For the durable development of the Breton coastal region:
The Brittany coast charter
Brittany has a special relationship with the sea. From this relationship, it draws all the characteristics that it is known and recognized for in the domains of its economy, culture, identity and even its ecology. The history and development of Brittany are thus intimately connected to the dynamics and events that govern the marine and coastal environment and, more generally, to the status and availability of maritime and coastal resources and areas.

Rightly presented and recognized as a model for the preservation of its coast, Brittany is aware of the threats that menace it. This awareness is a new and important situation. Because they did not recognize this movement in time, today other regions can only assess the damage.

The Region intends to give everybody the opportunity to commit to the future of the Brittany coastal region.

This is the ambition of the Brittany Coast charter. This charter must be not only the opportunity to define, with all Bretons, a common vision for the future of the Brittany coastal region and to develop a strategy to implement it but also to become aware of all the maritime dimensions and capabilities of Brittany. We must seize the opportunity presented by the charter to commonly define and elaborate a future for the coastal region, a future bringing ambitions that are chosen rather than inflicted.

The charter is a commitment and a reference document defining a project for the future of the Brittany coastal region broken down into seven challenges to be met. It offers the principles that must govern the actions of everyone on the coast and the necessary actions to bring the charter to life. Finally, it offers, by way of key projects, several working axes around which the durable development of the Brittany coastal region can start becoming a reality. Ten key projects have been identified during the preparation of this charter. They are not exhaustive and make up the first working basis for communal work by the actors in the Brittany coastal zone.

This document is not an end, but the beginning of a mobilization and a collaboration to promote durable management of the Brittany coastal zone. This charter belongs to the Bretons: it is not just up to you, but to all of us to create a project for the future, a reference document for the durable development of the Brittany coast region and for a strategic, effective and coherent mobilization of energies, means and competencies.

Acting in unison for the Brittany coast region is a necessity if we want its proximity to the ocean to remain an asset for the Region and a unifying force for all Bretons.

Jean-Yves LE DRIAN
President of the Brittany regional council
A SHARED AMBITION FOR THE FUTURE OF THE BRITTANY COAST REGION

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A shared ambition for the future of the Brittany coast
Brittany has a special relationship with the sea. From this relationship, it draws all the characteristics that it is known and recognized for in the domains of its economy, culture, identity and even its ecology. The history and development of Brittany are thus intimately connected to the dynamics and events that govern the marine and coastal environment and, more generally, to the status and availability of maritime and coastal resources and areas.

The coastal region shows this intimacy between the land and the ocean. The diversity, richness and characteristics born of this meeting make the coast region a separate and unique entity. More than a simple strip between the ocean and the land, it is a space made up of maritime and land territories which certainly share the same challenge but are unique in their richness and specialties.

The coast region is, for Brittany, an opportunity and a responsibility. An opportunity because the coast is a powerful attraction for people and for activities and because it represents an undeniable asset for the maritime territories in terms of still insufficiently explored potentials for scientific, economic and cultural development linked to the ocean. It’s also an opportunity because it is a quality factor for the people that live, work or pass through there in a context where quality has become an essential criteria for selecting where to live.

The coast region is also a heavy responsibility because of its geographic importance and because of its strong influence on all the regions and economic sectors of Brittany. In effect, the ever increasing pressures create risks to the coast region and may, in the medium to long term, threaten the major asset that it is for Brittany.

Although currently presented and known as a model for the preservation of its coast, Brittany is none the less aware of a rapid degradation in what the Bretons consider a regional heritage and the major asset of their region. Although they have become particularly severe in the last few years, most of the threats are not new; the Brittany coast and islands improvement plan (SALBI) already identified them in its own time. What is new is the collective awareness of the need to act to remove certain negative aspects of the current dynamics and develop alternatives to the future that is developing and which is not in agreement with the aspirations of the Bretons.

Solutions must be created. They are to be sought in the definition of a project for the future of the coastal region, a project in the service of which the numerous management tools in existence can be applied. This is the ambition of the Brittany Coast charter based on the founding principle of a long, multi-form consultation with all the actors of the coastal region. The Brittany Coast charter must not only be the opportunity to define, with all Bretons, a common vision for the future of the Brittany coastal region and to develop a strategy to implement it but also to become aware of all the maritime dimensions and capabilities of Brittany. If we want its proximity to the ocean to remain an asset for the durable development of the region and the well-being of the population, we must seize the opportunity of the charter to jointly define and elaborate a future for the coastal region: a future bringing ambitions that are chosen rather than inflicted.
A shared project for the Brittany coast region

Why has the Region undertaken this initiative?

This charter project is a voluntary initiative of the Region. The Region wants to be involved because it has a direct responsibility related to the geographical relevance of its territory, the strength of its maritime identity and the needs of the actors and inhabitants. This project is entirely in line with the twin desires of the Region to consolidate the maritime dimension of Brittany and to base its development on durability.

If everybody, individual or private or public agent, has the responsibility to act at their own level to preserve and best valorise the Brittany coast region, only a communal action, in the collective interest of Brittany and synergizing the efforts and means of all the actors, can truly implement a durable development of the Brittany coast area.

In the interests of Brittany, and desiring to promote a model of durable development for the coastal region, the Region wishes to fully shoulder its responsibilities by initiating and organizing the preparation of a collective vision for the future of the Brittany coast area defining the directions to take and the actions to be carried out. Although the Region has taken this initiative, it does not intend to carry it out alone. Certainly, engaged in strategic approaches such as the regional strategy for economic development, the multi-modal transport plan, the tourism plan, the implementation of a public financial agency and numerous other activities connected to the ocean and the coast, the Region can have significant leverage.

Why a charter? Who will be the signatories?

A charter can be defined as a common act of commitment for the preparation and implementation of a shared project. Without regulatory force, it nevertheless fixes the objectives to be reached, the directions to be taken and the type of actions to be taken to implement them.

The Brittany coast area charter must bring Brittany a long-term and strict vision of the coastal area. It also wishes to fully shoulder its responsibilities by initiating and organizing the preparation of a collective vision for the future of the Brittany coast area defining the directions to take and the actions to be carried out. Although the Region has taken this initiative, it does not intend to carry it out alone. Certainly, engaged in strategic approaches such as the regional strategy for economic development, the multi-modal transport plan, the tourism plan, the implementation of a public financial agency and numerous other activities connected to the ocean and the coast, the Region can have significant leverage.

But neither the Region, or any other actor, cannot be solely responsible for the durable development of the Brittany coast area: over and above the need for collective action, it is probable that the actions envisaged by the charter will combine several tools, at different scales and in different domains, such that no single actor will have all the necessary skills and means.

Without questioning the abilities and responsibilities of everybody, it is necessary to play the cards of complementarity between the actors and coherence between the actions to develop new ways to act. While, up until now, the wide diversity of actors has been seen as an obstacle to good management of the coastal area, we now have to make this diversity an asset in terms of knowledge, abilities and know-how.

By this initiative, the Region wishes to make Brittany an exemplary region in the domain of integrated management of the coastal area. It also wishes to contribute directly to the implementation of an ambitious policy at the national and European levels in this domain.

How was this Brittany Coast charter prepared?

The "coastal charter" project emerged during the preparation of the Regional development plan, Brittany 2015. During the various phases of consultation carried out at this time, the regional Council took the measure of the expectations of the actors with respect to the maritime dimension of Brittany.

The publications by the regional economic and social Council (CESR), in 2004, of a report entitled "For a collective management of the Brittany coast" marked, at the time, the urgency of the challenges, the emergence of genuine thought about the subject and the multiplication of local initiatives and projects.

In association, the regional council and the CESR organized, on the 28th of October 2004, a forum devoted to the management of coastal spaces which, in front of a large audience, demonstrated the expectations of the actors for a stronger presence of the public authorities, a better coordination of actions and a public awareness campaign.

This meeting also confirmed the interest, for Brittany, of preparing a collective approach in the domain of the coastal areas, resting on the recognition of shared principles. Thus, at that time, the Brittany regional council proposed, to its partners and all the Breton actors, the adoption of "coastal areas charter".

The call for projects launched at the start of 2005 by DATAR on the integrated management of the coastal region accelerated the implementation of this project. Selected from 24 candidates, the Breton coast area project was emphasized by the State as an example of what could perform the role of a regional level in response, although there is a convergence of integrated management of the coastal region in France.

The preparation of the Brittany coast area charter was based on the founding principle of a long multi-form consultation with all of the actors in the coastal area. During a first phase, devoted to shared work with the local actors, four participative forums were carried out in the four departments of Brittany. They brought together, between November 2006 and January 2007, more than 450 people for the sharing of experiences, identification of needs and challenges for the coastal area and the proposition of courses of action and implementation means. In parallel with these forums, a questionnaire was sent to all of the actors in the Brittany coast area and put online on the Region web site. It was used to better understand the concerns and preferences of the actors in the Brittany coast area. The participatory forums and questionnaire were completed by an opinion poll carried out by a research company using a panel of 800 people representative of the Brittany population to find out what perception the Bretons had of the ocean, the coast area and the challenges related to this particular area. All of the information collected during this shared work was used to prepare the Brittany coast area charter project which was presented to all Bretons during a second phase of consultation that took place from July to October 2007. In this way, everybody was given the chance to react, give their opinion or offer contributions to the project via post, e-mail or directly on the Region web site dedicated to the preparation of the Brittany coast area charter. All of the contributions received were used to amend the final version of the Brittany coast area charter.

The Region council was the first to sign it in December 2007.
The development of a dynamic and durable maritime economy is a necessity for Brittany. It must be based on innovation for a better development of marine and coastal resources, adjacent to the capacity of the ecosystems and areas and contribute to the improvement in employment quality on the coast. The entire challenge consists of arriving at a balance between the already existing maritime, port and coastal activities, the development of tourism and sailing and the development of new maritime economic activities.

