fishery	110	Seasonal closure	4
Shore fishing				120	Area fishery closure	1
Shore fishing				40	Min. landing size or weight	1
Shore fishing		Segment All population		50	Species harvesting prohibited	1
90 Gear setting limitation 1				70	Gear dimension limitation	2
110 Seasonal closure 1			Shore fishing	80	Gear type limitation	2
Access regulation measures Access regulation refisheries All population				90	Gear setting limitation	1
Spiny lobster fishery Spiny lobster fishery Species harvesting prohibited 1 10 Seasonal closure 1 10 TAC or global/regional quota 1 Segment Segment Segment Segment Segment Segment All population Segment All population Coastal fisheries Coastal fisheries Access regulation measures Access regilation Demersal and benthic fishery 170 170 170 170 180 170 180 180				110	Seasonal closure	1
Spiny lobster fishery 50 Species harvesting prohibited 1 110 Seasonal closure 1 Offshore fisheries				120	Area fishery closure	1
Subspecies harvesting prohibited 1		Offshore		40	Min. landing size or weight	1
Access regulation measures Access regulation measures Confisher to the fisher ies Confisher is the fisher ies Confisher is the fisher is Confisher is Conf				50	Species harvesting prohibited	1
Offshore fisheries Large pelagic fishery & MFADs Segment Segment Segment Segment All population Demersal and benthic fishery Shore fishing Offshore fisheries Offshore fishery & MFADs Offshore fisheries Offshore fisheries Offshore fisheries Offshore fishery & MFADs Offshore fisheries Offshore fishery & MFADs Offshore fisheries Offshore fishery & MFADs Offshore fis			noner y	110	Seasonal closure	1
Fisheries fisheries fisheries fishery & MFADS fisheries fisher				10	TAC or global/regional quota	1
Access regulation measures Access regulation measures Offshore fisheries Offshore fishery bar of the fishery & MFADs Management plan for the fishery Segment Segment Segment 20 Segment capacity limitation 4 All population 150 Permit to enter the fishery sector 2 Permit to enter the fishery sector 2 Fishery licence without numerus clausus 1 To Permit to enter the fishery sector 1 Fishery licence without numerus clausus 1 Fishery licence without numerus clausus 1 Fishery licence with numerus clausus 1 Fishery licence without numerus clausus 1 Management plan for the fisheries fisheries fishery & MFADs 220 Management plan 1 Management plan for the fishery & MFADs 220 Management plan 1			Large pelagic	60	Gear prohibited	2
Segment Segment 20 Segment capacity limitation 4 All population			fishery & MFADs	70	Gear dimension limitation	1
Access regulation measures All population Coastal fisheries Offshore fisheries Offshore fisheries Management plan for the fishery All population All population All population Demersal and benthic fishery 170 Fishery licence without numerus clausus 150 Permit to enter the fishery sector 150 Permit to enter the fishery sector 150 Permit to enter the fishery sector 150 Fishery licence without numerus clausus 1 160 Fishery licence with numerus clausus 1 To Fishery licence without numerus clausus 1 Management plan for the fisheries Management plan for the fishery M				80	Gear type limitation	1
Access regulation measures Access regulation fisheries Access regulation measures Access regulation measures Access regulation fisheries Access regulation fishery licence without numerus clausus fishery licence mithout numerus claus		Segment	Segment	20	Segment capacity limitation	4
Access regulation measures Offshore fisheries Offsheries Management plan for the fishery Demersal and benthic fishery Demersal and benthic fishery 180 Vessel or individual quota/Bag limit 150 Permit to enter the fishery sector 170 Fishery licence without numerus clausus 160 Fishery licence with numerus clausus 170 Fishery licence without numerus clausus 170 Management plan for the fisheries Demersal and benthic fishery 180 Vessel or individual quota/Bag limit 1 150 Permit to enter the fishery sector 1 Fishery licence without numerus clausus 1 Conflicts regulation 4 Management plan for the fisheries Management plan for the fishery Fishery licence without numerus clausus 1 Management plan for the fisheries			All population	150	Permit to enter the fishery sector	2
Access regulation measures Shore fishing Shore fishing Shore fishing 150 Permit to enter the fishery sector Fishery licence without numerus clausus 1 Offshore fisheries Offshore fisheries Offshore fishery & MFADs Management plan for the fishery The shore fishery Shore fishing 170 Fishery licence with numerus clausus 1 The short fishery licence without numerus clausus 200 Conflicts regulation Amanagement plan for the fishery Shore fishing 170 Fishery licence without numerus clausus 1 Management plan for the fishery				170	I	2
regulation measures Shore fishing 170 Fishery licence without numerus clausus 1 Offshore fisheries Large pelagic fishery & MFADs To Fishery licence without numerus clausus 1 170 Fishery licence without numerus clausus 1 To Fishery licence without numerus clausus 1 To Conflicts regulation 4 Management plan for the fishery Fishery licence without numerus clausus 1 To Fishery licence without numerus clausus 1 Management plan for the fisheries Fishery & MFADs 220 Management plan 1		Coastal	benthic fishery	180	Vessel or individual quota/Bag limit	1
measures To Fishery licence without numerus 1		fisheries		150	Permit to enter the fishery sector	1
Offshore fisheries	_		Shore fishing	170	1	1
fisheries fishery & MFADs 170 clausus 1 200 Conflicts regulation 4 Management plan for the fishery MFADs fishery & MFADs 1 Management plan for the fishery & MFADs 1 Management plan 1				160	Fishery licence with numerus clausus	1
Management plan for the fishery Offshore fisheries Large pelagic fishery & MFADs 220 Management plan 1			0.0	170	1	1
plan for the fishery				200	Conflicts regulation	4
	plan for the			220	Management plan	1
						91

Table 70. Management measure per type » by fishery areas and fishery activities

3.6.4.1 Sectorial/general measures applied to the fisheries in the Region

General measures are the limitations in capacity (engine power and tonnage per segment defined by the CFP) described before. In addition, commercial fishing in the Reunion requires holding a license³³⁴ (measure 150. Permit to enter the fishery sector). No license is required for recreational fishing. The use of some gears³³⁵ like dredges, driftnets, trawls and also traps, nets or seine made with creepers, herbs, foliage. The harvesting of some species is also prohibited (see before).

3.6.4.2 Offshore fisheries

3.6.4.2.1 Large pelagic & MFADs measures

In the Reunion, three métiers are harvesting large pelagics, most of the time near MFAD: "Trolling Lines", "Handlines and Pole-lines", and "Drifting longlines" ³³⁶³³⁷³³⁸.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
LTLLPF	Trolling Lines - Large pelagic	130	6 508	392.1	3 042.1
LHPLPF	Handlines and Pole-lines - Large pelagic	115	5 299	224	1 791.6
LLDLPF	Drifting longlines - Large pelagic	57	232	74.6	596.2
Total			12 039	690.7	5 429.9

Table 71. Key figures of the Large pelagic & MFADs fishery

The large pelagic fishery at the Reunion is the subject of 12 measures for the conservation and regulation of access. A thirteenth must be considered since it is the management plan for the artisanal fishery on MFADs (measure 220. Management plan). The purpose of this management plan is to ensure the sustainability of MFADs park and participate in a better understanding of this fishery impact on the resource and also on the ecosystem.

The possibility of exercising métiers near MFADs requires the detention of a license without *numerus closus*, named "MFADs license", to apply to the CRPMEM in order to be able to fish within a perimeter of 0,5 mile around MFADs³³⁹ (*measure 170. Fishery license without numerus closus*). It should be noted that the deliberation of the CRPMEM creating this MFADs license is more restrictive than prefectural order N° 1742 since this order provides that fishing around MFADs can be done in a radius of 1 mile around the

³³⁴ Art L921-7 Rural and Maritime fishing Code

Art 9, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³³⁶ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes de traîne à Grands pélagiques - Année 2017 - Réunion

³³⁷ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Lignes et cannes manuelles à Grands pélagiques - Année 2017 - Réunion

³³⁸ SIH - Réseau d'observation des ressources halieutiques et des usages Fiche Métier : Palangres dérivantes à Grands pélagiques - Année 2017 - Réunion

³³⁹ CRPMEM of the Reunion, deliberation n°13/2017, 02/11/2017

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MFADs³⁴⁰ (measure 200. Conflicts Regulation). Concerning fishing gears, it is forbidden to use more than 2 vertical longlines around MFADs³⁴¹ (measure 80. Gear type limitation), whereas, horizontal surface longlines are not limited around MFADs. Nevertheless, this type of longline is forbidden within territorial waters (12 miles from the base lines)³⁴² (measure 90. Gear setting limitation).

The use of these horizontal surface longlines, in an area between 12 and 20 miles of the coast, is subject to an authorization, called "mini long-line license" This license is to be requested at the CRPMEM of the Reunion. Only 17 licenses can be assigned (measure 160. Fishery license with numerus closus).

Still on distances to be respected for fishing around MFADs, and this time concerning recreational fishing, snorkeling is forbidden 1 mile from MFADs center (measure 200. Conflicts Regulation). In addition, on working days recreational fishing is prohibited around MFADs (derogations can be allowed for fishing competitions). It remains authorized on Saturdays, Sundays and public holidays even when a professional vessel is in the MFADs area. However, recreational fishermen are not allowed to set vertical longlines near MFADs, as well as to use living baits to fish in these areas³⁴⁵ (measure 60. Gear prohibited).

It is forbidden to moor on MFADs, or to practice on them some maneuvers which may cause deteriorations³⁴⁶ (measure 200. Conflicts Regulation).

Concerning species, there are no minimum catch sizes to be observed for large pelagic catches. Also there isn't a maximum quantity fixed per day and per vessels. Only the albacore (*Thunnus albacares*) TAC is in effect. As a reminder, for the year 2018 this TAC was 77 698 tons with a French quota of 29 501 tons³⁴⁷ (*measure 10. TAC or global/regional quota*).

