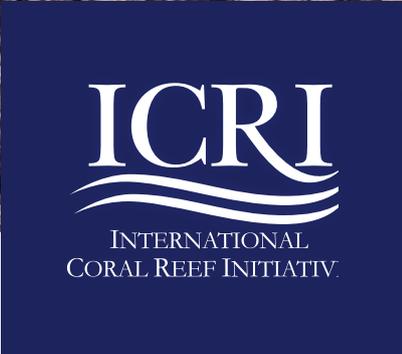




Photo: © Hannes Klostermann



SUMMARY OF LEGISLATIVE AND REGULATORY MECHANISMS FOR THE PROTECTION OF CORAL REEFS AND ASSOCIATED ECOSYSTEMS

FRANCE

With the support of



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FRANCE

The summary proposed in this document is an inventory at a given time and might be non-exhaustive.
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GENERAL OVERVIEW

CONTEXT OF THE STUDY

This study was conducted in the context of the implementation of the ICRI Plan of Action 2018-2020, and more particularly in the frame of the first theme, which is to *"promote effective and adaptable solutions to improve the protection of coral reefs"*. Its aim is to underline good practices of the country, which is a pilot country in this project, as regards the direct and indirect protection of coral reefs. Those good practices are to be found, first, in the legislation of the country, but also in the other means of implementation of the several international and regional instruments important in this issue. The purpose of the study is not to assess and evaluate the efficiency of the action of the country, but only to point out the positive elements collected and to identify the potential lacks.



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LAWS AND REGULATIONS DIRECTLY OR INDIRECTLY PARTICIPATING IN THE PROTECTION OF CORALS

France has an important arsenal of laws and regulations regarding the protection of corals. The Code of environment provides for a large number of dispositions that are an implementation of international conventions and principles. For instance, the principle of prevention or the polluter-pays principle are consecrated, as well as the necessity to fight pollution at sea, including land-based sources of pollution. Moreover, an important rule has been adopted in 2018 as regards mining at sea: a moratorium on exploration mining activities at sea and limitation of exploitation to certain conditions. The designation of protected areas is also provided by the legislation and can be used as a means of protection of coral reefs, as well as the legislation on fisheries.

The pollution from plastics is also taken into consideration, with a prohibition of cotton swabs for domestic use with plastic rods from 1st January 2020, and rinsed cosmetic products for exfoliation or cleaning purposes containing solid plastic particles, from 1st of January 2018. As regards corals more directly, some species are directly protected on a case-by-case basis. For instance, in Guadeloupe, Martinique and Saint Martin, there is a prohibition of mutilation, destruction and withdrawing of specimens in the natural environment (arrêté of 25 April 2017).

Nonetheless, some lacks can be observed, as for instance as regards sunscreens, which are a direct threat for corals and are not regulated by the French law. Moreover, as regards the case-by-case approach of the species protection in French over sea territories, this approach could be reinforced by a systematic protection and adaptation of a list of endangered species from one island to another. So far, the French maritime territory is so big and diverse that a more individual approach is needed.

GOOD PRACTICES AND OTHER OBSERVATIONS

The institutional public framework has recently been reinforced and is well adapted to the conservation of corals. Especially, the IFRECOR is a determinant initiative in order to coordinate and push forward adapted policies on coral protection, and raise awareness. Regional instruments and private actions by NGOs are also pretty important to implement the framework of protection and complement the public action by State.