The coast region already has a very significant number of activities making use of its richness and its spaces. Although, at the individual level, these activities may seem minimal, when scaled up to an area or all participants, the situation is quite the opposite. Regardless of their type or location, these activities are effectively inter-linked by their common use of the coast area. They have the immediate effect of increasing the human pressure on the natural environment, with not only the risk of irreversibly degrading it but also of creating a worse and worse problem of cohabitation because of limited and non-expansible resources and spaces. This rivalry often occurs to the detriment of the natural environment and the traditional sectors with very significant consequences for the social and economic environment at the local level. In any case, the coast cannot continue to welcome new activities indefinitely, whatever their nature. If we want the Brittany coast area to remain a workplace creating wealth and stable employment, a place offering a good quality of life and a reservoir of biodiversity, then choices will have to be made and some activities will have to be privileged.

The choices must be made in terms of the capacity of the natural environment, the necessity or otherwise of direct access to the coast, the effects and repercussions of these activities on the areas and their socio-economic dynamics, particularly in terms of jobs and working conditions. If these choices are not made, the problems will get worse with the risk of seeing the coast even more degraded and no longer able to support the number of jobs that we want to promote in the future on the Brittany coast.

Traditional maritime activities and new maritime economies must be the supporting pillars of the maritime area economies. The first have an unquestionable role for the coastal areas and the second represent high added value. But you cannot ignore tourist activities that today make up the major economic sector on the coast. So that, in the future, this sector can keep all of its attraction and contribute more to local development, it must be made more durable.

Promote a dynamic, innovative and diversified maritime and coastal economy

Maritime employment in Brittany represents 50,000 jobs. But, taking all employment into account, salaried or otherwise, for all activities making use of the sea represents 150,000 jobs in Brittany i.e. about 10% of Brittany’s employment for a global turnover estimated to be 17 trillion million euros.

As well as the global turnover, the maritime and coastal activities play a dominant role in the structure and dynamics of the areas that house them. By the landscape that they have shaped over decades, the types of development they have supported and the practices and know-how that they have introduced, they are very often the origin of the “maritime atmosphere” from which a large number of people and activities benefit.

However, these maritime, port and coastal activities have diminished over the last few decades, weakening the territories they were firmly implanted in. Between 1988 and 1999, the number of sailors decreased by 47%. This phenomenon continues to this day with an average annual reduction in the number of sailors/fishermen of 2-3%.

Over the last 10 years, the naval construction and repair sector has lost more than a third of its employees. With 5% of the goods exchanged in Brittany in 2005, the commercial ports have stagnated in terms of the volumes handled. The coastal agriculture has not been spared: in France

access and proximity to the ocean are their reason to exist: (if that is not guaranteed, certain traditional maritime and coastal activities could disappear.)

Full development of the maritime assets of Brittany by developing a diversified economy that is anchored in innovation and durable development

The first have an unquestionable role for the Brittany activities and for the Brittany coastal area.

- Fully develop the maritime assets of Brittany by developing a diversified economy that is anchored in innovation and durable development.
- Control urbanization and favour social diversity on the coast.
- Preserve the natural heritage and maintain the ecological potential of the Brittany coast areas.
- Restore the quality of the coastal waters and reduce pollution on the coast.
- Preserve and develop the maritime cultural heritage.
- Anticipate and adapt to the effects of climatic change on the coast area.
- Preserve the social, ecological and economic potential of the Brittany islands.

Each of these challenges is detailed in the following pages in order to evaluate their importance and identify the directions to be taken.
Durable development of coastal tourism and nautical activities

Tourist and leisure activities are without doubt the activities that have been most developed in the recent decades, having become the leading activity sector on the Brittany coast. The studies carried out on tourist visits by the regional tourism council in Brittany have revealed that the coast and activities connected to the ocean represent the main reason for stays in Brittany. The activities most practised are, in order of importance, walking, the beach, relaxation, visits to natural and cultural sites and gastronomy.

Coastal tourism and sailing in Brittany

- Touristic consumption represents nearly 8% of the region's domestic product, generating the equivalent of about 20,000 full-time jobs (5.2% of the region's salaried employment in 2001).
- With 300 million overnight stays per year, Brittany is in fourth place amongst the French tourist regions.
- Of 9 million tourists, 5.8 stayed in a coastal community. This represents 68 million overnight stays.
- Brittany has 642 sailing clubs for 438,000 enthusiasts who are members and 400,000 who are not. In terms of employment this represents the equivalent of 1,728 full time jobs with an annual turnover of 77.5 million euros (2004).
- Brittany also has the largest sailing league with more than 70,000 full-time members and 10,000 seasonal members. The annual growth rate of the sailing sector is on the order of 3%.

Source: Regional observatory of tourism in Brittany

Amongst the most-visited sites in Brittany, those that are directly connected to the ocean or that are located on the coast occupy the top places: Océanopolis at Brest with nearly 455,500 visitors, the Aquarium of Saint-Malo with nearly 373,800 visitors.

The natural sites also attract a significant number of visitors: about 1 million for the Pointe du Raz, 1.5 million for Cap Fréhel and 1.2 million for the Pointe du Grouin. More than 200 festivals related to the ocean occur on the Brittany coast each year. The maritime festivals strongly contribute to the regional touristic offering. Britanny also has about ten thalassotherapy centres.

Maritime and coastal activities

- Commercial fishing employs 6,200 fishermen, i.e. more than 30% of fishing jobs in France (2005). Brittany is the number one region in France for fishing with more than 43% of the catch in mainland France by volume and 43% by value of sales. It also represents 90% of the country's production of seafood. Brittany has 1,500 fishing boats of which 80% are registered for inshore or coastal fishing. Wholesale and processing employs 6,200 people in 180 businesses with an annual turnover of 1.7 thousand million Euros (2004). Globally, the aquaculture products network represents nearly 15,000 jobs shared amongst 2,500 businesses with an annual turnover of 2.3 thousand million Euros.
- Shellfish farming represents more than 2,400 jobs across 350 businesses with an annual turnover of 150 million Euros (2004). More than 45% of the area of shellfish farms in France is in Brittany. Fish farming employs 200 people in 55 businesses with an annual turnover of 22 million Euros (2002).
- Maritime transport and port activities represent about 4,500 jobs with 8.7 million tonnes of merchandise transported in Brittany’s 16 commercial ports (2004). The biggest ports in terms of traffic are (in millions of tonnes of freight, 2005 figures): Lorient (2.7 million), Brest (2.46 million), Saint-Malo (1.86 million), Roscoff (0.63 million) and Saint-Brieuc (0.34 million). With the exception of Saint-Malo, the traffic remained steady in 2005 and even increased for some. Merchandise unloaded represents 82% of the traffic for the Brittany ports. The transport of passengers amounts to more than a million passengers to Great Britain and Ireland from Saint-Malo and Roscoff and 2.4 million to the Channel Islands (2004).
- Naval construction and repair make up the 4th biggest industrial sector in Brittany in terms of jobs, after agriculture, electronics, communication technologies and the automobile industry. In 2006, with 12,200 employees, the network accounts for 4% of Brittany’s industrial employment. 80% of these jobs are concentrated in ten establishments, whereas the construction and repair of military ships accounts for 70% of employees. Brest and Lorient account for 56% of the employment in this sector. Sub-contracting plays an important role in this sector where more than half the companies have less than 5 employees.
- The nautical industry employs about 1,200 people i.e. 9% of the employment in the naval construction and repair sector, shared amongst more than 320 companies with a turnover in 2006 representing 9% of the total in the naval construction and repair sector. This sector is growing.
- The extractive and transport of marine ballasts represents 20% of the global activity of the Brittany ports. Faced with increasing demand, especially from the construction sector and the increasing rarity of ballasts of terrestrial origin, there is a strong demand for ballasts extracted from the ocean.
- Coastal agriculture may also be associated with these maritime activities in so much as it has, in contact with the ocean, developed original production making use of the special conditions and the microclimate created by the presence of the ocean: market gardening, early produce, salt meadow livestock farming etc.

Sources:
The importance of tourism for the coast is well known but, in Brittany the coast is also important for tourism. Nautical activities, taken together (sea kayaking, diving, surfing, sailing etc.) have both benefited and contributed to the development of tourism on the Brittany coast, as much in terms of practice as in terms of image. Since the start of the 1990’s, they have undergone a genuine craze and are widely practised by both the local population and by tourists.

The first sailing school was created in Brittany after the Second World War with the Centre des Géneaux. The objective of these pioneers was to make sailing more accessible to the people, thus making the sport available to all. The rapidity with which such initiatives took root throughout the region is due to a number of factors: the climate, the winds and tides, the landscape, and finally the very initiatives themselves, which have not stopped making sailing more accessible to all, from the schools to the ports.

The Brittany coast region has significant infrastructures in terms of ports to promote sailing. In 1997, which places the region in a different situation in that it has significant development and technological opportunities. To have these potentials transformed into jobs, it is necessary to place a special emphasis on research and development effort before it can go into production. We must therefore continue the research efforts carried out over several years in various scientific centres that have made Brittany one of European regions the most advanced in this sector. To have these potentials transformed into commercial projects combining technological development and job creation, it is necessary to increase the transfer to the private sector and real-scale experimentation. These development activities must be carried out in collaboration with “Mer Bretagne” competitiveness centre, which must be both the driving force behind the development of new marine technologies and the corridor between the research and economic worlds to ensure that Brittany will always be a source of wealth and well-being.

The year-round opening of sailing centres should be encouraged, particularly for the development of eco-sailing, i.e. in pleasure ports where the capacity of the shipping basins is low and the demand is continually increasing. The management of nautical facilities must favour the boats that sail, reinforce the networking of ports to favour stopovers and, in addition to the development and the necessary of continually increasing the number of moorings in pleasure ports. This question is even more sensitive as significant production areas that house them. This new style of management of the facilities must take into account the capacity of the shipping basins so as not to compromise the well-being of the local populations and not to harm the quality of the resources and natural spaces. This is particularly true for the islands and the preferred destination for boats, they are subjected to these visits without receiving a profit in return.