³⁴⁰ Art 5, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁴¹ Art 6, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁴² Prefectural order n° 3702 prohibiting the use of horizontal longlines within the territorial waters of Réunion island, 16/12/1996

³⁴³ CRPMEM of the Réunion, deliberation n°14/2017, 02/11/2017

³⁴⁴ CRPMEM of the Reunion website

Art 9, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³⁴⁶ Art 7, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁴⁷ Annex I k), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 January 2018

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			10	TAC or global/regional quota	COM/REC	YFT/IOTC	Albacore (Thunnus albacares)	TAC IOTC area of competence	77698	tons	1
			60	Gear prohibited	REC	LVDLPF	Vertical longlines	Recreational fishing with vertical longlines prohibited around MFADs			1
			60	Gear prohibited	REC		Living baits	The use of living baits to fish around MFADs is prohibited			1
Conservation measures	Offshore fisheries	Large pelagic fishery &	70	Gear dimension limitation	СОМ	LLDLPF	horizontal surface longlines	The use of these horizontal surface longlines, in an area between 12 and 20 miles of the coast, is subject to an authorization, called "mini long-line license"	<=25	Nautical mile	1
		MFADs	80	Gear type limitation	сом	LVDLPF	Vertical longlines	it is forbidden to use more than 2 vertical longlines around MFADs	<=2	longline	1
			90	Gear setting limitation	COM/REC	LLDLPF	horizontal surface longlines	Horizontal surface longlines is forbidden within territorial waters (12 miles from the base lines)			1
		160	Fishery licence with numerus clausus	СОМ	LLDLPF	mini-long line license	Horizontal surface longlines, in an area between 12 and 20 miles of the coast, is subject to an authorization, called "mini long-line license". Quota of 17 licenses	12-20	Nautical mile	1	
			170	Fishery licence without numerus clausus	СОМ	MFADs	MFADs license	License to apply to the CRPMEM in order to be able to fish within a perimeter of 0,5 mile around MFADs	<=0,5	Nautical mile	1
Access regulation	Offshore	Large pelagic	200	Conflicts regulation	REC	MFADs	Recreational fishing around MFADs	On working days recreational fishing is prohibited around MFADs (derogations can be allowed for fishing competitions). It remains authorized on Saturdays, Sundays and public holidays even when a professional vessel is in the MFADs area	<=1	Nautical mile	1
measures	fisheries	fishery & MFADs	200	Conflicts regulation	REC	MFADs	Snorkeling around MFADs	Snorkeling is forbidden 1 mile from MFADs center	<=1	Nautical mile	1
			200	Conflicts regulation	сом	MFADs	Professional fishing around MFADs	Prefectural order provides that fishing around MFADs can be done in a radius of 1 mile around the MFADs	<=1	Nautical mile	1
			200	Conflicts regulation	COM/REC	MFADs	Mooring on MFADs	It is forbidden to moor on MFADs, or to practice on them some maneuvers which may cause deteriorations			1
Management plan for the fishery	Offshore fisheries	Large pelagic fishery & MFADs	220	Management plan	COM/REC	MFADs	Management plan for the artisanal fishery on MFADs	The purpose of this management plan is to ensure the sustainability of MFADs park and participate in a better understanding of this fishery impact on the resource and also on the ecosystem.			1
Total											13

Table 72. Offshore fisheries - 6.3.3.2.1 Large pelagic & MFADs - measures

3.6.4.3 Coastal fisheries

3.6.4.3.1 Demersal and benthic fishery

Four métiers are targeting demersal and benthic species: "Mechanized, Handlines and Pole-lines", "Hand operated, Handlines and Pole-lines", "longlines" and "Spanner crab scales" ³⁴⁸³⁴⁹³⁵⁰. tons representing 23.6 M€)³⁵¹. The only species catches is Spanner crab (*Ranina ranina*).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
LHMDEF	Mechanized, Handlines and Pole-lines - Dermesal fish	84	3 633	69.3	996.6
LHPDEF	Hand operated, Handlines and Pole-lines - Dermesal fish	103	2 340	55.9	829.3
LLSDEF	Set longlines - Demersal fish	12	34	2	26.1
LNP	Spanner crab scales	15	99	1.5	23.6
Total			6 106	128.7	1876.6

Table 73. Key figures of the Demersal and benthic fishery

Some aspects relating to this demersal and benthic fishery have already been subject of developments, such as: closed fishing areas, marine protected area and snorkeling (see 6.3.2.1.7 (area fishery closure (measure 120); 6.3.2.1.8 (marine protected measure 130); 6.1.2.3.9 other (measure 140)).

As regards fishing gears which may be used in order to harvesting such species, a general norm which concerns all fishing nets is set. Nets whose mesh is not in the wet state, at least 25 millimetres by side, are forbidden³⁵² (measure 100. Mesh size limitation). There are not others measures on nets.

Fishing with traps and pots is subject to regulations. Indeed these fishing gears allowing the catch of the Spanner crab (*Ranina ranina*) are allowed only on sandy bottoms outside the coral reefs³⁵³ (*measure 90. Gear setting limitation*). A recreational fisherman cannot set at the same time more than 2 traps or pots³⁵⁴. Always on recreational fishing, it is not allowed to fish with more than 20 scales. It is also forbidden to use lines with more than 12 hooks at the same time. Longline fishing can only be done using a single longline with a maximum of 30 hooks (*measure 80. Gear type limitation*).

The use of electric reels in the context of recreational fishing is possible, but under conditions. Only one is allowed with a possibility to use it on Saturdays, Sundays and public holidays. Its maximum power must be 800 watts. A recording of the catches must be made and forwarded to the Direction of

³⁴⁸ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes et cannes mécanisées à Poissons démersaux - Année 2017 - Réunion

³⁴⁹ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes et cannes manuelles à Poissons démersaux - Année 2017 - Réunion

³⁵⁰ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Palangres calées à Poissons démersaux - Année 2017 - Réunion

³⁵¹ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Balances à crabes girafes - Année 2017 - Réunion

³⁵² Art 9, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁵³ Art 14, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁵⁴ Art 5, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

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the Sea South Indian Ocean. In addition, the detention on board is subject to prior declaration the Direction of the Sea South Indian Ocean (measure 170. Fishery license without numerus closus).

Fishing within the Natural Marine Reserve is the subject of 3 measures, starting with the obligation to apply for a license to be able to carry out a professional fishing activity in the Natural Marine Reserve ³⁵⁵. Whether it is a professional or recreational fishery, fishing within the Natural Marine Reserve is subject to specific declarations of catches. For recreational fishermen, a maximum quota of 5 kg per fisherman per day is set for fishing in reserves (lagoons) and in the Natural Marine Reserve ³⁵⁶ (measure 180. Vessel or individual quota/bag limit).

Concerning species, few measures are present. A single general measure on size to respect applies (measure 40. Min. landing size or weight). The fishing of marine fishes that has not reached, at least, the size of 10 centimetres is forbidden³⁵⁷. The measurement of the fish starts from the tip of the muzzle to the end of the caudal fin. Species which, in adulthood, remain below this dimension are not concerned.

³⁵⁵ CRPMEM of the Reunion, deliberation n°12/2017, 02/11/2017

³⁵⁶ Art 17 and Art 21, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³⁵⁷ Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_code	Variable_label	Conditions of application in national language	Value	Units	Total
			40	Min. landing size or weight	COM/REC	MZZ	Marine fishes nei (Osteichthyes)	The fishing of marine fishes that has not reached, at least, the size of 10 centimetres is forbidden. Species which, in adulthood, remain below this dimension are not concerned.	>=10	cm	1
			80	Gear type limitation	REC	FPO	Pots and traps	A recreational fisherman cannot set at the same time more than 2 traps or pots	<=2		1
			80	Gear type limitation	REC	FPO	Pots and traps	A recreational fisherman cannot set at the same time more than 2 traps or pots	<=2		1
			80	Gear type limitation	REC	LHP	Fishing lines	It is forbidden to use lines with more than 12 hooks at the same time	<=12	hooks	1
			80	Gear type limitation	REC	LL	longline	Longline fishing can only be done using a single longline with a maximum of 30 hooks	1	longline	1
			80	Gear type limitation	REC	LL	longline	Longline fishing can only be done using a single longline with a maximum of 30 hooks	<=12	hooks	1
			80	Gear type limitation	REC		scales	it is not allowed to fish with more than 20 scales	<=20	scales	1
		Demersal	80	Gear type limitation	REC		Electric reel	Only one electric reel is allowed on Saturdays, Sundays and public holidays. Its maximum power must be 800 watts. A recording of the catches must be made and forwarded to the Direction of the Sea South Indian Ocean	1	Electric reel	1
Conservation measures	Coastal fisheries	and benthic	90	Gear setting limitation	COM/REC	FPO_CRU	Pots and traps	Spanners crabs fishing is allowed with pots and traps only on sandy bottoms outside the coral reefs			1
		fishery	90	Gear setting limitation	COM/REC	FPO_CRU	Pots and traps	Spanners crabs fishing is allowed with pots and traps only on sandy bottoms outside the coral reefs			1
			100	Mesh size limitation	СОМ	GNS/GTR/PS	Nets for Marine fishes nei (Osteichthyes)	Nets whose mesh is not in the wet state, at least 25 millimetres by side, are forbidden	>=25	mm	1
			120	Area fishery closure	COM/REC	ALL	Fishing around artificial reefs	Fishing activities are prohibited 50 meters around artificial reefs that have been authorized and reported. In such areas, professional fishing keeps a possibility to fish with mitaillettes small pelagic baits. This right is every day of the week, from 15:00 to 9:30 the next morning	<=50	m	1
			130	Marine protected area	COM/REC	ALL	Natural Marine Reserve perimeter	Decree n° 2007-236 which create the natural marine reserve of the Reunion, 21/02/2007			1
			130	Marine protected area	REC	ALL	Natural Marine Reserve, periods	In the Natural Marine Reserve the recreational fishing is forbidden by night. It's allowed by day.			1
			130	Marine protected area	REC	ALL	Natural Marine Reserve, boats allowed	In the perimeter of the Natural Marine Reserve, boats with a length of less than 20 meters can be used (except in the lagoon)			1
			130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, fishing in the Lagoon	In the perimeter of the Natural Marine Reserve, fishing with a boat isn't allowed in the Lagoon. Fishing in these lagoons is subject to special declaration of catches.			1