ANTHROPOGENIC DRIVERS OF CHANGE		EXISTENCE OF POLICY OBLIGATIONS
THEME	ACTIVITY	
Climate change	Activities resulting in emissions of greenhouse gases in the atmosphere	Yes
Production from living resources	Harvesting of living resources by large-scale/industrial operators	Partial
	Harvesting of living resources by small-scale and/or subsistence operators	Partial
	Harvesting of living resources by recreational operators	Partial
	Hunting and collecting of living resources for other purposes (including 'bioprospecting')	No
	Coastal aquaculture (including 'ranching', seaweed cultivation)	Partial
	All activities related to production from living resources	Partial
Generation of land-based sources of pollution	Production and disposal of plastics	Partial
	Waste treatment and disposal	Partial
	Urban or industrial activities	Partial
	Agriculture	Partial
	All activities generating marine pollution	Yes
Extraction of non-living resources	Extraction of minerals (e.g. sand, coral mining)	Partial
	Extraction of oil and gas (including infrastructure)	Yes
	Extraction of water (i.e. desalination)	
Production of energy	Transmission of electricity and communications (cables)	Yes
	Renewable energy generation (wind, wave and tidal power), including infrastructure	Yes
Physical restructuring of the coastline, rivers or seabed	Coastal land claim (e.g. mangrove loss)	Partial
	Canalization and other watercourse modifications	
	Coastal defense and flood protection	Yes
	Restructuring of seabed morphology, including dredging and depositing of materials	Partial / To be implemented
Tourism and recreation	Tourism and recreation activities (e.g. resulting in anchor use on reefs, vessel groundings, diving and snorkeling)	Partial
	Tourism and recreation infrastructure	Partial
	Marine biota souvenirs to sell to tourists, exporters	Partial
Transport	Transport – shipping	Yes
	Transport - infrastructure	Yes

Table 1. Table of principal Reef Relevant Policy Obligations per Human Activity Driving Changes in Coral Reef Ecosystems, inspired by the *Analysis of Global and Regional Policy Instruments Related to the Conservation and Sustainable Management of Warm Water Coral Reef Ecosystems*. Research Team, Nicholas Institute for Environmental Policy Solutions, Duke University On behalf of the United Nations Environment Programme November, 2018.

	CONVENTIONS RATIFIED BY FRANCE	Signature / Ratification	Entry into force
REGIONAL	Apia Convention on the protection of nature in the South Pacific	12/06/76	26/06/90
	Nouméa Convention on the protection of natural resources and environment in the South Pacific	25/11/86	22/08/90
	Barcelona Convention for the protection of the Mediterranean sea	16/02/76	10/04/78
	Convention for the protection of the marine environment in the North-East Atlantic (OSPAR)	22/09/92	25/03/98
	Convention for the conservation of Antarctic marine living resources	20/05/80	16/10/82
	Cartagena Convention for the protection of the marine environment in the Caribbean region	19/02/87	30/03/86
	Convention of Nairobi for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region	21/06/89	30/05/96
	Agreement for the Establishment of the Indian Ocean Tuna Commission (IOTC)	25/11/93	03/12/96
	Southern Indian Ocean Fisheries Agreement (SIOFA)	07/07/06	24/02/13
GLOBAL	Convention on biological diversity	13/06/92	29/09/94
	Cartagena Protocol	24/05/00	11/09/03
	Nagoya Protocol	20/09/11 (S) 31/08/16 (R)	29/11/16
	UNCLOS	10/12/82 (S) 11/04/96(R)	11/05/96
	FAO (constitution) Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing	16/10/45	16/10/45
	IMO (constitution)	06/03/48	17/03/58
	International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)	13/09/91	13/05/95
	Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter 1972 (London Dumping Convention)	22/05/73	05/03/77
	Convention for the Prevention of Pollution from Ships (MARPOL)	17/02/78	01/10/83
	Convention on Civil Liability for Oil Pollution Damage (CLC)	29/11/69	19/06/75
	International Convention for the Safety of Life at Sea (SOLAS)	10/06/48	19/11/52
	International Regulations for Preventing Collisions at Sea (COLREG)	17/06/60	01/09/65
Ballast Water Management Convention (BWM)	13/02/04	08/09/17	
Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Their Disposal	22/03/89	05/05/92	

	CONVENTIONS RATIFIED BY FRANCE	Signature / Ratification	Entry into force
GLOBAL	Vienna Convention on the protection of the ozone layer	22/03/85	22/09/88
	Montreal Protocol on Substances that Depletes the Ozone Layer	16/09/87	01/01/89
	United Nations Framework Convention on Climate Change (UNFCCC)	13/06/92	23/06/94
	Kyoto Protocol to the UNFCCC	29/04/98	16/02/05
	Paris Agreement on climate change	22/04/16 (S) 05/10/16 (R)	04/11/16
	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	03/03/73	11/08/78
	UNESCO Convention for the Protection of the World Cultural and Natural Heritage	16/11/72	17/12/75
	Convention on the Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR)	02/02/71	01/12/86
	Stockholm Convention on Persistent Organic Pollutants (POPs)	22/05/01	17/05/04
Aarhus Protocol on POPs	24/06/98 (S) 25/07/03 (R)	23/10/03	