The Brittany coast region has significant potential for the development of activities defined as new maritime economies. These new activities are, on one hand, biotechnologies that use marine resources for medical or other purposes and, on the other, renewable marine energies using the wind, currents and tides to generate electricity. As well as the fact that these maritime activities use resources within the framework of durable development, they are strong wealth creators for the areas that house them. For Brittany, they represent a new opportunity to be seized to make its proximity to the ocean a genuine asset for its economic development and the well-being of the populations.

The development of marine resources in the medical and pharmaceutical sectors and the raw materials sector requires further research and development effort before it can go into production. We must therefore continue the research efforts carried out over several years in various scientific centres that have made Brittany one of European regions the most advanced in this sector. To have these potentials transformed into commercial projects combining technological development and job creation, it is necessary to increase the transfer to the private sector and real-scale experimentation. These development activities must be carried out in collaboration with “Mer Bretagne” competitiveness centre, which must be both the driving force behind the development of new marine technologies and the corridor between the research and economic worlds to ensure that Brittany will always be a source of wealth and well-being.

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Develop new maritime economies in coastal areas

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The maritime renewable energy sector finds itself in a different situation in that some technologies could now enter into a production phase or demonstration phase but others are still in the experimental or demonstration phases (use of currents and tides). Amongst the most advanced technologies, offshore windmills (windmills
Control urbanization and favour social diversity on the coast

The coastal communities, which represent 18% of the area of Brittany, house 50% of the 3 million inhabitants that currently live in Brittany. Between 1999 and 2003, Brittany gained 25,000 people per year: a large part of these new inhabitants live at the coast, with the consequences that have been felt in terms of urbanisation and pressure on land area.

According to INSEE, the Brittany population will be 3.47 million in 2030 and 3.66 million in 2050. If nothing is done, the coast will not easily withstand this increase in population.

Control the urbanisation and artificial nature of the coastal margin

Urbanisation is a phenomenon that has always existed on the coast but the pressure has increased over the last forty years or so. It is due in part to demographic growth, changes in lifestyle and the evolution towards a leisure society. The population density in the Brittany coastal communities is above 240 inh/km² whereas the average is only 107 inh/km² in the region and 108 inh/km² nationally. Locally, it can reach 400 or even 600 inh/km² and be multiplied by 10 in resorts during the summer. As well as the densification of urban centres, it’s also their extension that causes a problem and the way coastal hamlets are urbanised, creating bit by bit continuous urban margins along the seafront and a pronounced sprawl along the entire Brittany coast. At the national level, since 1990, the coastal communities each year account for 10% of the increase in built-up area even though they only represent 4% of the national area.

The development of housing is accompanied by the construction of access roads, communication networks, energy supply networks and drainage networks as well as all the infrastructure and services required by the population (water treatment plants, commercial zones, health facilities, pleasure ports etc.). These services create more artificial areas and zones. The artificialisation mainly occurs at the expense of natural spaces and farmland, whose regional area continues to diminish. As an example, the number of farms in the communities around the Gulf of Morbihan reduced by 47% between 1998 and 2000. In the same area, since 1990, the population has doubled and the urbanised area has increased by a factor of 8.⁵

According to IFEN, the Brittany coast represents 28.5% of the surface area of the coastal communities was made artificial compared to 4.8% for the country as a whole.

According to DIACT, the population on the French coast will, on average, increase by 5% between now and 2030. If nothing is done, the dispersion dynamic on the coasts will continue.

Control housing pressure and favour social diversity on the coast

Like most of the French coasts, the Brittany coast has experienced a growth in land and property prices over the last few years. The peaks reached in the last few years have had a devastating effect on the coastal areas and population, risking one of the problems is the heart of all Bretons: social diversity on the coast, i.e. access for all to the ocean and coastal spaces.

The question of social diversity amongst the coast population is posed in terms of equity between the various age groups, social classes, permanent residents and holiday-makers and professional and leisure activities.

Over the last ten years, property prices have increased by 11.5% per year for houses and 10% for apartments. This phenomenon has increased even more over the last few years, with the following growth in a single year (2004): +33% at Larmor-Plage, from 20 to 30% at Saint-Briévin, Saint-Malo, and Cancale.⁶ In 2006, the price of property transactions on the north coast of Finistère increased by 12%, which represents an increase of 4% over the last four years.

Taking into account the disconnection between the increase in property prices and the growth of household income we can better understand the selectivity that is taking place for the buyers and the effects on social diversity of the coastal populations. Today, the majority of property transactions are mainly made by new arrivals from the Paris area, having strong purchasing power and aged between 50 and 69. Most of those purchases become secondary homes or are acquired for retirement. Today, more than 200,000 residences (14% of the regions housing) are devoted to holiday homes.

This situation requires a larger and larger part of the active population to move to the inland areas to find housing while continuing to work on the coast, which causes problems related to daily transport. Finally, the expectations of these new arrivals are not always compatible with the activities of local populations which can sometimes be a source of conflict.

Despite this situation, we can still all in Brittany to preserve the attractiveness of our coasts. To do that, we have to give ourselves the means able to curb the trends in progress and to promote other futures than the one being imposed on us. It is not a question of limiting the demographic growth of coastal communities but to slow down the progression of urbanised space, favouring social mixing and guaranteeing the preservation of natural and farm spaces.

According to INSEE, over the last few years the Brittany coast has experienced strong growth in the proportion of secondary residences (more than 5% of the housing built between 1992 and 1996). Thus, in a 20 kilometre band, there are on average 5 secondary residences per km².

At the Brittany level, it is necessary to fix a threshold for coastal urbanisation that cannot be exceeded, with the minimal preservation of a “natural third” to implement at the community level a reference fixing the proportion of space that can be urbanised in the short, medium and long terms. As well as mobilising all public policies and means of action, it is indispensable to promote alternatives to the models of urbanisation that are prevalent today. That happens by the definition of new urbanisation standards reducing the index of living space per inhabitant and the preservation of natural and farm spaces by guaranteeing breaks between built-up areas along the coast and between them and the inland areas. It also equally necessary to promote new forms of habitat and new urbanisation models, particularly alternatives to individual houses, refocusing urban zones, interactions between the coast and inland areas so has decongest the coast by favouring the housing of some activities inland and managing transport by favouring public transport and low-impact forms of transport. For these actions to be effective, they must be taken into account in urbanisation documents and in all territory management tools.

Faced with the increase in housing pressure, secondary homes and the effects produced on population distribution, our tools are not sufficient and we must develop regulatory tools to guarantee social diversity on the coast and favor dynamic territories that privilege permanent residence.

⁵ - Regional natural park project for the Gulf of Morbihan, Syndicat Intercommunal d’Aménagement du golfe du Morbihan.
Preserve the natural heritage and maintain the ecological potential of the Brittany coast areas

The national heritage consists of the natural species and spaces, exploited or not, that are found in the coast area and landscape that makes up our coast. Without a rich and preserved natural heritage, we cannot hope to develop viable activities and offer the population the services vital to their well-being. Its preservation is an indispensable prerequisite for the development of activities and acceptance of the population.

Preserve and develop marine and coastal diversity

The Brittany coast area constitutes an important reservoir for marine and coastal biodiversity. This is mainly explained by the large variety of coastal forms which, combined with climatic conditions, offer a wide range of natural habitats which can house many species.

Amongst the most important natural habitats on the Brittany coast are the cliffs, fields, dunes, wetlands and salt marshes; rocky areas, beaches, mud flats, salt meadows and shoals; islands and reefs, rocky deeps and coral sand banks. The ocean depths harbour essential habitats. Brittany has the largest fields of laminaria and sea grass in Europe. The estuaries, bays and islands beyond the valleys play an essential role in the feeding and reproduction of many species, particularly fish targeted by human activity (fishing, shellfishing, seabirds, etc.). The wetlands are essential to protect the banks against erosion, contribute to the cleaning of the water, and are the place where many leisure activities, such as fishing and hunting, are carried out. All of these habitats make up a mosaic that is essential to the integrity of the Brittany coast.

The natural heritage is more and more threatened by the destruction and aggression it is being subjected to. In 50 years, 65% of coastal wetlands have been destroyed by polderisation, damming or filling in. Littoral habitats are also being subjected to the intensity of the coast. The coast is often done at the expense of these natural habitats and correspondingly reduces the species’ areas of reproduction and feeding. The increase in pollution also threatens the maintenance of these habitats and the species they contain. The multiplication of the usage and activities in the coastal area (fishing, shellfishing, ballasting, extraction, tourism, sailing, maritime transport etc.) is so much pressure that the habitats have difficulty in resisting it which can irreversibly destroy the marine and coastal biodiversity. Invasive species such as the Slipper Limpet can also pose grave dangers for the biocenose in place.

To guarantee the preservation of this natural heritage, it is first indispensable to better know the marine and coastal biodiversity of the Brittany coast. It is equally necessary to preserve the preservation of large-scale spaces, both on the land and in the ocean. For this, we should support the actions of the departments and the coastal conservancy for the preservation of sensitive spaces on the coast. It is also important to restore the most degraded spaces and habitats that are essential for the well-being of the populations and the maintenance of the social and economic potential of the coast. Finally, the development of all the usages and activities must be considered with a concern for saving space, reducing environmental effects and good integration into the areas that house them. Finally, the use of this natural heritage must be made with a concern for making it accessible to the greatest number while taking into account any constraints that may be imposed on visits for the protection of natural habitats or species.

Preserve the natural resources of the coastal zone

Fishing resources (fish, crustaceans, shellfish, seaweed) are exploited by professional fishermen and also by hobby fishermen. To guarantee the permanence of stocks and fishing activities, it is necessary to make their exploitation more durable. The Brittany coast zone houses nearly 50% of French resources of coral sand. Deposits are found along the Côtes d’Armor massif, including 396 species including 130 located on the coast. Of the 37 plant species with a high heritage value, 28 are coastal (Bretagne environnement).