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		130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, integral protection areas	In full protection areas all forms of fishing are prohibited (annexe III prefectural order n° 1742)			1
		130	Marine protected area	COM/REC	ALL	Natural Marine Reserve, enhanced protection areas	In enhanced protection areas, professional fishing is prohibited except for the fishing of Spanner crab (Ranina ranina), the Yellowstripe goatfish (Mulloidichthys flavolineatus) and the fishing of squids and pelagic fish in a perimeter fixed by Order N 1742 (annex II). The recreational fishing is prohibited.			1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, lagoons	Fishing reserves are mainly reef platforms of the island (commonly qualified as "lagoons"), comprising the reefs backchannels and coral flats, from the beach to the coral reef.			1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, lagoons (fishing methods allowed)	In these fishing reserves, only Yellowstripe goatfish (Mulloidichthys flavolineatus) fishing and the foot fishing with lines without reels (fishing at the twig) are permitted, by day and on the only sandy funds, within the limit of 25 meters of the highest water line			1
		130	Marine protected area	COM/REC	ALL	Fishing reserves, Sainte-Rose	In Saint-Rose fishing reserve, fishing including snorkeling is prohibited, except fishing from the shore			1
		140	Other	REC	FDV	Snorkeling, autonomous respiratory devices	the use of autonomous respiratory devices is prohibited during the practice of snorkeling			1
		140	Other	REC	FDV	Recreational snorkeling,	Recreational snorkeling can be allowed by orders. This activity stay prohibited in enhanced protection areas and integral protection areas (see annex III prefectural order n°1743)			1
		140	Other	REC	FDV	Snorkeling, spear	Inside the Natural Marine Reserve, the use of a spear is prohibited			1
		140	Other	СОМ	FDV	Professional snorkeling	Professional snorkeling is prohibited			1
		140	Other	COM/REC	ALL	Natural Marine Reserve – declaration of catches	fishing inside the Natural Marine Reserve is subject to a special declaration of catches			1
		170	Fishery licence without numerus clausus	REC		Declaration of electric reel	the detention of an electric reel on board is subject to prior declaration the Direction of the Sea South Indian Ocean			1
		170	Fishery licence without numerus clausus	СОМ	ALL	Natural Marine Reserve license of Reunion	License to ask to CRPMEM to be allowed to fish in the Natural Marine Reserve area			1
	 	180	Vessel or individual quota/Bag limit	REC	MZZ	Fishing reserves (lagoons) and Natural Marine Reserve	maximum quota of 5 kg per fisherman per day is set for fishing in reserves (lagoons) and in the Natural Marine Reserve	<=5	kg	1
Total										29

Table 74. Coastal fisheries - 6.3.3.3.1 Demersal and benthic fishery - measures

3.6.4.3.2 Small pelagic fishery

The catch of small pelagics in the water column, above the insular shelf, involve the use of beach seines and also handlines and pole-lines.

The most important métier is the "Beach seine" (375 days at sea) with on average 96.3 tons landed³⁵⁸. The species the most targeted by this métier is the Bigeye scad (*Selar crumenophthalmus*) (94.2% of catches).

The "Handlines and pole-lines" métier (665 days at sea -5.3 tons landed)³⁵⁹ enables the harvesting of Scads nei (*Decapterus spp*) (71.3% of catches) and also Bigeye scad (*Selar crumenophthalmus*) (26.2% of catches).

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
SB	Beach seine	30	375	96.3	29.6
LHPSPF	Handlines and Pole-lines - Small pelagic fish	82	665	5.3	0.8
Total		112	1040	101.6	30.4

Table 75. Key figures of the Small pelagic fishery

The regulation on small pelagic fishery focuses on the fishing of the Yellowstripe goatfish (*Mulloidichthys flavolineatus*), since 9 measures on 10 concern this species.

The tenth concerns other species like Herrings, sardines nei (*Clupeidae*). For the fishing of these species the general prohibition of nets whose mesh does not make at least 25 mm (in the wet state) aside does not apply. Indeed, the mesh of the net may be a minimum of 14 mm in the wet state ³⁶⁰ (measure 100. Mesh size limitation). The other captured species must then be released. In the same way, nets permitting the fishing of the Yellowstripe goatfish (*Mulloidichthys flavolineatus*) deviates from the minimum mesh size of 25 mm and can be down to a minimum of 16 mm (stretched mesh)³⁶¹. The length of the nets may not exceed 10 meters including 3 meters of height of fall³⁶² (measure 70. Gear dimension limitation). Some nets cannot be used since the set of straight or fixed nets is forbidden (measure 80. Gear type limitation).

The Yellowstripe goatfish (*Mulloidichthys flavolineatus*) fishery cannot be exercised in all sectors (*measure 120. Area fishery closure*). Its fishing is permitted only in 6 precisely delimited areas³⁶³ (*see annex 1*). In addition, in these 6 zones, the Yellowstripe goatfish fishing is only possible in the sandy depression (boat channel) between the highest water limit (sea shore) and the reef, and up to 25 meters maximum of this limit of the highest waters.

Periods of fishing prohibition of the Yellowstripe goatfish (*Mulloidichthys flavolineatus*) are also mentioned in prefectural orders n° 1742 and n° 1743 (*measure 110. Seasonal closure*). Thus, from 1st January to 31 January of each year, only the Yellowstripe goatfish intended to serve as bait (max.

³⁵⁸ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Filets de surface - Année 2016 - Martinique

³⁵⁹ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Lignes et cannes manuelles à Petits pélagiques - Année 2017 - Réunion

³⁶⁰ Art 12, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁶¹ Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁶² Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁶³ Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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3Kg/fisherman/day) is possible³⁶⁴. On the other hand, from 1st February to 30 April of each year, the catches intended to serve as bait or for sale are permitted.

Schedules must also be observed during these periods of opening to fishing. The recreational fishing of the Yellowstripe goatfish is permitted from 5:00 a.m. to 9:00 am³⁶⁵. Professional fishing can start sooner (4:00 am) and must also end at 9:00 am³⁶⁶.

³⁶⁴ Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

Art 15, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

³⁶⁶ Art 13, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_code	Variable_label	Conditions of application in national language	Value	Units	Total
			70	Gear dimension limitation	COM/REC	GNS/GTR/PS	Nets for Yellowstripe goatfish (Mulloidichthys flavolineatus)	Bycatch to release	<=10	m (length)	1
			70	Gear dimension limitation	COM/REC	GNS/GTR/PS	Nets for Yellowstripe goatfish (Mulloidichthys flavolineatus)	Bycatch to release	<=3	m (drop)	1
			80	Gear type limitation	COM/REC	GNS/GTR/PS	Nets for Yellowstripe goatfish (Mulloidichthys flavolineatus)	The set of straight or fixed nets is forbidden			1
			100	Mesh size limitation	COM/REC	GNS/GTR/PS	Nets for Yellowstripe goatfish (Mulloidichthys flavolineatus)	Minimum of 16 mm (stretched mesh)	>=16	mm	1
			100	Mesh size limitation	СОМ	GNS/GTR/PS	Nets for Herrings, sardines nei (Clupeidae)	Mesh of the net may be a minimum of 14 mm in the wet state	>=14	mm	1
Conservation	Coastal	Small	110	Seasonal closure	COM/REC	MUV	Yellowstripe goatfish (Mulloidichthys flavolineatus)	From 1st January to 31 January of each year, only the Yellowstripe goatfish intended to serve as bait (max. 3Kg/fisherman/day) is possible	01/02- 31/12	period	1
measures	fisheries	pelagic fishery	110	Seasonal closure	COM/REC	MUV	Yellowstripe goatfish (Mulloidichthys flavolineatus)	From 1st February to 30 April of each year, the catches intended to serve as bait or for sale are permitted	01/05- 31/01	period	1
			110	Seasonal closure	REC	MUV	Yellowstripe goatfish (Mulloidichthys flavolineatus)	The recreational fishing of the Yellowstripe goatfish is permitted from 5:00 a.m. to 9:00 a.m	9h00- 5h00	period	1
			110	Seasonal closure	СОМ	MUV	Yellowstripe goatfish (Mulloidichthys flavolineatus)	Professional fishing can start sooner (4:00 am) and must also end at 9:00 am	9h00- 4h00	period	1
			120	Area fishery closure	COM/REC	MUV	Yellowstripe goatfish (Mulloidichthys flavolineatus)	The Yellowstripe goatfish (Mulloidichthys flavolineatus) fishery cannot be exercised in all sectors. Its fishing is permitted only in 6 precisely delimited areas (see annex 1). In addition, in these 6 zones, the Yellowstripe goatfish fishing is only possible in the sandy depression (boat channel) between the highest water limit (sea shore) and the reef, and up to 25 meters maximum of this limit of the highest waters.	6 areas		1
Total											10

Table 76. Coastal fisheries - 6.3.3.3.2 Small pelagic fishery - measures

3.6.4.3.3 Spiny lobster fishery

The main gears used in the spiny lobster fishery are trammel nets and gillnets. In 2017, estimated landings for these nets were 5.7 tons, for 250 days at sea and a total value of 144.9 M€.

This Spiny lobster fishery corresponds, on average, to 4.8 tons catches by these nets (85.1% of the catches) landed in 2017³⁶⁷.

Métier code	Métier	Vessels number	Days at sea	Landings (tons)	Landings value (k€)
GNS/GTR	Set gillnets/trammel nets	15	250	5.7	144.9

Table 77. Key figures of the Spiny lobster fishery

The spiny lobsters fishery is governed by 3 conservation measures. First, the fishing of grained spiny lobsters (*Palinuridae*)³⁶⁸ is prohibited (*measure 50. Species harvesting prohibited*). In addition, a period of prohibition of the fishing of this species must be observed (*measure 110. Seasonal closure*). Fishing is prohibited from 1st December to 31 March of each year³⁶⁹.

A last measure concerns all species of spiny lobsters, since they can only be kept on board is they are measuring 23 cm or more³⁷⁰. The measurement is made from the tip of the rostrum at the end of the tail (measure 40. Min. landing size or weight).

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Value	Units	Total
			40	Min. landing size or weight	COM/REC	VLO	Spiny lobsters nei (Palinuridae)	>=23	cm	1
Conservation measures	Coastal fisheries	Spiny lobster fishery	50	Species harvesting prohibited	COM/REC	VLO	egg-bearing Spiny lobsters (Palinuridae)			1
			110	Seasonal closure	COM/REC	VLO	Spiny lobsters nei (Palinuridae)	01/12- 31/03	period	1
Total										3

Table 78. Coastal fisheries - 6.3.3.3.3 Spiny lobster fishery - measures

3.6.4.3.4 Shore fishing

The shore fishing can be given 11 measures, starting with the need to hold a foot fishing license for professional foot fishing³⁷¹ (measure 150. Permit to enter to the fishery sector).

³⁶⁷ SIH - Réseau d'observation des ressources halieutiques et des usages, Fiche Métier : Filets calés - Année 2017 - Réunion

Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁶⁹ Art 10, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁷⁰ Art 15, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁷¹ Art 3, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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Another general measure applies to the fishing of shells since this fishing is forbidden at all times and all places³⁷² (measure 50. Species harvesting prohibited). There is an exception for mussels which can be kept if their size is larger than 4 cm (measure 40. Min. landing size or weight).

Two other measures specific to recreational fishing gears (measure 80. Gear type limitation) can be classified in this category of shore fishing. However these measures remain valid in other sectors. Only one scoop and one spear are allowed³⁷³.