Table 2. Conventions ratified by France

LAWS AND REGULATIONS DIRECTLY OR INDIRECTLY PARTICIPATING IN THE PROTECTION OF CORALS

Main sources used:

- Legifrance;
- The database of the Ministry of Foreign affairs (France diplomatie, traités et accords);
- The website Ecolex and Droitnature.



Photo: © Yen Yilee

1. GENERAL AND PRELIMINARY ELEMENTS

The French Constitution includes the [2004 Charter of the environment](https://www.legifrance.gouv.fr), which consecrate the **precaution principle** in Article 5, and the duty of public authorities to promote a **sustainable development**.

The legislative framework has been largely improved by the adoption of the Law for the reconquest of biodiversity, nature and landscape of 8 August 2016 (n° 2016-1087). This law was completely incorporated in the [Environment Code](https://www.legifrance.gouv.fr).

The second chapter of the Titre II of the Environment Code is dedicated to the information and participation of citizens deals with environmental impact assessment: projects which, by their nature, size or location, are likely to have significant impacts on the environment or human health shall be subject to an environmental assessment in accordance with criteria and thresholds defined by regulation and, for some of them, after a case-by-case examination by the environmental authority (Art. L.122-1 and following). The incidences of the projects on biodiversity are part of the elements taken into account in the EIA.

Chapter III of the **Environment Code** deals with the public participation to the decision-making, through public surveys for instance (Art. L.123-1-A and following). Those two chapters are particularly interesting for the protection of corals, because **environmental impact assessments are a means of implementation of the precaution and prevention principles, and the public participation let the NGOs and other experts intervene in the process and allow for a science-based decision-making** and multidisciplinary dialogue.

Art. L.219-7 of the Environment Code states that the marine environment is part of the "*common heritage of the nation*", and that its protection, conservation of its biodiversity and sustainable use by maritime and coastal activities are of great importance. The objectives are to avoid the deterioration of the marine environment where appropriate and promote the restoration of marine ecosystems, prevent and reduce pollution in order to preserve marine biodiversity, human health of other legitimate uses of the sea, and finally to implement an 'ecosystem approach', based on the resilience of ecosystems and their good ecological status. The following articles are dealing with the implementation of an "*Action plan for the marine environment*", based on the application of those principles of conservation.



2004 Charter: <https://www.legifrance.gouv.fr>
Environment code: <https://www.legifrance.gouv.fr>

2. CLIMATE CHANGE

Art. L.210-1 1° of the Environment Code provides that *“Water is part of the nation's common heritage. Its protection, enhancement and development and the development of the usable resource, while respecting natural balances, are of general interest”*. In this context, a balanced and sustainable use of the water resource is required, taking into account the necessary adaptations to climate changes (Art. L.211-1).

Art. L.220-1 of the Environment Code and following provide for specific measures about air and atmosphere pollution and fight against climate change.

See also **Art. L.221-1** related to the surveillance of the quality of air and its effects on health and environment. Standards of air quality are elaborated. Those elements were included in the Environment Code by the Law n° 2015-992 of 17 August 2015. Article L.224-1 deals in this frame with the prevention and reduction of atmospheric pollution, and the concept of *“rational use of energy”*.

THOSE REGULATIONS ARE AN APPLICATION OF THE PARIS AGREEMENT OF 2015.



Photo: © Yen Yilee

3. PRODUCTION FROM LIVING RESOURCES

GENERAL REGULATIONS

Art. L.218-81 of the **Environment Code** provide for the possibility to designate “*Areas of ecological protection*”.

