# Studies to support the development of sea basin cooperation in the Mediterranean, Adriatic and Ionian, and Black Sea

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## COUNTRY FICHE

## CROATIA

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# 0. General overview

There are three NUTS 2 in Croatia and only one is coastal: Sjeverozapadna Hrvatska. All NUTS 3 of this area are coastal. Large cities are located on the coast: Dubrovnik, Split, Zadar, Rijeka and Pula.

**Morphological structure of the coastline**

- The total coastline of Croatia is 5.835 km (1.777 km for mainland and 4.058 km for islands) (source: Croatia statistical yearbook 2011)
- There are 1.244 islands, islets and reefs covering 3.259 km², the largest islands (more than 100 km²) are Cres, Krk, Brač, Hvar, Pag, Korčula, Dugiotok and Mljet.
- No data available on the coastal area (within 10 km from the coast)

**Population and related social condition for maritime areas**

- The population in the coastal area is 1.463.791 inhabitants (2012), which accounts for 33% of Croatian population (EUROSTAT).
- There are 455.800 person employed in coastal area and 54.900 unemployed (2010), the rate of unemployment is 11%, which is the same as at national level (EUROSTAT).

**Economic role of maritime areas over the national total**

The GDP/inhabitant is 10.000 € in coastal area (2010), it represents 98% of the GDP/inhabitant for the whole Croatia (10.200 €).

| NACE Sector (2010) | GVA (million EURO) | | Employment (in 1000 persons) | |
|---|---|---|---|---|
| | Coastal areas | % on Country total | Coastal areas | % on Country total |
| Agriculture, forestry and fishing | 620 | 33% | 13,3 | 20% |
| Manufacturing | 1.751 | 29% | 68,2 | 26% |
| Construction | 1.115 | 44% | 40,5 | 33% |
| Wholesale and retail trade; transport; accommodation and food service activities; information and communication | 3.211 | 34% | 146,8 | 36% |
| **Total NACE** | **12.399** | **33%** | **455,8** | **32%** |

# 1. Marine and maritime activities

Table 1 - Indicators of relevant marine and maritime activities in Croatia

| | Function/activity | GVA (EUR, billion) | Employment (*1000) | Number of enterprises | Further indicators | Source & Reference year |
|---|---|---|---|---|---|---|
| **0. Other sectors** | | | | | | |
| 0.1 | Shipbuilding and ship repair | 0,272 | 15,57 | 575 | ---- | EUROSTAT |
| 0.2 | Water projects | 0,064 | 3,36 | 85 | ---- | EUROSTAT |
| **1. Maritime transport** | | | | | | |
| 1.1 | Deep-sea shipping | 0,036 | 0,737 | 158 | Accounts for 18% of maritime freight | EUROSTAT. No data available for 2010 NACE code 50.20 - Use data from Croatian Chamber of Commerce |
| 1.2 | Short-sea shipping (incl. Ro-Ro) | 0,159 | 3,266 | 700 | Accounts for 82% of maritime freight | EUROSTAT. No data available for 2010 NACE code 50.20 - Use data from Croatian Chamber of Commerce |
| 1.3 | Passenger ferry services | 0,061 | 2,649 | 572 | ---- | EUROSTAT No data available for 2008 and 2009 for NACE code 50.10 - Use data from Croatian Chamber of Commerce |
| 1.4 | Inland waterway transport | 0,005 | 0,197 | 27 | ---- | NACE code 50.40 Confidential on EUROSTAT - Use data from Croatian Chamber of Commerce |
| **2. Food, nutrition, health and eco-system services** | | | | | | |
| 2.1 | Fishing for human consumption | 0,062 | 6,373 | 4 318 | ---- | EUROSTAT Estimate of the GVA for fishery based on volume of catches (estimate of fish price and % of GVA) No data on EUROSTAT for NACE code 47.23 – Use data from Croatian Chamber of Commerce |
| 2.2 | Fishing for animal feeding | 0,000 | 0,010 | n.a. | ---- | ---- |
| 2.3 | Marine aquaculture | 0,029 | 0,105 | 35 | ---- | Estimate of the GVA based on the total sales (source : Ministry of Agriculture) |
| 2.4 | Blue biotechnology | 0,000 | 0,000 | 0 | ---- | ---- |
| 2.5 | Agriculture on saline soils | 0,000 | 0,000 | 0 | ---- | ---- |
| **3. Energy and raw materials** | | | | | | |
| 3.1 | Offshore oil and gas | 0,084 | 0,137 | 5 | ---- | Confidential data on EUROSTAT - - Use data from Croatian Chamber of Commerce |
| 3.2 | Offshore wind | 0,000 | 0,000 | 0 | ---- | ---- |
| 3.3 | Ocean renewable energy | 0,000 | 0,000 | 0 | ---- | ---- |
| 3.4 | Carbon capture and storage | 0,000 | 0,000 | 0 | ---- | ---- |
| 3.5 | Aggregates mining (sand, gravel, etc.) | 0,000 | 0,000 | 0 | ---- | ---- |
| 3.6 | Marine minerals mining | 0,000 | 0,000 | 0 | ---- | ---- |
| 3.7 | Securing fresh water supply (desalination) | 0,000 | 0,000 | 0 | ---- | ---- |
| **4. Leisure, working and living** | | | | | | |
| 4.1 | Coastal tourism | 0,642 | 30,587 | 2 482 | ---- | EUROSTAT |
| 4.2 | Yachting and marinas | No data available | No data available | No data available | ---- | ---- |
| 4.3 | Cruise tourism | 0,061 | 2,648 | 572 | ---- | ---- |
| **5. Coastal protection** | | | | | | |
| 5.1 | Protection against flooding and erosion | 0,000 | 0,000 | 0 | ---- | ---- |
| 5.2 | Preventing salt water intrusion | 0,000 | 0,000 | 0 | ---- | ---- |
| 5.3 | Protection of habitats | 0,000 | 0,000 | 0 | ---- | ---- |
| **6. Maritime monitoring and surveillance** | | | | | | |
| 6.1 | Traceability and security of goods supply chains | 0,000 | 0,000 | 0 | ---- | ---- |
| 6.2 | Prevent and protect against illegal movement of people and goods | 0,000 | 0,000 | 0 | ---- | ---- |
| 6.3 | Environmental monitoring | 0,000 | 0,000 | 0 | ---- | ---- |