This shore fishing can target the bichiques (*Sicyopterus lagocephalus*) at the Thalweg. In this sector, a channel with a minimum width of two meters must be maintained all the year. It allows a constant rise of the bichiques in rivers and ponds³⁷⁴ (*measure 120. Area fishery closure*). In several sectors, fishing for bichiques is not allowed from the new moon to the full moon of March. It is prohibited at the mouth and in the area between the so-called mouth and the separative limit of maritime and terrestrial regulations. Also in rivers, ravines, canals and ponds (*measure 110. Seasonal closure*). The fishing of these anadromous species is done by means of a bichique vouve whose diameter must not exceed 80 cm. This can only be made of vegetal fibers (*measure 70. Gear dimension limitation*). Instead of the bichiques vouve, professional fishermen have the possibility to use a mosquito net of 25 m² maximum. It is forbidden to attach several of them. A prior declaration of the mosquito net must be made to the Direction of the Sea South Indian Ocean. (*measure 170. Fishery license without numerus closus*).

These nets may not be used at the mouth of the rivers and within an area extending over 200 meters (100 meters on either side of the mouth) (measure 90. Gear setting limitation).

³⁷² Art 17, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

³⁷³ Art 5, Prefectural order n° 1743 which regulate recreational maritime fishery in Reunion department seas

Art 11, Prefectural order n° 1742 which regulate professional maritime fishery in Reunion department seas

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Value	Units	Total
Conservation measures	Coastal fisheries	Shore fishing	40	Min. landing size or weight	COM/REC	MSX	Sea mussels nei (Mytilidae)		>=4	cm	1
			50	Species harvesting prohibited	COM/REC		Shells	Shells fishing is prohibited every time (except for mussels)	all year	period	1
			70	Gear dimension limitation	COM/REC		Bichiques vouve	Diameter must not exceed 80 cm. Bichiques vouve can only be made of vegetal fibers	<=80	cm	1
			70	Gear dimension limitation	СОМ		Mosquito nets	Instead of the bichiques vouve, professional fishermen have the possibility to use a mosquito net of 25 m² maximum. It is forbidden to attach several of them.	<=25	m²	1
			80	Gear type limitation	REC	MIS	Scoop		1	Scoop	1
			80	Gear type limitation	REC	MIS	Spear		1	Spear	1
			90	Gear setting limitation	СОМ		Mosquito nets	Mosquito nets may not be used at the mouth of the rivers and within an area extending over 200 meters (100 meters on either side of the mouth)			1
			110	Seasonal closure	COM/REC	IYL	Bichiques (Sicyopterus lagocephalus)	In several sectors, fishing for bichiques is not allowed from the new moon to the full moon of March. It is prohibited at the mouth and in the area between the so-called mouth and the separative limit of maritime and terrestrial regulations. Also in rivers, ravines, canals and ponds	new moon - full moon of March	period	1
			120	Area fishery closure	COM/REC	IYL	Bichiques (Sicyopterus lagocephalus)	In the Thalweg sector, a channel with a minimum width of two meters must be maintained all the year. It allows a constant rise of the bichiques in rivers and ponds	>=2	m	1
Access regulation measures	Coastal fisheries	Shore fishing	150	Permit to enter the fishery sector	СОМ	ALL	Permit for professional footing fishing	Professional foot fishing requiers a license			1
illeasules	1131161163		170	Fishery licence without numerus clausus	СОМ		Mosquito nets declaration	A prior declaration of the mosquito net must be made to the Direction of the Sea South Indian Ocean			1
Total											11

Table 79. Coastal fisheries - 6.3.3.3.4 Shore fishing - measures

Task 4.3 Governance and management requirements for existing and future off shore fisheries to become long term sustainable and contributing to the CFP objectives

				Fishery level2	Fishery level1						1
				Coastal fisheries	/-			Offshore fisheries	All population	Segment	Total
Conservation measures/ Access regulation measures	Management measure number	Management measures per type	Application (REC/COM)	Demersal and benthic fishery	Shore fishing	Small pelagic fishery	Spiny lobster fishery	Large pelagic fishery & MFADs	All population	Segment	
	10	TAC or global/regional quota	COM/REC					1			1
	20	Segment capacity limitation	COM							4	4
	40	Min. landing size or weight	COM/REC	1		1	1				3
	50	Species harvesting prohibited	COM/REC			1	1		8		10
	60	Gear prohibited	COM						7		7
	60	Gear prohibited	REC					2	1		3
	70	Gear dimension limitation	COM				1	1			2
	70	Gear dimension limitation	COM/REC		2		1				3
	80	Gear type limitation	COM					1			1
	80	Gear type limitation	COM/REC		1						1
	80	Gear type limitation	REC	7			2				9
	90	Gear setting limitation	СОМ				1				1
Conservation measures	90	Gear setting limitation	COM/REC	2				1			3
	100	Mesh size limitation	COM	1	1						2
	100	Mesh size limitation	COM/REC		1						1
	110	Seasonal closure	COM		1						1
	110	Seasonal closure	COM/REC		2	1	1				4
	110	Seasonal closure	REC		1						1
	120	Area fishery closure	COM/REC	1	1		1				3
	130	Marine protected area	COM/REC	7							7
	130	Marine protected area	REC	2							2
	140	Other	СОМ	1							1
	140	Other	COM/REC	1					1		2
	140	Other	REC	3					2		5
	150	Permit to enter the fishery sector	СОМ				1		2		3
	160	Fishery licence with numerus clausus	СОМ					1			1
	170	Fishery licence without numerus clausus	СОМ	1			1	1			3
	170	Fishery licence without numerus clausus	REC	1							1
Access regulation measures	180	Vessel or individual quota/Bag limit	REC	1							1
	200	Conflicts regulation	COM					1			1
	200	Conflicts regulation	COM/REC					1			1
	200	Conflicts regulation	REC					2			2
Management plan for the fishery	220	Management plan	COM/REC					1			1
Total				29	10	3	11	13	21	4	91

Table 80. General table

3.6.5 Annexes La Réunion

Annex 1: authorized areas for the Yellowstripe goatfish (Mulloidichthys flavolineatus) fishery:

- 1- Hermitage-La Saline sector, between points A and B hereafter defined. The shore location of these two points are: for A, the southern limit of the pedal boat rental to nearly 350 meters North of the pass of the Hermitage, and for B an imaginary line located at the ravine of 'Trou d'eau' and linking the point PR23 to the coral barrier;
- 2- area between the Pointe of Trois-basins and the Pass of Trois-basins;
- 3- an area in Saint-Leu between points E and F starting from the port of Saint-Leu (PR28 at the anchorage of the main dike) and extending to the right of the mouth of the ravine of the Cap (point F corresponding to the beacon PR30).
- 4- Sector of "Bassin Pirogue" at the "Etang-Salé", between the G points corresponding to the PR33 (delimiting to the north side the reinforced protection zone) and H (imaginary line formed by the alignment of the beacons PS10 and PS11).
- 5- zone of "St-Pierre", between the points J and K hereafter defined. The shore locations of these two points are: for J the right of the gendarmerie on the cemetery side, for K the right of the building DSQ of "Terre Sainte", located 250 m southeast of the "Terre Sainte" dike.
- 6- area of "Grand-Bois", between the points L and M, whose shore location are respectively the right of the old sugar factory and the right of the mouth of the ravine of "L'Anse".

Annex II: perimeter of Sainte-Rose fishing reserve:

Is classified as a natural fishing reserve the part of the maritime public domain bounded by:

- 1- Land side, the shore of the sea between the mouth of the Eastern River and the Coral point.
- 2- Sea side, lines linking the following points:

Rivière de l'Est: Latitude: 55°46.608' East Longitude: 21°06.581' South

Sainte-Rose: Latitude: 55°47.531′ East Longitude: 21°07.312′ South

Pointe-Corail: Latitude: 55°49.132' East Longitude: 21°08.056' South

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Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_label	Conditions of application in national language	Value	Units	Total
			50	Species harvesting prohibited	COM/REC	ALS	Silvertip shark (carcharhinus albimarginatus)	fishing, conservation on board, transhipment, landings, storage and sale is prohibited			1
			50	Species harvesting prohibited	COM/REC	AML	Grey reef shark (carcharhinus amblyrhynchos)	fishing, conservation on board, transhipment, landings, storage and sale is prohibited			1
			50	Species harvesting prohibited	COM/REC	BLR	Blacktip reef shark (carcharhinus melanopterus)	fishing, conservation on board, transhipment, landings, storage and sale is prohibited			1
			50	Species harvesting prohibited	COM/REC	MZZ	Poisonous or venomous species	Species like: bouftangues or boultangues (Tétrodons sp., Diodons sp.) and Sea toads (Synance sp., scorpionfish)	all year	period	1
			50	Species harvesting prohibited	COM/REC	ORZ	Tawny nurse shark (nebrius ferrugineus)	fishing, conservation on board, transhipment, landings, storage and sale is prohibited			1
			50	Species harvesting prohibited	COM/REC	TRB	Whitetip reef shark (triaenodon obesus)	fishing, conservation on board, transhipment, landings, storage and sale is prohibited			1
			50	Species harvesting prohibited	COM/REC		coral	Collect corals, whether alive or dead, is prohibited			1
Conservation measures	All population	All population	50	Species harvesting prohibited	COM/REC		Fish and crutaceans eggs				1
			60	Gear prohibited	COM	DRB	Dredges				1
			60	Gear prohibited	СОМ	FPO	Traps made with creepers, herbs, foliage	It is prohibited to keep on board traps made with creepers, herbs, foliage			1
			60	Gear prohibited	COM	GND	Driftnets				1
			60	Gear prohibited	СОМ	GNS, GTR	Nets made with creepers, herbs, foliage	It is prohibited to keep on board nets made with creepers, herbs, foliage			1
			60	Gear prohibited	СОМ	MIS	Other gear made with creepers, herbs, foliage	It is prohibited to keep on board every type of gears made with creepers, herbs, foliage			1
			60	Gear prohibited	COM	ОТВ	Trawls				1
			60	Gear prohibited	СОМ	PS	Seine made with creepers, herbs, foliage	It is prohibited to keep on board seines made with creepers, herbs, foliage			1
			60	Gear prohibited	REC		attraction by light	The use of fishing devices by attraction by light is forbidden			1
			140	Other	REC		unregistered vessels	Fishing from non-registered vessels prohibited			1
			140	Other	REC		The sale	Sale of recreational fishing products is prohibited			1
			140	Other	COM/REC		Fishing gears marking	Owners of nets, traps and other equipment are required to identify them by affixing their boat registration number			1
Access regulation	All	All	150	Permit to enter the fishery sector	СОМ	ALL	Authorisation of the activity of pescatoursime	Several modalities are set in order to allow passengers to be boarded or not concerning the activity of pescatourism			1
measures	population	population	150	Permit to enter the fishery sector	СОМ	ALL	Exploitation permit (PME)	The exploitation permit is necessary for fishing with a vessel in the Reunion			1
Total											21

3.7 Mayotte

3.7.1 Main organizational and regulatory changes in fisheries over the last 30 years

Mayotte is a department of France administered within the framework of a unique territorial collectivity directed by the departmental council of Mayotte. Following the 2009 local referendum, Mayotte became a department and overseas region. In 2014, Mayotte also changed status at the European level, becoming an outermost region, and has since become part of the European Union. The following figure identifies the main changes in the fisheries organizational and regulatory context. Several prefectural orders regulated the fishing activities and a new one was established in 2018. In 2010, the Marine Park of Mayotte was created.