Under **Article L334-1**, France has nine categories of marine protected areas, each of which meets its own objectives while being complementary: national parks, regional nature parks, nature reserves, biotope protection areas, Natura 2000 sites, parts of the public maritime domain entrusted to the Conservatoire du littoral, marine natural parks, fisheries conservation areas, national hunting and wildlife reserves with a maritime part. There is, then, an articulation between national, regional and international regulations.

Article L.211-1-1 of the Environment Code and following are notably about the preservation of wetlands and are therefore an application of the RAMSAR Convention (see also Art. L.211-12). They set the standards for the water quality (Art L.211-4).

Art. L.162-3 and **L.162-4** of the Environment Code reiterate the obligation from the operator to take **at its own expense prevention measures in order to avoid, limit or repair the effects of environmental damage**, and inform the authorities in case of damage.

Art. 162-9 provides that measures to repair damage to waters and species and habitats are intended to restore the natural resources and their ecological services to their original state and to eliminate any risk of serious damage to human health. Moreover, it adds that the “initial state” refers to the state of natural resources and ecological services *at the time of the damage*, which would have existed if the environmental damage had not occurred, “estimated using the best available information”. This article states that if the “primary” reparation, which is the return to the initial state or to a state approaching it, is not possible, compensation measures must be implemented, possibly in another site, according to the needs of the concerned populations.

Articles L.163-1 of the **Environment Code** and following are dedicated to this new principle of compensation and the modalities of its application. The idea is to “*compensate, in accordance with their ecological equivalence, for expected or foreseeable damage to biodiversity caused by the execution of a works or structure project [...]. Measures to compensate for biodiversity damage aim to avoid any net loss or even gain in biodiversity. They must be translated into an obligation of results and must be effective throughout*

the duration of the violations. They cannot replace avoidance and reduction measures. If project-related damage cannot be avoided, reduced or compensated satisfactorily, the project is not authorised as it stands”.

Control and sanctions are dealt with in Art; L 170-1 and following, and include penal sanctions.

Moreover, the Rural and maritime fisheries Code deals in its Livre IV with maritime fisheries and aquaculture, and is also applicable to corals. According to this Code, maritime fisheries activities are submitted to the Environment Code and its dispositions on protection of marine flora and fauna and of threatened habitats (Art. L.921-10).

Moreover, fishing activities are to be conducted under an authorisation, which is a way to control it, and some restrictions on commercialisation are provided.

Article L.924-1 and following set the possibility to create fishery conservation zones, that are a maritime space representing a particular interest for the reproduction, growth or food of a fishery resource that need protection or restoration.

An Action Plan for the protection of coral reefs has been developed: Article 113 of the Law of 8 August 2016 on the reconquest of biodiversity: “*To halt the loss of biodiversity overseas and preserve its role in promoting the adaptation of territories to climate change, the State sets itself objectives, with the support of its public institutions under supervision and in consultation with the local authorities concerned: 1° To develop and implement a territorialized action programme to protect 55,000 hectares of mangroves by 2020; 2° To develop, within the framework of the French Coral Reef Initiative and on the basis of a health status assessment of coral reefs and associated ecosystems conducted every five years, an action plan to help protect 75% of coral reefs in French overseas territories by 2021. Within the framework of this action plan, the State has set itself the objective of prohibiting, in areas under French sovereignty or jurisdiction, dredging operations on the seabed in which coral reefs are present, with the exception of dredging operations which aim to ensure the continuity of the territory through maritime flows. In addition, seabed dredging operations aimed at ensuring the continuity of the territory through maritime flows must avoid as much as possible the destruction of coral reefs; 3° To experiment with the establishment of a network of protected areas based on the Natura 2000 network*”.

Photo: © Jayne Jenkins

A **Biodiversity Plan** has also been developed by the interministerial Committee on biodiversity, on 4 July 2018. Action 37 of this Plan is particularly important and states: *"Thanks to the action of the overseas collectivities, we aim to protect 100% of French coral reefs at sea by 2025, with an intermediate target of 75% by 2021. In particular, we will support and accompany the deployment of the **Coral Sea Natural Park**, led by the Government of New Caledonia"*.