The Brittany coast has nearly 60 species of nesting seabirds and 90% of them which is a national record. Marine and seashore birds are equally significant as there are more than 200 species of seabird, 5 species of nesting limicolous and about 30 other species of limicolous, some in great numbers during migrations. The basking shark, which can reach 12 metres in length, regularly frequents the Brittany coast. Amongst the species of marine mammals observed around Brittany, the bottlenose dolphin, the grey seal and the harbour seal are present all year round. The coast houses 28% of the 564 plant species inventoried in Brittany. The “red list” of threatened plant species on the Côtes d’Armor massif includes 396 species including 130 located on the coast. Of the 37 plant species with a high heritage value, 28 are coastal (Bretagne environnement).

According to the European Landscape Convention (2000), landscape designates that part of the territory as perceived by the population whose character results from the action of natural and/or human factors and their interactions.

Notes: This expression also applies to ecological structures, functions and processes found at all scales (species reproductive cycles, water cycles etc.).

The increase in pollution also threatens the maintenance of these habitats and the species they contain. The multiplication of the usage and activities in the coastal area (fishing, shellfishing, ballasting, extraction, tourism, sailing, maritime transport etc.) is so much pressure that the habitats have difficulty in resisting it which can irreversibly destroy the marine and coastal biodiversity. Invasive species such as the Slipper Limpet can also pose grave dangers for the biocenose in place.

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Preserve the identity and quality of the coastal landscape

The Brittany coast has great diversity and high quality both from the natural point of view (with a variety of beaches, high cliffs, islands and islets, bays, estuaries, wetlands, gulfs and rocky coasts that have kept their wild qualities) and from a cultural and social point of view with a unique traditional architecture (lighthouses, ancient fishing villages, traditional ports, fortifications etc.). Activities such as agriculture, naval construction and port activities, beach and maritime tourism, and Brittany coast landscape giving them a strong identity and a character that is looked for today. The coastal landscapes also present a great richness and diversity. They are fragile and even more menaced as they are not easily observed or known to the general public.

These coastal, natural, urban, rural or industrial landscapes are a part of our maritime heritage and, consequently, the Brittany identity. They are, at the same time, both the product of and the witness to the relationships between the populations and the ocean. If these landscapes today are significant, relatively preserved and vectors for strong values and identities, it is because the pressure exercised by humans on the coast area has been, up until now, moderate and has allowed a slow adaptation and evolution of the landscapes. But today the context has changed and the risks of degradation and destruction of the coastal landscape are real. The housing and touristic pressure experienced by the Brittany coastal zone, combined with the intensification of the activities that have a strong influence on these landscapes, risks making the natural landscapes disappear and trivializing the manmade landscapes if something isn’t done soon.

The preservation and development of coastal landscapes must not lead to freezing a landscape-type: on the contrary, landscapes are living. Some of their components disappear while new ones, such as windmills, appear. The landscapes contribute strongly to the impression people have of Brittany. They must not be the service of a single activity or a single category of people, but reflect the diversity of maritime activities and the communities that make them up. A large number of coastal landscape preservation initiatives already exist: The Large Site Operations (Pointe du Raz, Cap Fréhel and the Bay of Mont St-Michel), the innovative initiatives undertaken by some territorial collectives in the preparation of their urbanisation documents and encouraged, for some, by Ecosur. Other than these limited and very localised actions, it is now a question of making sure that the question of the landscape is taken into account during the preparation and implementation of all the territory improvement tools and actions. This taking into account must be done on the basis of land use, at different scales of time and space, so as to favour the diversity that today characterises the Brittany coast.
Restore the quality of the coastal waters and reduce pollution on the coast

It is difficult in Brittany to consider the continental waters as the only water resources. These must also include the coastal waters as they are important from an ecological, economic and functional point of view.

By a Directive on water, Europe has set obligations for good ecological condition of waters by 2015. The survey of the Loire-Brittany basin carried out in 2004 revealed that only 16% of the Brittany coastal waters will be in good ecological condition by 2015, 39% are uncertain and 45% will be subject to delay and supplementary action. The dependency between the continental fresh water and coastal marine and transitional waters require that the quality objectives for fresh water must not only take into account the quality objectives for drinking water but also environmental objectives. These environmental objectives must be prepared taking into account the impacts on the receiving coastal environments. The sensitivity of these receiving environments is entirely variable from one site to another. The quality objectives for continental fresh water must be prepared in a localised way, taking into account this variability in sensitivity of the receiving coastal environments.

Micro-pollutants and excessive enrich-ment with nutritive elements seem to be the main causes for the change in water quality. If the bathing waters are generally in good bacteriological condition, despite a few degraded sites, the quality level of the coastal waters for shellfish farming, gathering and selling of shellfish is, on the other hand, inadequate.

In 2005, of 504 beaches tested in Brittany, 96.4% of bathing waters were judged to be in compliance with sanitary standards.

In 2005, 76 seaweed-beaching sites were reported (68 in 2000), affecting 320 neighbouring communities. 5 sites make up nearly 80% of these beachings: 26 sites are systematically affected every year since 1977 and 48 others for at least 6 of the 9 years when an inventory was taken. Although a reduction in the amount picked up in Brittany occurred in 2001 (55,000 m3), the amount of seaweed picked up increased again in 2004 with 69,225 m3 (Bretagne Environnement).

Over 30 years, the gathering and sale of shellfish were officially banned for 1,662 days in the Bay of Douarnenez due to the presence of phycotoxins.

Brittany possesses one of the richest maritime cultural heritage in Europe, in size and diversity. In this heritage, we should distinguish physical properties which are mainly fortifications, port constructions, lighthouses and even old ships, immaterial such as writings, knowledge and, more generally, the life and customs of seafaring people. If the most emblematic heritages are well known because they symbolise the best of this cultural heritage, we should not forget the less prestigious building elements (docks, fishermen’s houses, canneries, tide mills…) and the immaterial objects that are often the origin of our identity and maritime uniqueness.

The heritage of buildings, with “their feet in the water”, is also one of the most fragile and needs significant investment and long-term effort. The spaces and properties given up by the national navy and the automation of lighthouses have only increased the need for means. This patrimony is certainly a heritage of the past which should be passed on to future generations so they immerse themselves in them in their relationships with the ocean. But it is also a living heritage that becomes richer each day and builds itself through the relationships and activities that individuals and companies have with the ocean. Action on the maritime heritage therefore implies preserving and developing the riches of the past, but also identifying and allowing the riches of today to be built. It is a task that is complex and difficult, but it is not impossible, as the Breton population of this inherited maritime culture that has created, and continues to create, its identity. It is therefore necessary to inventory, protect, restore, maintain and develop this heritage while considering the durable development of the Brittany coast region.

The inventory of the maritime cultural heritage is being expanded. It is a question of extending it to other riches not fully taken into account so far, such as underwater archaology, maritime ethnology, industrial heritage, the habitat of coastal populations and even port infrastructure. The restoration, maintenance and preservation of the maritime cultural heritage are generally the result of work by associations and volunteers with limited resources. It is therefore important to put these practices into a framework and allow decision-making tools and policies for quality restoration and preservation in line with the times.

The development of this heritage also needs to be rethought. Often confused with touristic operations and limited to a museum approach, the development must be carried out so as to make this heritage available to everybody. The maritime cultural heritage must be a completely separate component of the durable development of the coast regions and fully contribute to maintaining the maritime identity of Brittany. This development must include all of the actors and define the selection criteria for the elements to be conserved and developed. It must also ensure the integration of the data relating to the maritime heritage inventory into public decision-making tools and, more generally, into public territory development policies.

Within the framework of decentralisation laws, the Regions are responsible for the inventory of the cultural heritage. This transfer, imposed on the Regions, is an opportunity to be seized for rethinking the preservation and development of the maritime cultural heritage by developing, in association with all the actors concerned, a policy dedicated to the maritime cultural heritage.

Preserve and develop the maritime cultural heritage
**Global climate change is today a reality exposed by climate specialists. For 200 years, an annual increase in the average sea level of 1.5mm has been measured at Brest. The intergovernmental group of experts in climate evolution (GIEC, 2007), estimates an increase in average sea level of between 18 and 59 cm by 2100.  
Even if a rapid and significant reduction in greenhouse gases occurs, its effects will only be detectable after several decades. Without renouncing the efforts to be made in this direction, it is now indispensable to foresee and adapt to climate change and its predictable effects. The coastal regions are particularly exposed. The natural phenomena that they are already exposed to (coastal erosion, intrusion of seawater into freshwater, submersion and flooding) will augment due to the increase in sea levels and the increase in extreme weather phenomena (storms, heavy rain, droughts, heatwaves, etc.). Global warming also translates to an increase in ocean surface temperatures and changes in physical-chemical properties of seawater (salinity and acidity), waves speeds and the circulation of marine currents.**

**Brittany will not escape these consequences. The increase in sea level will result in the degradation or disappearance of some coasts. Taking into account the presence on the coast of a large part of the Brittany population (40% of the Brittany population lives on the coast, including, 18% in the areas affected more or less directly by coastal erosion), of facilities essential to the regional economy and a cultural heritage of great richness, the consequences to our society risk being significant. The increase in temperature and the physical-chemical changes in the sweater will translate into a change in the breakdown of species: some will disappear, others will appear. Maritime activities, particularly fishing and shellfish farming but also tourism, will be the most affected.**

**The sectors subject to high coastal erosion make up 20% of the artificial (principally urban) zones in Morbihan, 38% in Finistère and more than 35% in the Côtes d’Armor. (Ifen, dossier n°7, 2007)**