**N.B.** 80% of NACE codes 52.24 (cargo handling) and 52.10 (warehousing and storage) have been taken into account for maritime activities.

**Table 2 - Overview of relevant marine and maritime activities in Croatia**

| | Function/activity | Activity overview | Socio-economic indicators | Source & Reference year |
|---|---|---|---|---|
| **0. Other sectors** | | | | |
| 0.1 | Shipbuilding and ship repair | 5 large shipyards in Croatia. Privatisation of these companies in progress in 2013 in relation to the access to EU. | The activity may decrease in the next few years following to the privatisation. | ---- |
| 0.2 | Water projects | ---- | ---- | ---- |
| **1. Maritime transport** | | | | |
| 1.1 | Deep-sea shipping | See short-sea-shipping | ---- | EUROSTAT |
| 1.2 | Short-sea shipping (incl. Ro-Ro) | Main seaport:<br>Rijeka, Ploce, Zadar, Split, Sibenik | It accounts for 82% of maritime freight<br>67 cargos operating in 2010<br>According to CBS, there were 3.830 employees in seawater and coastal transport in 2011 (4.154 in 2008) | EUROSTAT<br>5th<br>International Conference on Ports and Waterways<br>POWA 2010<br>Croatian Bureau of Statistics (CBS) |
| 1.3 | Passenger ferry services | Numerous internal connections and with Italy | Large passenger seaports (incl. cruises) are Split, Dubrovnik, Zadar, Korcula, Cres, Jablanac, Supetar, Preko | Croatian Bureau of Statistics (CBS) |
| 1.4 | Inland waterway transport | No inland waterway transport connected to Croatian coastline (Danube river mainly) | 202.000 t transported by inland waterway in 2010 | Croatian Bureau of Statistics (CBS) |
| **2. Food, nutrition, health and eco-system services** | | | | |
| 2.1 | Fishing for human consumption | Small scale fishery, the length of 80% of the vessels is less than 12 m<br>Main catches : sardine and anchovy | 3.995 fishermen<br>4.029 vessels<br>52.360 t caught in 2010 | Ministry of Agriculture<br><br>Croatian Bureau of Statistics (CBS) |
| 2.2 | Fishing for animal feeding | Limited activity in Croatia | ---- | ---- |
| 2.3 | Marine aquaculture | Many farms located in Zadar area<br>30 companies for sea bass and sea bream<br>5 companies for tuna production | Total sales 120 M€<br>10.892 t of production : sea bass, sea bream, tuna, shellfish | Ministry of Agriculture |
| 2.4 | Blue biotechnology | No activity | No activity | ---- |
| 2.5 | Agriculture on saline soils | No activity | No activity | ---- |
| **3. Energy and raw materials** | | | | |
| 3.1 | Offshore oil and gas | INA company operates in the North of Adriatic with Italian partner (EDISON) | No data available | ---- |
| 3.2 | Offshore wind | No activity | No activity | ---- |
| 3.3 | Ocean renewable energy | No activity | No activity | ---- |
| 3.4 | Carbon capture and storage | No activity | No activity | ---- |
| 3.5 | Aggregates mining (sand, gravel, etc.) | No activity | No activity | ---- |
| 3.6 | Marine minerals mining | No activity | No activity | ---- |
| 3.7 | Securing fresh water supply (desalination) | No activity | No activity | ---- |
| **4. Leisure, working and living** | | | | |
| 4.1 | Coastal tourism | Touristic are in Croatia are located on the coast | 11,5 million tourists in Croatia<br>7.3 billion € worth tourism expenditure (6.3 billion euros from foreigners and 1 billion € from national) | Croatian Tourism development strategy until 2020 |
| 4.2 | Yachting and marinas | 14 396 vessels permanently moored (31.12.2012), +0.8% compared to 2011 | Income in nautical ports : 88 M€ of which 74% came from mooring renting (2012) | Croatian Bureau of Statistics |