SOME CASE-BY-CASE REGULATIONS REGARDING THE PROTECTION OF CORALS

The Préfet of Corsica adopted an **arrêté (n° 2015110-0002)**, on 20 April 2015, on the regulation of red coral fishery in the French territorial sea near Corsica. The fishing of red coral is only authorised if diving with the help of scuba gear, for professional and authorised fishermen. Only ten authorizations are to be accorded per year. The Coral Commission of Corsica is to advise this process.

Another example is to be found in Mayotte, **arrêté n° 481** of 4 December 1980, prohibiting the harvesting of certain species of corals in the island.

A **Ministerial ordonnance** adopted on 25th April 2017 sets the list of 16 protected coral species in the West Indies. For this species, the **mutilation, destruction, removal of specimens from the wild are prohibited** in Guadeloupe, Martinique and Saint-Martin, and in marine waters under sovereignty and under French jurisdiction, at all times. Mutilation is defined as actions that cause clogging, choking, abrasion, fracturing or fragmentation, necrosis, bleaching of specimens. The **transportation, hawking, commercial or non-commercial use, possession, offering for sale, sale or purchase of specimens taken from the natural environment of the territories mentioned in 1 Are also prohibited** throughout the national territory and at all times.



The species concerned are the following: *Acropora cervicornis* (Corne de cerf), *Acropora palmata* (Corne d'élan), *Acropora prolifera* (Corne de cerf diffuse), *Orbicella annularis* (Corail étoile massif), *Orbicella faveolata* (Corail étoile massif), *Orbicella franksi* (Corail étoile en bloc), *Agaricia grahamae* (Agarice de Graham), *Agaricia lamarcki* (Agarice de Lamarck), *Agaricia undata*, *Cladocora arbuscula* (Corail arbuscule), *Dendrogyra cylindrus* - *Dendrogyra cylindricus* (Corail cierge), *Mycetophyllia aliciae* (Corail cactus rugueux), *Mycetophyllia danaana* (Corail cactus à crêtes basses), *Mycetophyllia ferox* (Corail cactus rugueux), *Mycetophyllia lamarckiana* (Corail cactus ride), *Oculina diffusa* - *Madrepora virginea* (Oculine diffuse).

Arrêté 28 June 2018 regulating the pursuit of sea fishing in the waters of the Department of Mayotte: prohibit the harvest, destruction, buying and export of the corals listed and also regulates activities in certain areas.

Arrêté (n° 2015110-0002), <http://www.corse-du-sud.gouv.fr>
Arrêté n° 481, <http://www.dm.sud-ocean-indien.developpement-durable.gouv.fr>
Ministerial ordonnance, <https://www.legifrance.gouv.fr>
Arrêté 28 June 2018, <http://www.mayotte.gouv.fr>

4. GENERATION OF LAND-BASED SOURCES OF POLLUTION

Art. 210-1 1° of the Environment Code deals especially with the conservation of aquatic ecosystems and pollution; according to art. L.211-1-I 2° *“The protection of waters and the fight against any pollution by discharges, direct or indirect deposits of materials of any kind and more generally by any fact likely to cause or increase the degradation of waters by modifying their physical, chemical, biological or bacteriological characteristics, whether surface waters, groundwater or seawater within the limits of territorial waters”*. **Water quality and preservation of the aquatic ecosystems** are also at the centre of this disposition.

Article L.213-10-1 sets the fees and sanctions related to land-based pollution of domestic and non-domestic water.

An environmental authorization regime is provided for the *“installations, works, works and activities likely to have an impact on water and aquatic environments”*. If there is any major risk or threat on the environment and more precisely on protected areas, the environmental permit may be revoked or amended (Art. L.181-22).

Art. L.160 of the Environment Code consecrates the polluter pays principle, and affirms that damages caused to the environment by an operator's activity must be prevented or repaired *“at a reasonable cost to society”*. The following Article, L.161-1, defines the notion of environmental damage as the *“measurable direct or indirect environmental damage which [...] 2. Seriously affect the ecological, chemical or quantitative status or ecological potential of waters, including those of the exclusive economic zone, the territorial sea and French inland waters [...]”*. It recalls the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (*Official Journal L 206, 22/07/1992 P. 0007 – 0050*), which lists a series of species and habitats whose conservation requires the designation of **special areas of conservation**. This list includes the *Corallium rubrum*. The reparation of damage to the environment or biodiversity is repairable if a causal link can be demonstrated between the damage and the activity that caused it.