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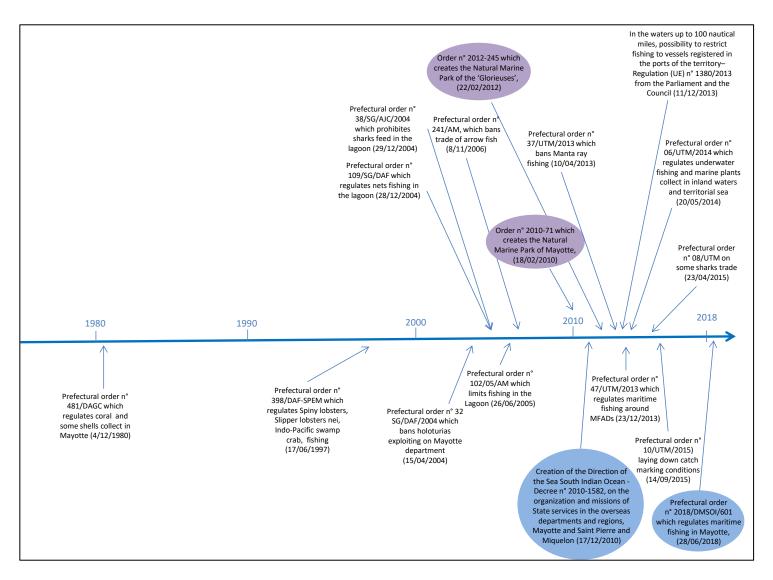


Figure 56. Time line of the main governance changes

3.7.2 Governance structure for fisheries & ecosystem management at regional level

3.7.2.1 <u>General framework, status and role of each organization in ORs</u>

The following figure describes the main key actors involved in the processes leading to the implementation of fisheries management measures and their application. This organizational framework is similar to the French outermost regions even except that there is no regional fisheries committee estblablished in this region.

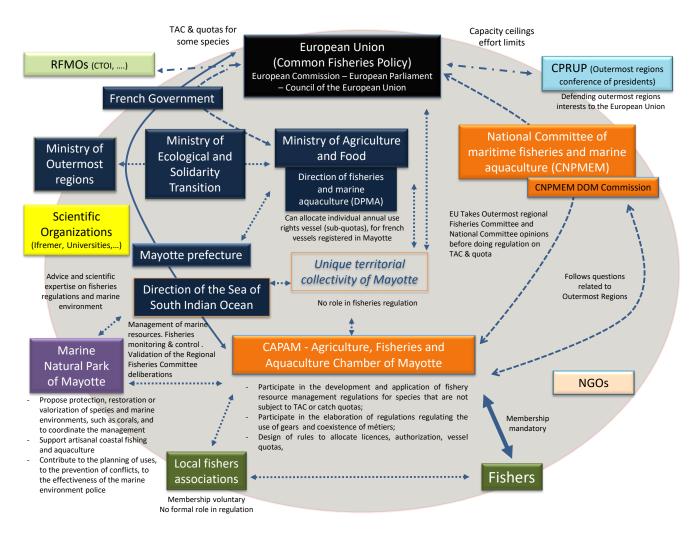


Figure 57. General organizational framework

The representations of fishers is organized through the CAPAM.

3.7.3 Conservation and regulation access measures

In the department of Mayotte, the regulation of professional and recreational fishing is quite recent. Indeed, since the 28 june 2018 the prefectural order n° 2018/DMSOI/601 is in force³⁷⁵. This order abrogates previous ones. Its aim is to unify in a single document all the regulations concerning both professional fishing and recreational fishing. The majority of the regulations identified in Mayotte is therefore derived from these orders. The analysis covers EU, national, regional or local regulation but does not focus on the application and effectiveness of the measures adopted even if the conditions for the application of measures are the subject of a preliminary analysis. The objective is mostly to identify and then classify the different regulations in order to establish a first diagnosis. The first part of the report presents the measures per type, the second part is complementary and more dedicated to an analysis per fishery or métier. In that case, it is possible to identify potential gaps in regulation.

Based on the census and classification of regulations measures according to the common typology, a total of 127 measures covering commercial and recreational fishing activities were identified. These measures can be divided in conservation measures (96/75.6% of the total) and access regulation measures to fisheries (31/24.4%).

	Number of measures	Percentage
Conservation measures	96	75.6%
Access regulation measures	31	24.4%
Total	127	100%

Table 82. Conservation and access regulation measures

These 127 measures can be subject to a distinction based on the diversity of objectives to be achieved. Thus, of the totality of the measures, 93 (73.2%) are interested in the "Regulation of fisheries". This general group concerns the measures relating to species (sizes or weights to be respected, periods of prohibition of fishing for certain species), fishing gears (dimensions, prohibitions of use, limitation of mesh size, ...), or preliminary authorization for the practice of some métiers. Another group of 34 measures (26.8%) concerns biodiversity objectives, species for which harvesting is prohibited due to a potential risk of extinction. It also includes marine protected areas created to promote the protection of ecosystems.

	Type of measures	Total	Percent
Conservation measures	Fisheries regulation	62	48.8%
Conservation measures	Biodiversity conservation	34	26.8%
Access regulation measures	Fisheries regulation	31	24.4%
Total		127	100%

Table 83. Conservation and access regulation measures per "type of measures"

 $^{^{375}}$ Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

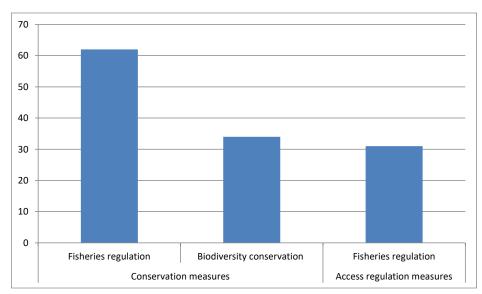


Figure 58 Measures representation per type

The origin of the measures presents some insights. Indeed, the result is that very few regulations come from the European Union (only 1 measures/0.8%). Five measures were established at national level (3.9%). This means that most of the regulations come from the regional level (121 over the 127 measures/95.3%).

	Measures origin	Total	Percent
	European union	1	0.8%
Conservation measures	National	4	3.1%
	Regional	91	71.7%
Access regulation measures	National	1	0.8%
Access regulation measures	Regional	30	23.6%
Total		127	100%

Table 84. Conservation and access regulation measure per origin

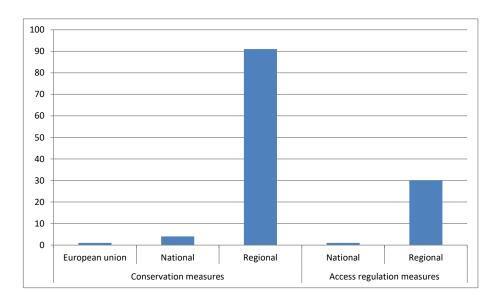


Figure 59. Measures representation per origin

	Type of measures	Measures origin	Total	Percent
		European union	1	0.8%
	Fisheries regulation	National	1	0.8%
Conservation measures		Regional	60	47.2%
	Biodiversity	National	3	2.4%
	conservation	Regional	31	24.4%
A	Fiele evice ve eviletieve	National	1	0.8%
Access regulation measures	Fisheries regulation	Regional	30	23.6%
Total			127	100%

Table 85. Conservation and access regulation measures per type and origin

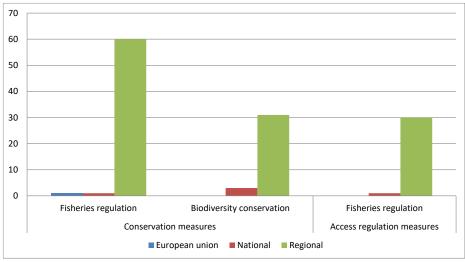


Figure 60. Measures representation per type and origin

All these measures may also be listed as relating exclusively to commercial fishing (COM), recreational fishing (REC), or even both (COM/REC). As shown in the table below, the majority of the measures concerns recreational fishing. Indeed, 21 measures on 127 relate exclusively to commercial fishing (16.5%), which can be added to the 68 measures concerning both professional and recreational fisheries (53.5%). In an exclusive way recreational fishing is concerned by 38 measures (30%).

	Application (REC/COM)	Total	Percentage
	COM/REC	62	48.8%
Conservation measures	REC	19	15%
	COM	15	11.8 %
A coose requision	REC	19	15%
Access regulation	COM	6	4.7%
measures	COM/REC	6	4.7%
Total		127	100%

Table 86. Distribution of regulation between commercial and recreational fishing

It's also possible to classify each measure in a category of application; All population, Gear, Métier, Species. A regulation targeting the Locust lobsters nei ($scyllarus\ spp$) will enter the category "Species", whereas a norm dealing with nets is included in the category "Gear". 23 measures concern the entire population "All population" (18.4%). A large part of the regulation concern either "Gear" (40 measures – 31.4%) or the "Métiers" (8 measures – 6.4%). The essential of the regulation is therefore technical and concerns the modalities of the practice of fishing techniques. 56 measures focus on "Species" catches (44.1%) but many of them as mentioned above are the result of regulations that are outside the fisheries policy (protected species, pollution, etc.).

Conservation measures/ Access regulation measures	Application (REC/COM)	Variable_type	Total	Percentage
		Species	39	30.7%
	COM/REC	All population	14	11.2%
		Gear	9	7%
Conservation measures		Gear	16	12.6%
	REC	All population	2	1.6%
		Species	1	0.8%
	СОМ	Gear	15	11.8%
		Species	15	11.8%
	REC	All population	3	2.4%
		Métier	1	0.8%
Access regulation measures		All population	4	3.2%
	СОМ	Species	1	0.8%
		Métier	1	0.8%
	COM/REC	Métier	6	4.8%

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T-1-1-07	Total			127	100%	Distribution
Table 87.		of each measu	ure in categories			Distribution

Conservation and access control measures can also be sub-divided into "control measures by type" to clarify, on the one hand, the type of measure used to preserve the productive and reproductive capacity of the stocks and on the other hand, type of measure used to regulate access to resources.