| Function/activity | | Activity overview | Socio-economic indicators | Source & Reference year |
|---|---|---|---|---|
| | | 32 % of vessels moored from Croatia, 19% from Austria, 17% from Germany | | |
| 4.3 | Cruise tourism | Croatia is a stop for Mediterranean cruises<br>Main destination is Dubrovnik (72% of stops) | 802 foreign cruise boats stopped in 2012, 1,2 million passengers who stayed 2 days each in Croatia | Croatian Bureau of Statistics |
| **5. Coastal protection** | | | | |
| 5.1 | Protection against flooding and erosion | ---- | ---- | ---- |
| 5.2 | Preventing salt water intrusion | ---- | ---- | ---- |
| 5.3 | Protection of habitats | ---- | ---- | ---- |
| **6. Maritime monitoring and surveillance** | | | | |
| 6.1 | Traceability and security of goods supply chains | ---- | ---- | ---- |
| 6.2 | Prevent and protect against illegal movement of people and goods | ---- | ---- | ---- |
| 6.3 | Environmental monitoring | ---- | ---- | ---- |

## 2. Breakdown of marine and maritime activities at regional level (NUTS 2) and selection of most relevant regions

All Croatian coastal area is located in one NUTS 2: Sjeverozapadna Hrvatska.

## 3. List of the 7 largest, fastest growing and with most future potential marine and maritime activities

### 3.1 Ranking order of the 7 largest marine and maritime activities

Coastal tourism is by far the largest maritime activity in Croatia, followed by shipbuilding (few large shipyards located in Croatia). The third maritime activity is fishing for human consumption; the GVA is limited compared to the number of employment involved in this sector.

**Table 3 - Ranking order of the 7 largest marine and maritime activities in Croatia**

| Rank | Marine and maritime activities | GVA (billion EUR) | Employment (*1000) | Score |
|---|---|---|---|---|
| **1.** | Coastal tourism | 0,64 | 30,59 | **18,5** |
| **2.** | Shipbuilding and ship repair | 0,27 | 15,57 | **9,1** |
| **3.** | Fishing for human consumption | 0,06 | 6,37 | **3,5** |
| **4.** | Short-sea shipping (incl. Ro-Ro) | 0,16 | 3,27 | **2,4** |
| **5.** | Water projects | 0,06 | 3,36 | **2,0** |
| **6.** | Passenger ferry services | 0,06 | 2,65 | **1,6** |
| **7.** | Cruise tourism | 0,06 | 2,65 | **1,6** |

**Coastal tourism**

Coastal tourism is the largest maritime activity in Croatia, this is due to the historical orientation of the country through tourism and the length of Croatian coastline. Tourism is developed in Croatia in all coastal areas, from the North in Rijeka area to the South in Dubrovnik, which is recognised as a part of the World Heritage by the UNESCO. The tourism market largely grew in the last decades thanks to a more structured national offer. A strategy defined by the Ministry of Tourism in 2003 confirms that this area is considered as strategic since a long time.