As far as plastic pollution is concerned, the law on the energy transition towards green growth (July 22, 2015) outlawed single-use plastic bags as of July 1st, 2016. This law also prohibits the sale and distribution of plastic disposable cups, glasses and plates on January 1st, 2020. The aim is to reduce pollution because plastic

takes decades to disappear in nature and is often associated with toxic products. This law is specified by two decrees:

- Decree of 30 March 2016 (n° 2016-379) on the implementation of the **limitation of single-use plastic bags**,
- Decree of 30 August 2016 on the details of the conditions of the prohibition.

The Law on the reconquest of biodiversity, nature and landscapes (Law n° 2016-1087 of August 8, 2016), as transposed in **Article L.541-10-5 of the Environment Code prohibits the sale on the market of wadded sticks for household use whose plastic stem is called “cotton swabs”** as of January 1st, 2020. This law is specified by the Decree of March 6, 2017 (No. 2017-291) relating to the conditions for the implementation of the ban on the placing on the market of rinsed cosmetic products for the use of exfoliation or cleaning comprising solid plastic particles and wadded sticks for domestic use whose stem is plastic.

Moreover, according to **Article L.541-10-5 of the Environment Code**, is prohibited:

- the marketing of plastic swabs from January 1st, 2020;
- the marketing of cosmetic products rinsed with cleaning or exfoliation containing plastic microbeads as from January 1st, 2018 at the latest.
- the sell or provision of **single-use plastic** disposable cups, glasses and kitchen plates for the table, straws, cutlery, steak pikes, disposable glass covers, meal trays, ice pots, salad bowls, mixing boxes and sticks for drinks (January 2020 at the latest), except if they are compostable.
- the use of **food containers for cooking, reheating and plastic service** in the collective catering services of schools and universities (2025 at the latest),
- the use of **plastic still water bottles in school catering services**. This paragraph shall not apply to services located in territories not served by a drinking water network or where a restriction on water intended for human consumption for food uses is imposed by the State representative in the department (2020 at the latest).

Finally, the regulation on POPs is to be found at the European level. **Regulation EC n° 850/2004 (or "POP Regulation")** is the instrument implementing international agreements on POPs (the Stockholm Convention of 2001 and the Aarhus Protocol of 1998), which takes different forms depending on the

substances listed in the annexes to the Regulation. When a new substance is listed in the Stockholm Convention or the Aarhus Protocol, the European Commission shall amend the Annexes to the Regulation accordingly.



Photo: © Tracy Jennings

5. EXTRACTION OF NON-LIVING RESOURCES

Art. L.218-32 of the **Environment Code** and the following deal with the **"Pollution due to exploration or exploitation operations on the seabed or subsoil"**. According to Art. 218-32, *"the discharge into the sea of oil or mixtures of oil likely to harm public health, marine life and flora and the economic and tourism development of coastal regions shall be prohibited. [...] No exploitation operation may be undertaken until a biological and ecological state of the marine environment in the area covered by the exploitation title has been established at the expense of the holder of the exploitation title. This status must be renewed at least once a year during the period of validity of the operating permit"*.

See also on this issue **Art. L.161-1** of the **Mining Code**.

The Mining Code provides, moreover, for **Article L.111-6** and following according to which the exploration and exploitation of coal and all liquid or gaseous hydrocarbons, whatever the technique used, with the exception of mine gas is progressively stopped, notably at sea, in the EEZ and continental shelf. This is a real moratorium mineral activities at sea, but not for the mining activities that already started.

This is an application of UNCLOS, and Art. L.111-6 even goes further by creating a moratorium on research and exploitation of mineral resources at sea.

Article L.111-6 and following, <https://www.legifrance.gouv.fr>

6. PRODUCTION OF ENERGY

Article L.224-1 of the Environment Code deals with the prevention and reduction of atmospheric pollution, and the concept of *“rational use of energy”*.