Conservation measures/ Access regulation measures	Management measure number	Management measures per type	COM/REC	REC	сом	Total
	10	TAC or global/regional quota	1			1
	40	Min. landing size or weight	6			6
	50	Species harvesting prohibited	26	1		27
	60	Gear prohibited	1	4	6	11
	70	Gear dimension limitation	2		1	3
Conservation	80	Gear type limitation		12	6	18
measures	90	Gear setting limitation	1			1
	100	Mesh size limitation	3		2	5
	110	Seasonal closure	6			6
	120	Area fishery closure	8			8
	130	Marine protected area	4			4
	140	Other	4	2		6
	150	Permit to enter the fishery sector		3	5	8
Access regulation	160	Fishery licence with numerus clausus	2			2
measures	180	Vessel or individual quota/Bag limit		15	1	16
	200	Conflicts regulation	4	1		5
Total			68	38	21	127

Table 88. Classification of management measures per type

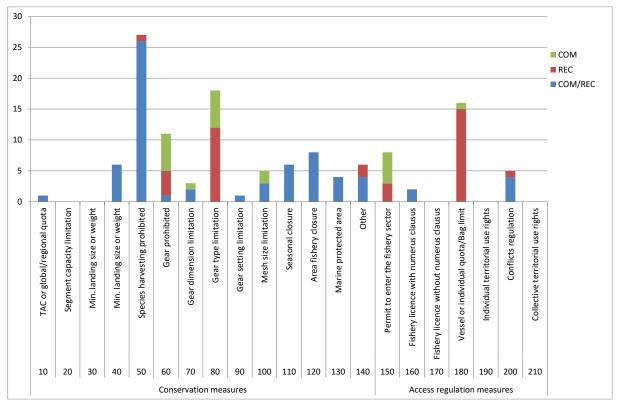


Figure 61. Classification of "management measures per type" by recreational or professional activities

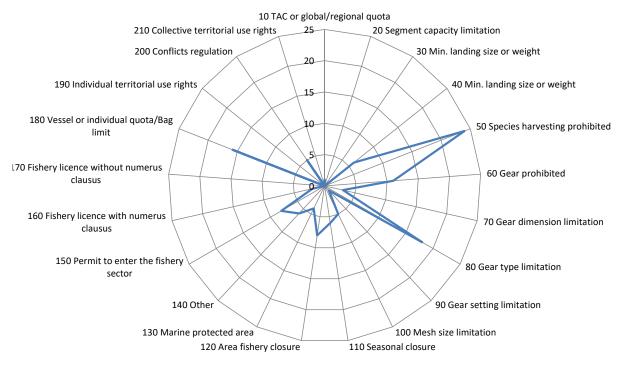


Figure 62. Classification of management measures per type

3.7.3.1 Conservation measures

3.7.3.1.1 TAC or global/regional quota (measure 10)

Within conservation measures, the total allowable catches (measure 10. TAC or global/regional quota) set by the European Union are primarily from the IOTC³⁷⁶, which is a regional fisheries management organization which establishes measures for the management of tuna and related species in the Indian Ocean. In fact, only one species harvested in Mayotte is under TAC: Yellowfin tuna (*Thunnus albacares*). For information, in 2018³⁷⁷, the TACs for this species was 77 698 tons, including a quota of 29 501 tons allocated to France.

3.7.3.1.2 Segment capacity limitation (measure 20)

As seen before, capacity ceiling have been established for each outermost region since 1998 and reviewed in 2002, 2004, 2007 and 2013. The department of Mayotte is an exception since no capacity ceiling is fixed³⁷⁸. No decommissioning fleet plan has ever been implemented in Mayotte to reduce fishing capacity (measure 30. Decommissioning schemes).

3.7.3.1.3 Minimum landing size or weight (measure 40)

Limit catch sizes and weights (measure 40. Min. Landing size or weight) are fixed by Prefectural Order N° 2018/DMSOI/601N. Only six measures impose minimum sizes or weights to be respected. Among these measures, one is very general since the catch of all species of "marine fish NCA" (Osteichthyes) is only possible when they measure 10 centimeters or more³⁷⁹. This general measure is not binding because the catch size is low and doesn't limit the sampling of larger individuals.

No regulation, either in terms of weight or size, concerns the catches of large pelagic species.

3.7.3.1.4 Species harvesting prohibited (measure 50)

Prefectural Orders N° 1742 and 1743 are more exhaustive on the prohibition of the catch of certain species (measure 50. Species harvesting prohibited), since it is possible to count 24 measures creating bans but it is for other purposes than fisheries stock conservation. The exception is the harvesting of egg-bearing Spiny lobsters (*Palinuridae*) which is prohibited In order to promote the reproduction. It is the same for fish eggs and crustacean's eggs³⁸⁰

Other forms of prohibitions concern protected species due to a risk of extinction like marine turtles (*Testudinata*). Are concerned: Green turtle (*Chelonia mydas*), Hawksbill turtle (*Eretmochelys imbricata*), Loggerhead turtle (*Caretta caretta*), Olive ridley turtle (*Lepidochelys olivacea*), Leatherback turtle (*Dermochelys coriacea*)³⁸¹.

Annex I k), Council Regulation (EU) 2018/120 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, 23 January 2018

³⁷⁶ http://www.iotc.org/node

³⁷⁸ Annex II, Regulation (EU) No 1380/2013 of the European Parliament and of the Council, 11 December 2013

³⁷⁹ Art 17, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

 $^{^{380}}$ Art 17, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸¹ Art 12, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

The marine mammals such as cetaceans and sirenias listed in the list of protected marine mammals³⁸² are also prohibited to catch. It is the same for some species of sharks like Great hammerhead (*Sphyrna mokarran*), Thresher sharks nei (*Alopiidae*), or the Manta ray (*Manta alfredi*).

Other species complete this list of species banned for fishing, whether it is both professional and recreational fishing³⁸³.

- Pipefishes, seahorses nei (Syngnatidae family);
- Giant grouper (Epinephelus lanceolatus);
- Giant guitarfish (Rhynchobatus djiddensis);
- Humphead wrasse (Cheilinus undulatus);
- Green humphead parrotfish (Bolbometopon muricatum);
- Coelacanth (Latimeria chalumnae);
- Sea cucumbers nei (Holothuroidea).

In order to protect biodiversity, the destruction and collect of corals, gorgonians (*Gorgonacea order*) and sponges (*Porifera branch*) is forbidden³⁸⁴. The collect of some shells is also prohibited: Variegated triton (*Chariona Tritonis*), Bullmouth helmet (*Cypraecassis rufa*), Horned helmet (*Cassis cornuta*), Cowries nei (*Cypraeidae*), Common spider conch (*Lambis truncate*) and Giant spider conch (*Lambis lambis*).

A last norm focuses this time only on recreational fishing. In order to reduce the fishing pressure on this species, it is forbidden to catch Giant clams (*Tridacna gigas*)³⁸⁵.

3.7.3.1.5 Gears measures (measure 60 to 100)

As indicated above, fishing gears are also regulated with total of 38 measures that affect them. This regulation takes different forms starting with 11 norms that come to forbid the use of some gears (measure 60. Gear prohibited) like trammel nets for professional fishing³⁸⁶, or in a general way, the ban of types of nets for recreational fishing³⁸⁷. There are also restrictions on gears dimensions (measure 70. Gear dimension limitation), to their quantity (measure 80. Gear type limitation), and for their use (measure 90. Gear setting limitation), with a respective number of 3, 18 and 1 measures. The mesh of gears (measure 100. Mesh size limitation), especially for various nets used, is also regulated with 5 measures established.

3.7.3.1.6 Seasonal closure (measure 110)

The prefectural Order includes other periods when fishing is prohibited (measure 110. Seasonal closure). This six measures concern the catch of various species: Octopuses nei (Octopus spp), Painted spiny lobster (Palinurus versicolor), Pronghorn spiny lobster (Palinurus penicillatus), Ornate spiny lobster (Palinurus ornatus), Locust lobsters nei (Scyllarus spp), Indo-Pacific swamp crab (Scylla serrata). (Cf. above: 6.4.3.4.2 Demersal and benthic fishery; 6.4.3.4.3 Spiny lobster fishery; for details of these measures).

³⁸² Ministerial order which fix the list of protected marine mammals in the national territory 1st july 2011

³⁸³ Art 12, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸⁴ Art 13, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸⁵ Art 44, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸⁶ Art 60, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸⁷ Art 59, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

Area fishery closure (measure 120) 3.7.3.1.7

Eight measures can be perceived as areas where fishery is not allowed (measure 120. Area fishery closure). First, fishing activities are ban 10 meters around the float marking a MFADs³⁸⁸.

Another norm disposes that it is forbidden to bar or obstruct by gears passages between the reefs, the estuaries exits, and mangrove channels³⁸⁹.

In the lagoon only traditional activities such as foot fishing with a Djarifa are allowed (except on spawning grounds and nursery delimited by prefectural orders)390. Other fishing methods are forbidden in the lagoon.

Five other measures concern so-called 'regulated' areas. These 5 regulated areas are: the "Pass in S" (pass Longogori), the "Papani Beach", the "site of Ngouja", the "site of Saziley", the natural reserve of the islet M'bouzi.

To begin with, about the "Papani Beach" within the delimited areas (see figure 63. and table 88. Papani site perimeter), from 18:00 to 06:00, fishing, navigation, mooring, access to the shore, and landings are forbidden³⁹¹.

In the "Pass in S" (pass Longogori), within the delimited area (see figure 64 and table 89. "Pass in S" site perimeter): fishing, shells collect, coral destruction or collect, is forbidden³⁹².

In the area around the "Saziley site" (see figure 65 and table 90. "Saziley" site perimeter), fishing is forbidden except for the so-called "palangrotte" (hooks) and trolling lines fishing, as well as fishing with a Djarifa. Snorkeling is also forbidden³⁹³.

On the "Ngouja site" (see figure 66 and table 91. "Ngouja" site perimeter), fishing and shells collect are forbidden³⁹⁴.

Finally, within the natural reserve of islet M'bouzi (see figure 17 and table 92. "M'bouzi" site perimeter) fishing is forbidden, except for the so-called palangrotte (hooks) fishing from a boat or a non-motorized vessel³⁹⁵.