**Preserve the social, ecological and economic potential of the Brittany islands**

The islands are without doubt amongst the most exceptional sites of the Brittany coast. Differentiated all along the coast, the 797 islands or islets represent a total surface area of about 15,500 hectares with 81.6 kilometres of coastline. At the 1999 census, the total island population was 11,845. Each island is unique. Courtesy of the biogeographic conditions and the variety of their natural habitats, the Brittany islands have a very rich biodiversity. They also have a great social diversity as the development of the populations that live there are in line with the intense local elements and special features of the islands. Although the isolation of the islands and the harmonious development of the island populations have, until now, allowed the preservation of natural habitats and a landscape of great beauty, the situation is very different today. In effect, the balance between usage by people and preservation of natural riches that has held up until now risks being broken if nothing is done to control the current trends. As well as the problems that all territories are confronted with, which are more difficult to resolve in an island setting (needs for energy and water, managing waste, access to community services such as education and health), the islands accumulate and concentrate the problems and challenges that are found on the coast. The aging of the population, increase in secondary residences, housing pressure, the difficulty of keeping young workers on the island, economic activity. This seasonal mono-activity weakens the islands and makes it difficult to maintain an active and stable population. The departure of the young is accentuated because the islands offer very few possibilities for stable employment. On most of the islands, tourism is the only economic activity. This seasonal mono-activity weakens the islands and makes it difficult to maintain an active and stable population. Each summer the number of visitors to the islands continues to grow. The population of Groix is multiplied by 6, that of Belle-île by 7, that of Houat by 8 and Hoëdic by 30. A large fraction of the visitors only come to the islands for a single day. This type of tourism does not create much wealth, but it does have non-negligible effects on the environment such as the creation of tracks in meadows and the installation of anchoring sites and special features of the islands.**

**The phenomena of population loss and aging began with the reduction in fishing and agriculture on the islands and employment in the merchant marine. The workers of yesterday are now retired and represent a significant fraction of the island population. The housing pressure on the islands is even stronger as the housing stock is limited and not very expandable. It is explained by the return of retirees originally from the islands and the significant demand for secondary residences. Between 1995 and 2003, the average price of a house has increased by 53% on Groix and 39% on Ouessant. Depending on the island, between 65 and 93% of house purchases on the Brittany islands between 1995 and 2001 were made by non-residents. Except for Ouessant and Houat, where there are still islanders that are selling, today most real-estate transactions occur between non-residents. Depending on the island, secondary residences represent between 40 and 70% of the habitations. The islands of Batz, Molène and Arz are the ones that have seen the largest increase in secondary residences with a growth between 12 and 14% between 1990 and 1999.**

**Acquisitions made for secondary residences occur to the detriment of permanent residences with a growth between 12 and 14% between 1990 and 1999.**

**The difficulty or reconciling the presence of human populations, the development of socio-economic activities and the preservation of biodiversity, i.e. the implementation of durable development, takes on all its meaning in the islands. If this challenge is not met, the islands will cease to be jewels of the Brittany coast.**

**At least 20% of the Brittany coast is eroding and about 65% of the threatened coast has a high cultural heritage value. (EROCOVUL, Program, Erosion and vulnerability of the Brittany coastal margin, 2001-2004)**

**A shared ambition for the future of the Brittany coast**

The possibility of carrying out a strategic retreat or removing certain parts of the coast from urbanisation or development must be considered. The problem of safety must also be understood and considered in all of the planning tools, particularly via risk prevention plans. Strategic actions on climate change must be carried out in order to mobilise the territory collectives to develop means of response and take into account the requirements of viable and sustainable development choices. A monitoring programme and tools to orient public decisions must be implemented, as well as programs to fight climate change and manage catastrophes.
A new governance for a durable and concerted management of the Brittany coast area
To implement a project for the future and respond to the seven identified challenges for a durable development of the Brittany coast area, a new governance, capable of feeding off the existing dynamics and energies at all levels and in all sectors, must be developed. It must be able to ensure better coherence between the actions of each and between the various levels of intervention (national, regional, departmental and local), be able to combine incentive policies and regulatory measures and give a significant place to consultation and collective action. It relies on the recognition of the competencies and responsibilities of the various public authorities endowed with democratic legitimacy.

The current processes and methods for public action for the management of the coastal zone, even though they have occasionally shown their effectiveness, are nevertheless subject to certain limits. It is therefore essential to open up the management process, to mobilise all the actors in the definition and implementation of actions and, above all, to combine the tools so that durable management of the coast zone occurs at all the levels of public action. This new governance implies:

- the definition of common principles of action that all the actors commit to complying with and implementing;
- the implementation of new method of consultation, monitoring and support for the actors, in order to carry and bring life to the charter to progressively inscribe the management of the coast zone into a plan for durable development;
- the opening of key worksites around which the durable management of the Brittany coast will crystallise. Ten preliminary worksites have been identified during the preparation of the charter; they are presented in the third part of this document.
The principles of a new governance of the coastal zone

The direst result of the idea of durable development in the coastal zone is the concept of integrated management of the coastal zone (GIZC). This concept really emerged during the Rio de Janeiro Conference in 1992. Chapter 17, one of the most important of Agenda 21, made the concept of GIZC the approach that should be preferred for moving towards a durable development of the coastal zones. The recommendation of the European parliament and the Council of 30th May 2002 (2002/413/ CE) relating to the implementation of an integrated management strategy of European coastal zones, defined the principles for the implementation of integrated management strategies for the coastal zone. The challenge today is to make this concept a reality in terms of development and management of the coastal zone.

While respecting the competencies of all the actors and authorities, this new governance must rest on the following principles:

1. The implementation of durable development of the coastal region;
2. A new territorial dimension: the coastal zone;
3. Solidarity between people, generations and territories;
4. Consultation and collective action;
5. Coherence and coordination of the actions of all actors;
6. The combined utilisation of all the public action mechanisms;
7. Placing the management measures in perspective in terms of time and space;
8. A pragmatism in the actions implemented;
9. The taking into account of specific and special factors;
10. Experimentation and innovation.

The coastal zone is the meeting place between the land and the ocean. Although the coast implicitly implies a linear and essentially land-based dimension, the integrated management of the coastal zones invites one to take into account a larger space associating the land and the ocean; this is called the coastal zone. More than a simple strip, the coastal zone must be seen as a space with variable geometry where the limits of the land and ocean are defined depending on the challenge or the problem posed and the responses to be applied. In this way, there is not, a priori, a relevant territory; the definition of the territory’s perimeter must be made according to the challenge or challenges that motivated the launching of the project and the special features of the concerned territory. Locally, the definition of the territory must be made according to the nature of the project.

Within the framework of the Brittany coastal spaces charter, which requires a strategic initiative for coherence, we consider Brittany as a whole as a coastal zone and, for the ocean, we take into account the 12 nautical miles (a little more than 20 km) limit. Over and above the fact that this choice constitutes a strong message to underline the importance of the maritime character of Brittany, it is mainly motivated by the facts that:
1. more than 95% of the Breton population lives within 60 km of the ocean;
2. the majority of Brittany communities, the living areas and the economic infrastructure are located on the coastal boundary;
3. economic development, particularly agricultural, would not have been what it is today without its proximity to the ocean;
4. the majority of Brittany’s feeder basins are within the regional limits, which makes up an undeniable asset for associating the management of coastal waters with that of the water courses that constitute the receiving basins.

The solutions to be applied require coherence in everybody’s roles and coordinated action. This coherence is required at all levels, at each stage in the management process and in all domains interacting with the coastal zone and its management. Coordination must be made according to the principle of subsidiarity which requires that actions should be carried out by those that are closest to the problem but with the support of higher levels. In the same way, it is essential that all management actions in the coastal region are made in an eco-systemic way associating the marine and land components of the coast.

A new territorial dimension: the coastal zone

The implementation of durable development of the coastal region

The complexity of the dynamics that drive the coastal zone, the significant number of actors involved and the “common property” status of the coastal region require the commitment of the actors and the association of all the population to the management process. Consultation and collective action are the paths to be preferred to make everyone responsible, to evolve the ways of doing and being of everybody and for taking into account of knowledge and preferences in the decisions. The measures taken will thus be more apt to respond to the challenges of the coastal region and will be recognised as legitimate by all as they will have been prepared by all the actors. But consultation is difficult to implement; its objective is not to question the abilities and capabilities of all the actors but to associate them in all their diversity to manage the coastal zone in a durable way.

Solidarity between people, generations and territories

Consultation and collective action

Solidarity between people, generations and territories must always be present in a management process. The coastal zone is, in effect, a common heritage generating a large number of essential functions and services for all the Brittany population and, more widely, for society in general. It is therefore essential to promote management procedures guaranteeing equity between people in the access to and use of this heritage, a solidarity between current and future generations in the choices that are taken relating to use and management and a cohesion between the communities and areas, particularly between the coast and the inland areas. The reduction of social inequalities must be a major concern of the management of the coastal zone.

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2. A new territorial dimension: the coastal zone;
3. Solidarity between people, generations and territories;
4. Consultation and collective action;
5. Coherence and coordination of the actions of all actors;
6. The combined utilisation of all the public action mechanisms;
7. Placing the management measures in perspective in terms of time and space;
8. A pragmatism in the actions implemented;
9. The taking into account of specific and special factors;
10. Experimentation and innovation.

The solutions to be applied require coherence in everybody’s roles and coordinated action. This coherence is required at all levels, at each stage in the management process and in all domains interacting with the coastal zone and its management. Coordination must be made according to the principle of subsidiarity which requires that actions should be carried out by those that are closest to the problem but with the support of higher levels. In the same way, it is essential that all management actions in the coastal region are made in an eco-systemic way associating the marine and land components of the coast.
The implementation of durable management of the coastal zone, because it touches on a complex, sensitive and often conflicted subject, is far from having all its answers in just the field of legislation. All the richness of the integrated management of the coastal zone rightly rests on the combination of tools that are incentive, regulatory, supportive etc. This also concerns the sector (fishing, agriculture etc.) policies, the territory development policies, the planning documents (National, SCOF, PLLI, PADD, SMVM etc.), the management policies for the exploitation of resources (biological, mineral, water etc.) and the policies for the conservation of species, environments and landscapes (Natura 2000, regional natural parks, nature reserves, national coastal conservation areas etc.). A close collaboration is therefore necessary between public decision makers, the State and territorial collectives. The integrated management of the coastal zone can only be done with the compliance and application of international conventions and European directives, which already give a certain number of answers in the matter of maritime pollution and preservation of marine biodiversity as well as methods for the involvement of actors in the public decision-making process.