The **Code of Energy** provides the regulation of the production of renewable energy, Art. L.311 and following and Art. L.212-2 explaining that renewable energy sources include wind, solar, geothermal, aerothermal, hydrothermal, marine and hydropower, as well as energy from biomass, landfill gas, sewage treatment plant gas and biogas. This includes the marine renewable energy



Photo: © The Ocean Agency

7. PHYSICAL RESTRUCTURING OF THE COASTLINE, RIVERS OR SEABED

Art. L.219-1 of the Environment Code deals with the concept of integrated management of coastal areas.

The **law on the development, protection and enhancement of the coastline**, known as the **littoral Law**, aims to regulate the development of the coast to protect it from the excesses of real estate speculation and to allow free public access on the coastal paths. It was adopted on 3 January 1986 (Law n° 86-2) and is therefore important in the context of the protection of oceans, coastlines and corals.

Moreover, **Art. 113-1 of the Law n° 2016-1087** of August 8 2016 for the reconquest of biodiversity, nature and landscapes plans *“To develop and implement a territorialized action programme to protect 55,000 hectares of mangroves by 2020”*.

Art. 113-2 provides also *“To develop, within the framework of the French Coral Reef Initiative and on the basis of a five-year review of the health of coral reefs and associated ecosystems, an action plan to help protect 75% of coral reefs in French overseas territories by 2021. Within the framework of this action plan, the State has set itself the objective of prohibiting, in areas under French sovereignty or jurisdiction, dredging operations on the seabed in which coral reefs are present, with the exception of dredging operations which aim to ensure the continuity of the territory through maritime flows. In addition, seabed dredging operations aimed at ensuring the continuity of the territory through maritime flows must avoid the destruction of coral reefs as much as possible”*. This element is provided for by law but not yet implemented (the modalities of the reef plan remain to be defined).

8. TRANSPORT

Art. L.218-1 of the **Environment Code** and following are a direct **implementation of the MARPOL Convention**, and deal with the pollution from ships and the corresponding incriminations and penalties.

Art. L.218-82 and following: implementation of the **Ballast Water Convention**: control and management of ballast waters and sediments *"Vessels entering or navigating in waters under French sovereignty or jurisdiction shall be required to: either to renew the ballast water or to manage the ballast water and sediments using on-board equipment approved by the competent authority, under conditions defined by regulation; or to certify that the characteristics of the vessel and the conditions of the stopover will not lead them to unpack in waters under French sovereignty or jurisdiction"*.

Art. L.218-42 of the **Environment Code** and following are an implementation of the **London Convention and Protocol** on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972.

Art. L.218-59 of the **Environment Code** and following are dealing with pollution by incineration.

Art. L.218-72 of the **Environment Code** application of the **1969 Brussels Convention** or UNCLoS art 221 police maritime urgency measures.

Art. L.218-73 of the **Environment Code** about other **harmful discharges at sea** or in salt water, which is punished by a fee of 22 500 euros.

Article L.5241-1 and following **Code of Transports** are consecrated to maritime navigation and prevention of pollution. Article L5241-9: Renvoi au code de l'environnement pour les questions liées à la pollution.

Article L.5241-4-3 deals with **port State control** and is an implementation of FAO Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing.

Article L.5242-7 provides for penal sanctions linked to the **transport of dangerous substances and cargoes**, according to the SOLAS Convention.

Photo: © Mike Markovina



OTHER INITIATIVES AND GOOD PRACTICES FOR THE PROTECTION OF CORALS

AT THE PUBLIC AND INSTITUTIONAL LEVEL, SEVERAL SPECIFIC AGENCIES OR STRUCTURES HAVE BEEN CREATED

The **Agence française de l'environnement et de la maîtrise de l'énergie** ;