³⁸⁸ Art 5, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁸⁹ Art 26, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹⁰ Art 38, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹¹ Art 20 and Annex III, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹² Art 21 and Annex III, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹³ Art 22 and Annex III, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹⁴ Art 23 and Annex III, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

³⁹⁵ Art 24 and Annex III, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

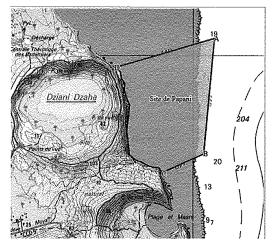


Figure 63. Papani site perimeter

	South latitude	East Longitude
Α	12° 45,9'	045° 18,12'
В	12° 46,5'	045° 18,06'
С	12° 46,62'	045° 17,82'
D	12° 46,08'	045° 17,58'

Table 88. Papani site perimeter

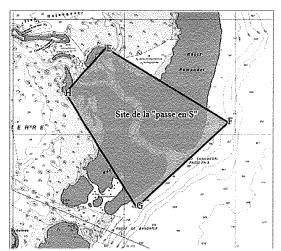


Figure 64. "Passe en S" site perimeter

	South latitude	East Longitude				
E	12° 50,46'	045° 15,66'				
F	12° 51,78'	045° 17,88'				
G	12° 53,28'	045° 16,2'				
Н	12° 51,24'	045° 14,94'				

Table 89. "Passe en S" site perimeter

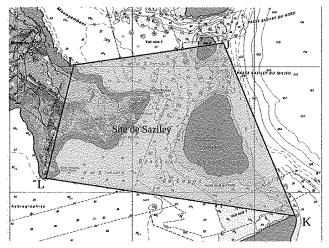


Figure 65. "Saziley" site perimeter

	South latitude	East Longitude				
I	12° 57,96'	045° 11,04'				
J	12° 57,60'	045° 13,50'				
K	13° 00,36'	045° 14,64'				
L	12° 59.76'	045° 10.56'				

Table 90. "Saziley" site perimeter

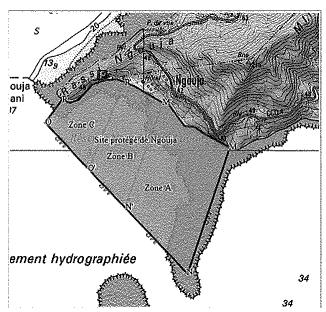


Figure 66. "Ngouja" site perimeter

	South latitude	East Longitude				
M	12° 57,46'	045° 05,52'				
N	12° 58,56'	045° 15,66'				
0	12° 57,84'	045° 04,68'				
Р	12° 57,78'	045° 04,74'				

Table 91. "Ngouja"site perimeter

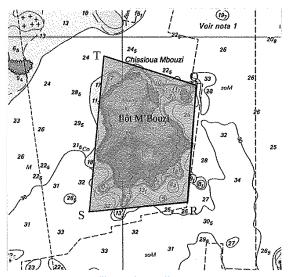


Figure 67. "îlot M'Bouzi" site perimeter

	South latitude	East Longitude
Q	12° 50,46'	045° 13,870'
R	12° 50,46'	045° 14,540'
S	12° 50,46'	045° 14,460'
Т	12° 50,46'	045° 13,753'

Table 92. "îlot M'Bouzi" site perimeter

Conservation measures/ Access regulation measures	Fishery _ level2	Fishery_ level2	Management measure number	Management measures per type	Application (REC/COM)	Variable _code	Variable_ label	Conditions of application in national language	Value	Units	Tota I						
			120	Area fishery closure	COM/REC	ALL	Passages obstruction	it is forbidden to bar or obstruct by gears passages between the reefs, the estuaries exits, and mangrove channels			1						
		Demersa I and benthic fishery	l and benthic	120	Area fishery closure	COM/REC	ALL	Regulated areas - "Pass in S" (pass Longogori)	fishing, shells collect, coral destruction or collect, is forbidden	all year	périod e	1					
	Coastal			l and benthic	l and benthic	Demersa	Demersa	120	Area fishery closure	COM/REC	ALL	Regulated areas - "Papani Beach"	from 18:00 to 06:00, fishing, navigation, mooring, access to the shore, and landings are forbidden	18h00- 6h00	périod e	1	
Conservation measures	fisherie					120	Area fishery closure	COM/REC	ALL	Regulated areas - "site of Ngouja"	fishing and shells collect are forbidden	all year	périod e	1			
				120	Area fishery closure	COM/REC	ALL	Regulated areas - "site of Saziley"	fishing is forbidden except for "palangrotte" and trolling lines fishing, as well as fishing with a Djarifa. Snorkeling is also forbidden	all year	périod e	1					
											120	Area fishery closure	COM/REC	ALL	Regulated areas – the natural reserve of the islet M'bouzi	fishing is forbidden, except for palangrotte fishing from a boat or a non-motorized vessel	all year
			120	Area fishery closure	COM/REC	ALL	Lagoon – traditionnal fisheries	In the lagoon only traditional activities such as foot fishing	all year	périod e	1						

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Total											8
	Offshor e fisherie s	Large pelagic fishery	120	Area fishery closure	COM/REC	MFADs	MFADs, ban sector	fishing activities are ban 10 meters around the float marking a MFADs	<=10	m	1
								with a Djarifa are allowed (except on spawning grounds and nursery delimited by prefectural orders).			

Table 3. Area fishery closure measures

3.7.3.1.8 Marine protected area (mesure 130)

Various protected areas can be referenced in Mayotte department. First of all on Papani beach a biotope order was taken in 2005³⁹⁶. A natural reserve also exists since 2007³⁹⁷ on M'bouzi islet (*see figure 69. National natural reserve of M'bouzi islet*). Finally, more recently, two Marine Natural Parks were created, starting in 2010 by the Marine Natural Park of Mayotte³⁹⁸. It is the first Marine Natural Parks created in overseas regions. It covers the entire exclusive economic zone of the department of Mayotte (68 800 km²).

After that, in 2012, the Marine Natural Parks of "the Glorieuses" was created³⁹⁹. This one, contiguous to the Marine Natural Park of Mayotte covers more than 43 000 km² (see Figure 68. Marine natural park of Mayotte and Marine Natural Park of 'Glorieuses').

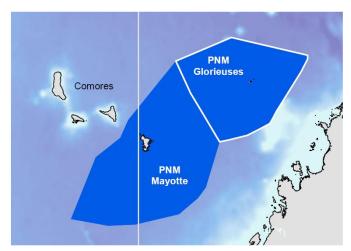


Figure 68. Marine Natural Park of Mayotte and Marine Naturel Park of 'Glorieuses'

³⁹⁶ Order N° 040/DAF establishing a zone of protection of the biotope on the Papani beach, 05/08/2005

³⁹⁷ Decree N° 2007-105 establishing the nature reserve of the islet M'Bouzi

³⁹⁸ Order N° 2010-71 which creates the Natural Marine Park of Mayotte, 18/02/2010

³⁹⁹ Order N° 2012-245 which creates the Natural Marine Park of the 'Glorieuses', 22/02/2012



Figure 69. National Natural Reserve of M'Bouzi islet (in red)

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level2	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Total		
			130	Marine protected area	COM/REC	ALL	Papani beach biotope order	Order N° 040/DAF establishing a zone of protection of the biotope on the Papani beach, 05/08/2005	1		
Conservation measures	Coastal fisheries	Demersal and benthic fishery	130	Marine protected area	COM/REC	ALL	Marine Natural Park of Mayotte	Marine Natural Park of Mayotte area	1		
incasures					130	Marine protected area	COM/REC	ALL	Marine Natural Parks of "the Glorieuses"	Marine Natural Parks of "the Glorieuses" area	1
			130	Marine protected area	COM/REC	ALL	Natural reserve of M'bouzi islet	natural reserve of M'Bouzi islet area	1		
Total									4		

Table 93. Marine protected area measures

3.7.3.1.9 Other (measure 140)

The description of the conservation measures ends with a category "Other" (measure 140. Other). The first one deals with mahoraise dugout which must be assimilated to a beach gear. As consequence, fishing in a traditional mahoraise dugount is only possible within the limit of 300 meters from the coast⁴⁰⁰. The five others measures concern snorkeling. The prefectural order mainly takes national measures⁴⁰¹, which are not referenced in this work. The objective is to highlight the regional measures specific to Mayotte. Snorkeling competitions are not allowed in the inland and territorial waters of Mayotte⁴⁰². In addition, snorkeling is forbidden inside the lagoon until the beginning of the outer fall of the coral reef and in the passes (straight baselines)⁴⁰³.

It is forbidden to hold at the same time on board an underwater respiratory device (stabilizing vest/bottles) and a special device for snorkeling (harpoons with sandows/spears/other equipment that can be used to catch marine species)⁴⁰⁴. Spears, lassos (collars), harpoons with sandows can't be

⁴⁰⁰ Art 39, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰¹ Article R921-92 Code Rural et de la Pêche Maritime

⁴⁰² Art 40, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰³ Art 9, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰⁴ Art 11, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

charged out of the water⁴⁰⁵. It is nevertheless forbidden to capture crustaceans using harpoons or spears⁴⁰⁶.

3.7.3.2 <u>Regulation access measures</u>

3.7.3.2.1 Permit to enter the fishery sector (*measure 150*)

As mentioned before, the implementation of measures to regulate access seems essential to "reduce the race to fish" and avoid fishing overcapacity in various fisheries as well as possible conflicts between fishing Métiers. Doing professional foot fishing requires an authorization⁴⁰⁷. The use of a vessel requires others permits for fishing in Mayotte (measure 150. Permit to enter the fishery sector).

The PME should be obtained before the construction of a new vessel or the replacement of a vessel⁴⁰⁸. The request for a PME is addressed to the public administration in charge of fisheries and in the case of a new vessel the request is submitted to the regional commission for the modernization of the fleet (COREPAM). The PME is delivered at regional level by the Prefect of the Region who is the authority representing the French State at regional level.

European fishing license must also be held⁴⁰⁹

Failing to obtain a Community fishing license, ship-owners engaged in a standardization or regulatory approach, in particular in the field of safety, will be entitled to a registered and temporary fishing authorization issued by the territorial unit of the Direction of the Sea South Indian Ocean. This authorization is limited to Mayotte waters and is renewable annually, until 31 December 2021⁴¹⁰.

In order to be able to fish in waters less than 100 miles from Mayotte baselines, professional fishing vessels must be registered in Dzaoudzi district (unless derogations)⁴¹¹.