Putting the management measures in perspective in terms of time and space

Putting the management measures into perspective is indispensable both in time and space, in order to adjust to new knowledge acquired or changing context and so that they are always meeting the objectives they were put in place for. This putting into perspective is always indispensable to evaluate the structural or economic nature of a phenomenon and thus measure the type and scale of the means to mobilize to respond to this phenomenon.

A pragmatism in the actions implemented

In order to have the changes installed durably in the ways of acting and life of the actors in the coastal region and of the population, it is important that the actions to be implemented are pragmatic, which is how they can be effective. If they cannot see results, there is a risk that the actors will not continue their efforts. The actions must be clearly identifiable, bear on concrete subjects, occur over a time scale the actors are likely to commit to and produce measurable results. The pragmatism and efficacy of the actions imply building with what already exists, i.e. based on the experiences, actions and structures already in place at the territory level and possibly letting them evolve so that they become fully involved in a durable development plan. It is also a question of favouring and vitalising the networking of the actors at all levels, in all forms and in all domains before creating new structures.

The taking into account of specific and special factors

Although all the maritime territories share the same challenges, these are filtered by specific and special factors that make each situation unique and singular. It is important to take into account and commit to these specifics. To do that, it is necessary that the management process takes into account the ability of the territories to house new usages and infrastructure and be able to adapt to the specific features of each territory or situation to produce the desired results.

Experimentation and innovation

The implementation of an integrated management for the coastal zone implies, on one hand, the development of new ways of using the resources of the coastal zone developing its riches within a durable development plan and, on the other, the development of new ways of making decisions to better manage the coastal zone. It requires experimentation and innovation at all levels and in all domains of the management of the coastal zone. The experimentation and innovation must rest on the exploitation and development of the resources, on the diagnosis of the challenges, on the forms of consultation to be developed and on the new types of tools and approaches to be developed. It is a question of mobilising all the knowledge, know-how, innovations, abilities etc. stimulating the emergence and implementation of actions, projects and measures in the service of a durable development of the Brittany coastal zone. Research, both fundamental and applied, across all disciplines, must be mobilised to achieve this.

The principles of a new governance of the coastal zone

The definition of a new governance of the coastal zone implies a certain number of principles to carry and bring to life the Brittany coastal spaces charter, in such a way that it is always in phase with the needs, local realities and aspirations of the Bretons with the objective of durable development of the Brittany coastal zone. These new principles are of three types:

- consultation groups made up of a regional level bringing together all the concerned actors for the management of the coastal zone and whose role will be to propose, debate, implement and evaluate the actions of the charter; and a local level carrying out and animating the management dynamics integrated at the territory level;
- an apparatus for observation, monitoring and forward analysis of the coastal zone to make available to the managers and the general public a set of economic, social and environmental indicators relating to the coastal zone and its management. These controls will be used to monitor the status of the coastal zone and evaluate the ability of the management processes to respond to the challenges for which they were put in place. It is necessary to perform forward analysis of the coastal zone, in order to identify and understand its evolution thus be able to react before the problems become worse and require more serious corrective action;
- the apparatus for networking and support of the actors in the Brittany coastal zone will be used to create synergies and capitalise on the experience and knowledge of everybody within a collective process and to be able to, via an intermediary apparatus, promote the principals and mechanisms of integrated management to all the actors in the coastal zone.
The integrated management of the coastal zone will become a reality in territory and public action when a regional level defining the strategic approach connects to a local implementation level.

A regional consultation group

A collective project of all the actors in the Brittany coastal zone, the charter must be supported by a consultation group at the regional level.

Consultation groups for the integrated management of the Brittany coastal zone

- The state and its public establish the territorial collectives and their actions. These collectives must be created and coordinated at the regional level. Implementation will only be concrete at the local level by way of a consultation mechanism capable of anchoring the management of the coastal zone in the territories.

Local consultation groups

If the collective project for durable management of the Brittany coastal zone is to be created, adopted and coordinated at the regional level, its implementation will be a place for reflection and proposition to improve the key worksites, to define new ones and adapt the charter so that it always remains a current reference document. This Regional conference for the ocean and coast will provide the coastal zone, it’s services, information and new enlightenments so they can act in the sense of durable management of the coastal zone. It will be the guarantee of a better “projection” public action in the coastal zone. It will meet at least once a year and may be coupled to a “Forum for the ocean and coast”, a meeting and discussion place for the actors in the coastal zone. The secretariat work for this conference will be carried out by the departments of the regional council.

In a desire for pragmatism and efficiency, the composition of the conference for the ocean and coast will be limited to about fifty members, one representative of all the actors in the Brittany coastal zone, taken from six groups:

- The territorial collectives and their groups: The Brittany regional council, the general council, the urban built-up areas located on the coast, the coastal communities, the assembly of communities, the Regions, etc.

- The state and its public establishments: The Brittany regional prefecture, the Atlantic maritime prefecture, the Loire-Brittany maritime prefecture, the agency for maritime part. In the desire to better take into account the territories which do not have such mechanisms, it is a question of creating new ones within structures that already exist. However, most integrated management policies and processes in the coastal region paradoxically concentrate on the land part and only rarely tackle the maritime part. In the desire to better take into account these challenges and the ocean actors into account in the preparation of an integrated management of the coastal zone, it is necessary to consider the creation of maritime coastal basins, inside the 12 nautical mile limit, which will be economically and ecologically functional spaces. For each of these basins, a committee could be formed from all of the maritime actors (users and managers) and also from the land actors who have strong interaction with the ocean. These committees could also be created in association with the SAGE masterplan.

- Experts:

The Regional conference for the ocean and coast will rely on the Brittany environmental scientific council made up of recognised scientists and independent experts. This last group will support the work of the conference and bring along the necessary knowledge and abilities to accomplish its missions. This scientific council commits to providing adequate expertise to do that. It may also co-opt outside experts as required.

The definitive makeup of this Conference, its missions and its way of functioning must be debated and defined with all of the actors in Brittany coastal zone.

A permanent office could be created. Its role would be to validate the work of the regional conference for the ocean and coast, as well as ensuring the daily unity and continuity indispensable to the exchanges between the actors in Brittany coastal zone.

Efficacy will also be sought in the organisation of the regional conference for the ocean and coast using existing authorities and workgroups. It will also be supported by work carried out locally by project members who will be invited to participate in its work. It will also try to work coherently with the authorities created in the various maritime industry sectors (fishery management, port management, professional organisations etc.). Although its missions will be different, the regional conference for the ocean and coast will pay particular attention to the articulation and complementarity between its studies and those of the Ocean and Coast section of the Brittany regional economic and social council. The studies and work carried out by this latter organisation will feed and clarify its debates and discussions. This will also be true for the Atlantic maritime conference which, under the authority of the maritime prefecture, groups together the actions of the state relating to the ocean.

Local consultation groups

If the collective project for durable management of the Brittany coastal zone is to be created, adopted and coordinated at the regional level, its implementation will only be concrete at the local level by way of a consultation mechanism capable of anchoring the management of the coastal zone in the territories.

This local consultation mechanism, wanted by the actors, will:
- create a link between the actors sharing the same territory or exploiting the same resource;
- generate, at the local level, projects and initiatives in the integrated management of the coastal zone bringing together all the actors in the same territory;
- prevents the development of parallel mechanisms for the implementation of management actions in the coastal zone;
- provide an oversight function for representing local needs and challenges at the regional level;
- anticipate, publicise and manage new challenges before they become a problem.

It would be counter-productive to create a new territorial network. The solution is rather to reinforce the consultation mechanisms of the various structures where they exist. If the territories do not have such mechanisms, it is a question of creating new ones within structures that already exist.

A mechanism for observation, monitoring and forward analysis of the coastal region

Today, the information relating to the coastal zone is not directly usable or is difficult to assimilate because of its distribution between different structures (State departments, territorial collectives, research organisations etc.), its partial nature and the fact that it is generated using different calculations and models which are not always compatible with public action.

It is fundamental to have knowledge and economic, social and environmental indicators for the coastal zone and its evolution and, to this end, to develop an observation mechanism. This mechanism will be intended to gather and assemble all of the existing data on the coastal zone, to monitor and evaluate the state of the coastal zone and the effects of management processes undertaken and, finally, to illuminate the probable evolution of the coastal zone in such a way as to anticipate it with preventative measures. This mechanism must generate information and propose public decision support tools.

This Observatory must be supported by a geographic information system (GIS), jointly prepared with the state, the territorial collectives and all the actors in the coastal zone in order to develop a common reference for all the users which will also be in phase with experiments undertaken at the national level.

So that it fully fulfils its role, this Observatory must be linked to a group of monitoring and surveillance networks in various domains: environmental quality, urbanism, housing, natural spaces management etc. Some of these networks, such as RENTEN1, already exist; therefore it is a question of harmonising and complementing them with new monitoring networks, particularly in the domain of coastal urbanisation and housing pressure.

Research activities connected to the ocean and coast, which have a preferred place in Brittany, must be developed in this observatory. In effect, they will play a dominant role in the knowledge of the coastal zone and the actions that are taken. They will also supply new methodologies and approaches that can very directly contribute to a new management of the coastal zone.

So that the Observatory can supply supportive elements for public decision making, it must include a mechanism for evaluation and monitoring of the state of the coastal zone. This monitoring can be used to adjust the maps of coastal areas for new knowledge and contextual changes.

The implementation of durable management of the coastal zone cannot only be undertaken in the light of current or prior dynamics. It is necessary to anticipate the dynamics which will be the challenges for management of the coastal zone in the future and to react to changes in current dynamics, so as to measure the difference between their possible effects and the coastal zone that we want to see in the future. Putting the challenges and the responses to be applied into perspective will allow the taking of a proactive, rather than reactive, approach on a case-by-case basis.