The **Office français de la biodiversité** (before the Law n° 2019-773 of 24 July 2019 on the creation of the Office français de la biodiversité, it was the Agence française pour la biodiversité), whose objectives as regards the marine environment are the following: to strengthen the public policies of creation and management of marine protected areas; to animate and support the network of managers of MPAs; to know and follow up the French maritime areas and MPAs; and to reinforce the French presence at sea. The Agency is working on the development of the different categories of marine protected areas (including the Natura 2000 protected areas designated in the context of the European Union), and provides for elements on the conciliation of those areas with other activities, depending on their degree of protection, the information of the public, etc. (see the website of the Agency: <http://www.aires-marines.fr/>). The Office published a very complete study dealing with the spatial protection of coral reefs, containing scientific, geographic and legal and policy information and data, including a list of marine protected areas in the overseas territories (Martinique, Guadeloupe, Saint Martin, Saint Barthélemy, la Réunion, Mayotte, but also the Éparses Islands and Glorieuses (<http://www.forum-aires-marines.fr>).

The **Observatoire national de la biodiversité** centralizes the biodiversity indicators in France, including on coral reefs, and provides for the health and decline or coral reefs in the French overseas territories (<http://indicateurs-biodiversite.naturefrance.fr>).

Art. L 213-20-1 of the Environment Code creates a **National Committee of the French initiative for coral reefs (IFRECOR)** (Decree published at the JORF n ° 159 of July 11, 2000). It is the national version of the International Coral Reef Initiative (ICRI). IFRECOR aims to promote an active policy, at national, regional and local levels, favourable to the protection and sustainable management of coral reefs within the framework of the sustainable development of the overseas communities concerned: Guadeloupe, Martinique, St. Martin, St. Barthelemy, Mayotte, Reunion, the Scattered Islands of French Southern and Antarctic Lands, New Caledonia, French Polynesia and Wallis and Futuna. It is placed with the ministers in charge of the environment and overseas under the recent Law regarding the reconquest of biodiversity, nature and landscape

THE IFRECOR, THROUGH ITS PUBLICATIONS, CONTRIBUTES SIGNIFICANTLY TO THE NECESSARY KNOWLEDGE PERMITTING THE PROTECTION OF CORALS

The IFRECOR published a "State of coral reefs in the French overseas departments" in 2015: Jean-Pascal QUOD, Guillaume MALFAIT, et Secrétariat national de l'IFRECOR, "Etat des récifs coralliens et des écosystèmes associés des outre-mer français en 2015," Documentation Ifrecor, consulté le 27 février 2019, <http://ifrecor-doc.fr>. This document is of great importance as regards the specific protection of corals in France and the adaptation to each region.

Another publication of the IFRECOR deals with the economic value of corals (ecosystemic services)

in Guadeloupe, and is available online: "Valeur économique des écosystèmes coralliens", 2015, <http://ifrecor-doc.fr>

On 20 June 2018, additionally, a conference was organized on the question of "Coral reefs: solutions for today and tomorrow" at the Maison des Océans in Paris. The policy brief of the conference is available online: <http://www.fondationbiodiversite.fr>

MOREOVER, THE PRIVATE INITIATIVES ARE ALSO VERY INTERESTING

Some NGOs are currently working on the conservation of corals, as for instance the association "Coral Guardians", and the WWF.

The former developed a program of coral's adoption, in order to preserve but also raise awareness, develop research programs to understand and value coral ecosystems, especially for the local communities.

The latter, the **WWF**, is also promoting a policy on coral conservation since the 1970s. It promotes the creation of new marine protected areas, fights illegal fishing methods and climate change.

Another NGO is also worth mentioning: **Ekosea**, in French Polynesia, which help, by the means of a fund rising, the creation of new reefs, cutting-off, and also system of "adoption of corals".

The **WIOMSA** (Western Indian Ocean Science Association) is a private consortium of researchers dedicated to promoting the educational, scientific and technological development of all aspects of marine sciences in the Western Indian Ocean region.

UNESCO WORLD HERITAGE SITES

New Caledonia: coral reefs and lagoons, protected since 2008:
<http://archive.wikiwix.com>

Marquise Islands: cultural and natural heritage, is a candidate for the World Heritage list since 2010 and its demand is in progress.
<http://archive.wikiwix.com>

**SUMMARY OF LEGISLATIVE
AND REGULATORY MECHANISMS
FOR THE PROTECTION OF CORAL REEFS
AND ASSOCIATED ECOSYSTEMS**

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