Vessels flying the flag of third states to the European Union can't practice recreational fishing activities in the waters of the Department of Mayotte⁴¹². On the contrary, for vessels flying the flag of a member state of the European Union, recreational fishing is still possible. In this case, the so-called "traffic card" and the so called "act of francization" must conform to the regulations and laws of the flag. The captain must also hold a license which allows him to conduct recreational vessels⁴¹³. When the recreational vessels are owned by a leasing company, the chief of the board must be able to present the rental contract and the special audit register⁴¹⁴.

3.7.3.2.2 Fishery/métier license with numerus clausus (measure 160)

Among the main métiers practiced in Mayotte (total number: 10⁴¹⁵), it's possible to count 2 cases where a fishing license with numerus clausus must be requested before the practice of the fishing

⁴⁰⁵ Art 9, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰⁶ Art 10, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰⁷ Art 1 and Art 63, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴⁰⁸ Art L921-7 Rural and Maritime fishing Code

⁴⁰⁹ Art 52, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹⁰ Art 56, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹¹ Art 58, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹² Art 28, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹³ Art 29, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018 ⁴¹⁴ Art 30, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹⁵ SIIH, IFREMER, Activité des navires de pêche - 2015 - Dzaoudzi - Navires de pêche professionnelle, Mai 2017

activity related to it (measure 160. Fishery license with numerus clausus). In fact, these are more requests for authorizations to be sent to the Direction of the Sea of Mayotte.

The first license concerns traditional fishing activities carried out in particular on foot with a Djarifa. These practices within the lagoon are subject to limited authorizations decisions signed by the administrative authority after the opinion of the Marine Natural Park. The fishing area operated is defined in the authorization⁴¹⁶.

A second license is related to the fishing of the Giant clams (*Tridacna gigas*). This fishery is reserved to professional fishermen. The number of licenses granted is also subject to a quota by the administrative authority after the opinion of the professional organization⁴¹⁷.

It should be noticed that there are no licenses without numerus clausus (measure 170. Fishery/profession license without numerus clausus).

3.7.3.2.3 Vessel or individual quota/Bag limit (measure 180)

With the aim of avoiding or at least limiting, the trade of recreational fishing, 16 measures limits the maximum catches of some species (measure 180. Vessel or individual quota/Bag limit). Species subject to vessel or individual quota/Bag limit are:

- Marine fishes nei (Osteichthyes), all species confused;
- Octopuses nei (Octopus spp);
- Large pelagic (Scombridae.sp et Istiophoridae.sp);
- Groupers, seabasses nei (Serranidae.sp);
- Snappers so-called "deep" (Etelis.sp);
- Pomfrets, ocean breams nei (Bramidae.sp);
- Cartilaginous fishes nei (Chondrichthyes);
- Emperors/Scavengers nei (Lethrinidae.sp);
- Spiny lobsters nei (Palinuridae);
- Locust lobsters nei (Scyllarus spp);
- Indo-Pacific swamp crab (Scylla serrata);
- Giant clam (Tridacna gigas).

3.7.3.2.4 Conflicts regulation (measure 200)

The last five measures are posed to prevent possible conflicts in the use of the maritime space (measure 200. Conflicts Regulation).

Two measures are first related to gears since it is forbidden to moor or hold the vessel on the nets, buoys, or fishing gears of another fisherman. It is also forbidden to grow, raise or visit nets and other gears of another fisherman⁴¹⁸.

The three remaining measures are related to MFADs. If the MFADs fishery is exercised one miles around the float marking the MFADs, recreational fishing around a MFADs is permitted only on

⁴¹⁶ Art 38, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹⁷ Art 68, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴¹⁸ Art 6, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

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Saturdays, Sundays and public holidays, even when a professional vessel is already in the MFADs area⁴¹⁹. Snorkeling is prohibited within a one-mile radius of MAFDs⁴²⁰.

The analysis of regulations for the sector and per fisheries is not provided in the context of this report

 $^{^{419}}$ Art 5 and Art 35, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

⁴²⁰ Art 9, Prefectural order n° 2018/DMSOI/601 which regulate maritime fishing in Mayotte, 28 june 2018

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3.7.1 Annexes Mayotte

Conservation measures/ Access regulation measures	Fishery_ level2	Fishery_ level1	Management measure number	Management measures per type	Application (REC/COM)	Variable_ code	Variable_label	Conditions of application in national language	Value	Units	Total													
						50	Species harvesting prohibited	COM/REC	LKV	tortues marines - Tortue olivatre (Lepidochelys olivacea)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1										
				50	Species harvesting prohibited	COM/REC	ВМК	perroquet à bosse (Bolbometopon muricatum)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1												
						50	Species harvesting prohibited	COM/REC	BQN	sept doigts (Lambis truncata et Lambis lambis)	colportage, mise en vente, achat, exportation, sous quelque forme que ce soit, interdite			1										
							50	Species harvesting prohibited	COM/REC	CLC	coelacanthe (Latimeria chalumnae)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1									
			50	Species harvesting prohibited	COM/REC	CUX	holothuries ou concombres de mer (Holothuroidea)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													
			50	Species harvesting prohibited	COM/REC	DKK	tortues marines - Tortue luth (Dermochelys coriacea)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													
						50	Species harvesting prohibited	COM/REC	EEN	loche géante (Epinephelus lanceolatus)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1										
			50	Species harvesting prohibited	COM/REC	HVM	napléon (Cheilinus undulatus)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													
Conservation	All	All	50	Species harvesting prohibited	COM/REC		Corail (coral)	destruction et cueillette interdits			1													
measures	population													All population		50	Species harvesting prohibited	COM/REC		Gorgones (ordre des Gorgonacea)	destruction et cueillette interdits			1
															50	Species harvesting prohibited	COM/REC		éponges (embranchement des Porifera)	destruction et cueillette interdits			1	
													50	Species harvesting prohibited	COM/REC	KRN	conque (Chariona Tritonis)	colportage, mise en vente, achat, exportation, sous quelque forme que ce soit, interdite			1			
			50	Species harvesting prohibited	COM/REC	KSC	fer à repasser (Cassis cornuta)	colportage, mise en vente, achat, exportation, sous quelque forme que ce soit, interdite			1													
				50	Species harvesting prohibited	COM/REC	RCD	grande raie guitare ou poisson- paille à poids (Rhynchobatus djiddensis)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1												
			50	Species harvesting prohibited	COM/REC	RMA	raie Manta (Manta alfredi)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													
				50	Species harvesting prohibited	COM/REC	SPK	grand requin marteau (Sphyrna mokarran)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1												
			50	Species harvesting prohibited	COM/REC	THR	requin renard/renards de mer nca (Alopiidae)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													
			50	Species harvesting prohibited	COM/REC	TTH	tortues marines - Tortue caret (Eretmochelys imbricata)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1													

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			50	Species harvesting prohibited	COM/REC	TTL	tortues marines - Caouane (Caretta caretta)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1
			50	Species harvesting prohibited	COM/REC	TUG	tortues marines – tortue verte (Chelonia mydas)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1
			50	Species harvesting prohibited	COM/REC	VUX	hippocampes (famille des Syngnathidae)	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1
			50	Species harvesting prohibited	COM/REC	YRR	casque rouge (Cypraecassis rufa)	colportage, mise en vente, achat, exportation, sous quelque forme que ce soit, interdite			1
			50	Species harvesting prohibited	COM/REC	ZAX	porcelaine nca (Cypraeidae)	colportage, mise en vente, achat, exportation, sous quelque forme que ce soit, interdite			1
			50	Species harvesting prohibited	COM/REC		cétacés et siréniens	pêche, transport, transformation, conditionnement, mise en vente, achat, interdits			1
			50	Species harvesting prohibited	COM/REC		œufs poissons/crustacés	Pêcher du poisson ou capturer un crustacé uniquement pour la vente de ses œufs est interdite			1
			140	Other	REC	ALL	pirogue mahoraise	pirogue mahoraise assimilée à un engin de plage. Pêche traditionnelle possible dans la limite des 30 mètres de la côte	<=300	meters from coast	1
		150	Permit to enter the fishery sector	СОМ	ALL	Autorisation nominative temporaire	A défaut de pouvoir obtenir une licence de pêche communautaire, les armateurs engagés dans une démarche de normalisation ou de régulation, notamment en matière de sécurité, pourront bénéficier d'une autorisation nominative et temporaire de pêche délivrée par l'unité territoriale de la DMSOI. Autorisation limitée aux eaux intérieures de Mayotte et renouvelable chaque année jusqu'au 31 décembre 2021			1	
			150	Permit to enter the fishery sector	СОМ	ALL	Licence communautaire de pêche professionnelle	autorisation accordée à un producteur pour chacun de ses navires, quel que soit le pavillon, pratiquant la pêche maritime professionnelle. Autorisation délivrée par l'unité territoriale de Mayotte de la DMSOI. Original devant être présenté en cas de contrôle			1
			150	Permit to enter the fishery sector	СОМ	ALL	Limitation des navires de pêche professionnelle	dans les eaux situées à moins de 100 milles marins des lignes de base de Mayotte, la pêche professionnelle est limitée aux navires immatriculés au quartier de Dzaoudzi, sauf dérogation accordée par l'Etat			1
Access regulation measures	All population	All population	150	Permit to enter the fishery sector	СОМ	ALL	Permis de mise en exploitation (PME)	La mise en exploitation des navires est soumise à une autorisation préalable dite permis de mise en exploitation des navires de pêche professionnelle qui précise, s'il y a lieu, les zones d'exploitation autorisées.			1
			150	Permit to enter the fishery sector	REC	ALL	pêche de loisir, navires d'Etats tiers à l'UE	La pêche de loisir est autorisée aux navires battant pavillon d'un Etats de l'Union européenne. La carte de circulation et l'acte de francisation doivent être conformes aux règlements et lois du pavillon. Le chef de bord doit être titulaire d'un permis de conduire des navires de plaisance.			1
			150	Permit to enter the fishery sector	REC	ALL	pêche de loisir, navires d'Etats tiers à l'UE	La pêche de loisir est interdite aux navires battant pavillon d'un Etats tiers à l'Union européenne			1
			150	Permit to enter the fishery sector	REC	ALL	pêche de loisir, navires d'Etats tiers à l'UE	Le chef de bord du navire de plaisance appartenant à une société de location doit pouvoir présenter en plus le contrat de location et le registre de vérification spéciale			1
			200	Conflicts regulation	COM/REC		Amarrage sur engin de pêche	Interdiction d'amarrer ou de tenir son navire sur les filets, bouées, ou attirails de pêche d'un autre pêcheur			1
			200	Conflicts regulation	COM/REC		Vol des captures	Interdiction de crocher, soulever ou visiter les filets et autres engins de pêche d'un autre pêcheur			1
Total		1						·			35

Table 94. Sectorial/general measures in force

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