1 RENTEN (Réseau RENTEN). The objectives of this network are to gather and organises data relating to the habitats and associate biocenoses in the coastal zone in order to make available to scientists, managers and the public pertinent and coherent data to better understand the present situation and to detect changes over space and time.
Networking and support of the actors in the Brittany coastal zone

Multiple “integrated management of coastal zones” (GIZC) initiatives have been initiated in Brittany. These numerous and promising approaches are not isolated but are not at all coordinated. However, a need for coherence is strongly expressed by the actors in the field. Moreover, the region has taken the initiative to unite all of these approaches under the umbrella of a network called “The Brittany GIZC Network”, in order to capitalise on the experiences and share individual actions.

Over and above these formal initiatives, in Brittany there is a multitude on actors in the coastal zone. Each of these actors possesses knowledge and abilities that could be mobilised for the implementation of integrated management of the coastal zone. Although some of these actors are organised into networks, these are often too partial to directly contribute to the integrated management of the coastal zone. Networking of all these actors therefore seems indispensable.

Such a mechanism would allow the distribution of information, the exchange of experiences, the capitalisation of local know-how, meetings between actors and the creation of synergies between actors in the same domain or on the same site. This network could also identify the territorial needs and realities and develop local connections to promote the integrated management of the coastal zone. From a technical point of view, this network could be used for the exchange or purchase of tools and data and the organisation of communal operations.

Training and support of the actors is necessary so that they better understand the challenges of management of the coastal zone, use new management methods and thus understand the importance of their role in implementing projects. The creation of a resource centre has thus been suggested several times during the participatory forums. This resource centre could carry out several large missions:

- Inform: Very directly supported by the apparatus for observation, monitoring and forward analysis of the coastal zone, the resource centre will have a mission of informing the general public by making available to it the information necessary to understand the components and natural dynamics of the Brittany coastal zone, the usage and activities to be found there and the management processes in place. It could address more targeted audiences such as young people, fishing professionals or even elected officials. It would constitute a connection between the various actors.

- Share: Other than simply making information available, one of the missions of the resource centre could be to list the “good practices” and the tools necessary to integrated management of the coastal zone and to share these experiences to prepare information documents for all the actors in the Brittany coastal zone. It could also lead the networking of these actors so as to capitalise on experiences and create synergies between them.

- Support: The resource centre could be responsible for advising the actors in the coastal zone during technical staging and financing of projects so that they fully integrate into an integrated management policy for the coastal zone and comply with the orientations and principles defined by the charter. It could, for example, support small communities in preparing their local urbanisation plans to make them into a genuine project in the matter of coastal urbanisation.

- Train: The resource centre could also serve as a platform for training of the actors in the coastal zone by identifying needs, inventorising skills and housing and organising training.

The following can be cited as approaches in accordance with “management of the coastal zones” in Brittany:

- the projects selected by the DIAC, particularly the projects carried out in the bay of Mont Saint-Michel by the Manche / Ile-et-Vilaine interdepartmental association, in the Brest area by Urbanism development agency, in West Carnouaille by the intercommunity West Carnouaille Development Syndicate, in the Lorient area by Cap 2000, in the community of communities of the Ria d’Er Est. Also these projects from other initiatives such as the project for the Regional natural park for the river Rance carried out by the association CŒUR, the discussion started by the Agglomeration of Morlaix within the framework of its territorial coherence plan, the CYCLEAU project of the community of communities of the Quimper area, the project for the Regional natural park for the Gulf of Morbihan carried out by the intercommunity development syndicate of the Gulf of Morbihan, the plan for the development of the ocean in the Gulf of Morbihan carried out by the departmental department of works for the Prefecture of Morbihan, the project carried out on the Vilaine estuary by the Vilaine Development Institute, and finally the consultation approach between oyster farmers and farmers on the coast carried out by the association Cap 2000.
The key worksites represent actions to be implemented immediately to respond to the challenges of the management of the coastal zone and concretise its durable development. Depending on evolution of the coastal zone, trends and events that may appear in usage and activity that it supports and in the processes of public action, these key worksites are likely to evolve over time. Some will fade away, others will have to be reconfigured, new ones will appear.

One of the roles of the regional conference for the ocean and coast is to carry out the monitoring and leadership of these key worksites and, if necessary, to re-promote them.

Each key worksite is different with actions at a different scale, but are complimentary which will allow the reaching of the objectives set. These key worksites must be implemented with the intention of bringing together a maximum number of actors. The objective is to ensure that all the actors concerned with the theme or territory in question at each of the key worksites are involved in the implementation.

For each key worksite, qualified and quantified objectives will be defined (result and performance indicators). In particular, this will allow the evaluation of their progress and will be used for adjustments as necessary.

Based on information collected during the preparation of the Brittany coast spaces charter, ten key worksites have been identified:

- Reinforce the maritime ambitions of the Bretons;
- Enrol maritime and coastal activities into a durable development policy;
- Promote durable touristic and nautical activities;
- Control urbanisation and promote new forms of urbanisation, architecture and transport on the coast;
- Improve the preservation and development of the natural heritage in the coastal zone;
- Guarantee the quality of coastal landscapes;
- Accelerate the restoration of the quality of coastal waters;
- Improve the safeguarding of human life and the management of environmental threats in the coastal zone;
- Guarantee the preservation and development of the maritime cultural heritage;
- Implement a durable development strategy for the Brittany islands.

These key worksites and their implementation are to be discussed. The elements and, in particular, the actions mentioned in the following paragraphs should be taken as the basis for reflection and debate rather than accomplished actions.
Reinforce the maritime ambitions of the Bretons

So that a durable change is instilled in the behaviour of the population with respect to the coastal zone, it is vital that they are sensitised, informed and mobilised so that they become aware of the importance of the ocean for the future of the region, the threats that bear on the coastal zone and the need to act collectively to preserve this heritage. The maritime identity of Brittany requires making all Bretons responsible so that, in the future, the challenges of the coastal zone are perceived as genuine regional challenges. This maritime acculturation requires constant time and effort combining the operations of informing and sensitisation at several levels. It is necessary that Bretons become close to the sea as often as possible from the youngest age. Schools make a preferred path for that. Despite its proximity, the ocean is globally not well covered in school curricula and little visited in school or extracurricular activities. It is therefore necessary to promote the practices and knowledge of the ocean in all Brittany establishments, including technical and professional establishments.

This can be achieved via the following actions:

- Encourage and support ocean-related training;
- Guarantee the restoration of centres housing ocean-related training;
- Implement, with the local education authorities, an agreement to promote ocean practices in the school setting;
- Develop, in relation with education and environmental actors and popular scientists, teaching tools to improve knowledge of the ocean and coast in the schools;
- Promote maritime training in all Brittany schools;
- Encourage students to go into advanced studies and research in the various maritime domains;
- Support, at both the local and regional levels, sensitisation, information and mobilisation operations in favour of a better knowledge of the coastal zone and its management challenges for different targeted audiences (exhibitions, training, café debates etc.);
- Sensitise the media to inform Bretons of the maritime nature of Brittany.

Enrol maritime and coastal activities into a durable development policy

So that the coastal zone continues to attract and generate employment, it is essential that the activities practiced there are enrolled into a durable development policy, i.e. that they are economically viable, contribute to local development by offering employment in satisfactory conditions and reduce their ecological footprint.

This concerns fishing, shellfish farming, coastal agriculture, port activities, naval construction and repair, new maritime economies, as well as all activities directly connected to the coastal zone and its durable management.

In relation to fishing and fish processing, it is a question of both perpetuating the stocks of fish and the production methods and development of the activity will be maintained all along the Brittany coast.

To do that we must:

- Durable management of the stocks, particularly by creating biological rest periods;
- Continue efforts in innovation to obtain better value from the catch;
- Develop more ecological fishing tools and equipment consuming less energy and safer for the fishers;
- Favour diversification and complementarity between the trades linked to the ocean;
- Improve maritime training particularly housing ocean-related training;
- Relay to all the public affected by the management of the coastal zone (tourists, professionals etc.), sensitisation messages about the maritime nature of Brittany.

Shellfish farming is highly dependant on water quality and accessibility to the ocean and must improve its integration at the local level. Therefore, it is a question of:

- Guarantee proximity and privileged access to the ocean, in conditions allowing its proper practice, in harmony with other users;
- Improve the practices with respect to integration into the landscape and environmental quality;
- Improve cohabitation with other users of the coastal zone;
- Guarantee the quality of coastal waters;
- Develop alert and crisis management procedures for accidental pollution of coastal waters, including a ban on the sale of shellfish farm produce;
- Facilitate the hiring of young professionals and the transfer of businesses;
- Develop value-enhancing labelling for coastal agriculture products;
- Prepare a coastal agriculture charter notable taking into account landscape preservation, the struggle against diffuse pollution, the maintenance of hedged farmland and the preservation of natural spaces such as wetlands;
- Favour the development of short commercial channels with high added value;
- Facilitate the implementation of experimental approaches for local consultation with the other coastal actors. 
Port activities occupy an important place on the coast and play a first order role for the economic development of the region. In order to provide the conditions necessary for their development, without detriment to the quality of the environmental and the territories that house them, several actions can be imagined:

- Define an ambition and prepare a port strategy at the Brittany level;
- Preserve the spaces necessary for development of the port economy on the coast;
- Promote the activities of the Brittany ports and be watchful of their complementarity;
- Promote coastal shipping between the Brittany ports and other Channel and Atlantic ports and develop inter-modal transport;
- Develop micro coastal shipping between the Brittany ports as an alternative to road transport within the region;
- Implement a management program for dredging operations;
- Conserve the sources of pollution arising from port operations;
- Favour town-port relationships;
- Associate port management with the actors in the territories that house them;

The maintenance and development of naval construction and repair activities are essential to the regional economy. To guarantee their development within a durable development policy, several actions can be envisaged:

- Prepare a development strategy and plan for the development of naval construction and repair activities on the coast, particularly in port sites;
- Share equipment at the port level;
- Favour the bringing of shipyards up to standards;
- Improve the management and transmission of enterprises;
- Encourage cooperation between enterprises at the port and regional levels;
- Reinforce innovation in the sector, particularly in the nautical field;
- Diversify activities based on know-how.

Although marine biotechnologies and renewable marine energies are undergoing large growth throughout the world and we have the scientific abilities and significant development potential in these areas in Brittany, today we need to initiate a genuine strategy for new maritime economies favouring, on one hand, the development of new technologies and developing, on the other hand, these competencies and potentials in commercial projects combining various forms of travel (train, bicycle, bus, boat);

- Improve traffic conditions by developing collective and more ecological modes of transport;
- Spread tourist visits over time and space, in particular by developing inland tourism;
- Train tourism professionals in the coastal zones;
- Develop new nautical products that are more respectful of the environment and need less space;
- Promote the installation of a dismantling wasteland to house pleasure boats;

Tourism is highly dependant on the quality of the landscape, natural sites, the environment and the authentic character of the maritime territories. Therefore it is important to promote types of visit that guarantee the preservation of these elements, access for everybody to the ocean and a balanced development of the territories.

To do that, several actions can be envisaged:

- Favour durable tourism centered on the natural and cultural heritage and on outdoor activities (cycle trails etc.);
- Promote discovery of the coast from the ocean (mini-cruises between the Brittany ports) and develop discovery circuits combining various forms of travel (train, bicycle, bus, boat);
- Improve traffic conditions by developing collective and more ecological modes of transport;
- Spread tourist visits over time and space, in particular by developing inland tourism;
- Train tourism professionals in the coastal zones;
- Develop new nautical products that are more respectful of the environment and need less space;
- Promote the installation of a dismantling wasteland to house pleasure boats;

For the use of port facilities must be maximised, boats that are really sailing must be favoured. Numerous initiatives exist; it is a question of capitalising on these experiences and extending them to other territories. But new answers are still to be invented to subscribe pleasure boating into a durable development plan:

- Consider the management of pleasure ports at the level of navigational basins;
- Promote coastal cruises around Brittany and favour networked management of the ports;
- Optimise the management of pleasure ports by favouring, as far as possible, the storage of boats on land, the installation of dry docking, lightweight and reversible facilities, rental reducing the number of “trunk” boats;
- Encourage port managers to segment their clientele in order to propose offers suitable for different modes of use;
**Control** urbanisation and promote new forms of urbanisation, architecture and transport on the coast

It is essential to combine regulatory action and incentives to slow the housing dynamics and artificialisation of the coast, and promote new references in the matter of urbanisation and traffic on the coasts and guarantee "access to the ocean" for all. Various actions can be carried out in this area:

- Give the regional housing authority (EPF) the means to control housing on the coast and promote social diversity, maintain agricultural spaces, access to the ocean for maritime activities and the preservation of natural spaces of a sufficient size to guarantee the integrity of natural dynamics;
- Monitor that every territory development or urbanisation document being updated or prepared that applies to the coast takes into account the challenges and specific maritime features of the territory and is in accord with the orientations and principles of the charter (PADD, PLU, SCoT, PNR charter, Urban relocation plans, Local housing plans, Risk prevention plans etc.);
- Condition public financers to respect the charter in urbanisation documents;
- Reinforce the efforts of the Coastal conservatory in the most urbanised zones;
- Encourage the coastal SCoTs to develop a maritime section having the force of a SCVM of marine spaces with which they directly interact;
- Start considering regulation of secondary residences on the coast;
- Reinforce public support for operations concerning social housing and housing for young people;
- Make improvement and durable development projects (PADD) the key to the implementation of durable development of the coast at the community level, particularly leading them to fix an urbanisation reference level and development thresholds for the short, medium and long terms;
- Organise an ideas competition to develop new urbanisation models for the coast integrating the challenges linked to its durable development, maintenance of its identity and the special features of the Brittany maritime territories;
- Create and mobilise cases of reflection and good practices in the matter of urbanisation and habitat on the coast by providing, in particular, support for elected officials on the subjects of urbanisation and architecture;
- Encourage inland development and make obligatory the reclassification of wastelands and old plots before new urban extensions;
- Encourage the inland relocation of activities that do not require immediate proximity to the ocean;
- Promote collective transport along the coast and between the coast and inland (train, bus, multi-mode transport, maritime transport of passengers between port towns).

**Improve** the preservation and development of the natural heritage in the coastal zone

The heritage nature of the marine and coastal biodiversity of the Brittany coast, the functions and services it supplies for the well-being of our society and the potentials it represents in the biotechnology domain make its preservation and development indispensable to future generations.

To do that we must:

- Better understand the maritime and coastal biodiversity;
- Improve the protection of spaces that are fragile, exceptional and important for global functioning of the coastal zone, particularly by favouring the preservation of large areas on the land and in the ocean;
- Improve the preservation and restoration of coastal wetlands;
- Sensitise and otherwise inform the public about the preservation of the environment;
- Encourage sponsorship by Brittany businesses for the preservation of natural spaces (to be carried out in collaboration with the coastal conservatory);
- Pursue preservation actions for marine and coastal species that are threatened or vanishing;
- Reinforce the struggle against invasive species in the coastal zone;
- Generalise the development of environmental evaluation plans and schemes for all activities using the spaces and resources of the coastal zone;
- Promote research into alternatives to the extraction of ballast.
**Garantee the quality of coastal landscapes**

The coastal landscapes have an important place in Brittany’s image, in the quality of life of its inhabitants and in their relationships with the ocean. Although they provide a range of qualities, values and emotions, they are under the direct influence of practices and usages present on the coast. How to act to preserve a wide range of landscapes, making up a mosaic of landscape units reflecting all the facets of the Brittany coast region, its riches, its activities and its inhabitants?

To answer that, several actions can be envisaged:

- Introduce a long-term, concrete and special landscape approach in urbanisation documents, in accordance with landscape recommendations;
- Favour support for the communities under strong pressure allowing them to develop a genuine “landscape” project acting as a reference for urbanisation projects and attached to the PLU;
- Prepare a regional plan for the landscape to promote a new approach to the landscape, its protection and its development.

**Accelerate the restoration of the quality of coastal waters**

Today, only 16% of coastal waters comply with the objectives set for 2015 set by the European Union Water Directorate. In order to accelerate the restoration of the quality of coastal waters, the following actions are envisaged:

- Improve the monitoring and knowledge acquisition of coastal waters and sources of pollution;
- Promote management of the waters by reception basin perfectly connected to feeder basins;
- Integrate management of coastal waters into the SAGE masterplans, and make them key elements of the land-ocean connection on the aspects connected to the quality of the waters;
- Integrate all of the coastal waters into a SAGE masterplan by including a coastal facade and the management of coastal streams;
- Sensitise and inform all users on the necessity of reducing the pollution of the ocean and coast;
- Guarantee good management of non-communal sewage processing along the coast and require its bringing up to standards;
- Improve the sewage and rainwater networks along the coast;
- Integrate into urbanisation documents requirements guaranteeing water supply for coastal zones;
- Encourage water savings along the coast, particularly in tourist facilities;
- Put an action program into place for the management of solid waste on the coast.

**Improve the safeguarding of human life and the management of environmental threats in the coastal zone**

In general, safeguarding of human life and the limitation of maritime pollution depend on navigational safety. The practice of professional fishing and the increase in visits to maritime coastal spaces by pleasure boaters raise the question of safety of people at sea, as much in terms of training, application of regulations as in terms of intervention means. In the same way, the proximity of one of the major maritime routes and the number of visits to this coast make Brittany one of the regions most exposed to the risk of marine pollution. The responsibility in this domain lies with the state. But, the intervention of territorial collectives is requested when entering into crisis situations or in the struggle against pollution. Plans for the struggle against pollution exist but they are not always operational at the local level, which reduces their effectiveness.

To meet these requirements, various actions can be envisaged:

- Support the consideration of Europe of safety questions on a wide scale (human safety, fishing safety, social aspects etc.);
- Consider training programmes for all the organisations affected by the implementation of plans against marine pollution;
- Inform the public about the implementation of these intervention plans.
Implement a durable development strategy for the Brittany islands

The Brittany islands are all confronted with the same problems, but their locations and characteristics mean that the solutions to be applied must be specific to each one. The implementation of a durable development strategy for the Brittany islands must comply with this logic. Taking into account the urgency of the situation and the size of certain phenomena, the islands could serve as a pilot zone for the implementation of a certain number of reference actions concerning, for example, the control of housing pressure or the maintenance of social and economic diversity.

To do that, a diagnostic study could be carried out and measures taken to promote the following actions on each island:

- Guarantee the continuity of territorial solidarity: services to the population (education, social, health, cultural), connections with the continent, freight management, waste management etc.;
- Allow the reasonable implementation of social housing under acceptable economic conditions;
- Guarantee the preservation of the island environment;
- Promote durable tourism on the islands;
- Maintain an active population on the islands (installation of young people and permanent residents);
- Diversify the island economy (development of remote working etc.);
- Respond durably to water shortage problems on the islands: evaluate the needs, implement water-saving actions;
- Reduce the islands’ energy dependence: evaluate the energy requirements, implement energy-saving measures and develop renewable energies.

Garantee the preservation and development of the maritime cultural heritage

The maritime cultural heritage has not been the subject, until now, of an action program equal to its richness and its needs in terms of preservation and development. Taking into account the importance of this heritage for the cultural and maritime identity of Brittany, a certain number of structural actions must be implemented:

- Develop a regional strategy of knowledge about and development of the maritime cultural heritage;
- Maintain the existence of an international resource centre for the Brittany maritime heritage for interregional and international cooperation;
- Reinforce and pursue, within a development approach, the efforts for conservation of the navigational heritage;
- Implement an action plan in favour of maritime ethnology and, more generally, making support tools and, more globally, into public policies;
- Pursue saving, restoration and development operations of the most remarkable building elements of the Brittany maritime heritage;
- Create and support a network of Brittany maritime museums.
For the durable development of the Breton coastal region:
The Brittany coast charter