**Shipbuilding and ship repair**

Shipbuilding and ship repair is the second largest maritime activity in Croatia, with 5 important shipyards in the country; three of them are located in the North of Adriatic (Pula, Kraljevica, Rijeka) and two in the South (Trogir, Split). This sector faces structural changes in 2013 with a privatisation while the country joined the EU. Croatian shipyards historically focused on the production of tankers but the international competition led to develop other markets (car transportation, freight…).

**Fishing for human consumption**

Fishing for human consumption is the third largest maritime activity in Croatia, notably due to a large number of jobs (more than 6.000). The small scale fishery is important in Croatia: 80% of the fleet is composed of boats with a length of less than 12 m. 45 % of the fleet is registered as multi-purposed vessels. Fishermen do not target a specific species and gears are changed several times each year. Fish account for 96% of total catches (notably small pelagic: sardines and anchovy), cephalopods for 2% and crustaceans and shellfish for 2%.

**Short-sea shipping**

Short-sea shipping is the fourth largest maritime activity in Croatia. The main ports for freight are Rijeka, Ploce, Zadar, Split, Sibenik. Short-sea shipping accounts for 82% of shipping in the MS. Croatia is a gate on the sea for Balkan countries: Ploče port (South of Croatia) plays an important role for the import and export of Bosnia and Herzegovina.

**Water projects**

"Water projects" is the fifth largest maritime activity in Croatia, with more than 3.000 jobs in 2010 (see chap. 1). The importance of this sector is due to the large number of ports in Croatia and most of them are multi-purposes: marinas, passengers transport, fishery and freight.

**Passenger ferry services**

This activity is the sixth largest maritime activity in Croatia (2.650 jobs). This sector is historically very important in Croatia because of the international connections due to tourism (notably from Italy) and domestic connections with islands.

**Cruise tourism**

Cruise tourism is the seventh largest maritime activity. Most of the activity is located in Dubrovnik seaport with 72% of the vessels' stops. Cruises are operated by international companies and Croatia is one destination in the Mediterranean cruises.

## 3.2 Ranking order of the 7 fastest growing marine and maritime activities

Among the different marine and maritime activities, only 3 of them registered increasing compound of annual growth rates (CAGR) between 2008 and 2010[1]: marine aquaculture, passenger ferry services and cruise tourism.

Table 4 - Ranking order of the 7 fastest growing marine and maritime activities in Croatia

| Rank | Marine and maritime activities | GVA (CAGR) | Employment (CAGR) | Score |
|---|---|---|---|---|
| 1. | Marine aquaculture | 21,8% | 21,8% | **119,7** |
| 2. | Passenger ferry services | 16,6% | 27,6% | **96,6** |
| 3. | Cruise tourism | 12,6% | 23,3% | **74,8** |
| 4. | Coastal tourism | 0,1 % | -5,9% | **-2,5** |
| 5. | Fishing for human consumption | -1,3% | -1,7% | **-7,2** |
| 6. | Shipbuilding and ship repair | -2,7% | -6,2% | **-16,5** |
| 7. | Fishing for animal feeding | -5,0% | -8,6% | **-29,1** |

**Marine aquaculture**

"Marine aquaculture" is the fastest growing maritime activity in Croatia between 2008 and 2010. While the production of seabass and seabream is on a growing trend, most of the other productions are decreasing (pelagic fish, oyster and mussels).

**Passenger ferry services**

"Passenger ferry services" is the second fastest growing maritime activity in Croatia. The recent expansion of this activity is a direct effect of the increased number of ferry passengers transported in 2008-2009-2010. With respect to 2007, in 2008, 1,5 million passengers more were transported from/to Croatia, accounting to more than 26 million.

**Cruise tourism**

While this activity is quite recent in Croatia, more than 1 million passengers stop each year in the country. Most of the activity is located in the South of the country (mainly Dubrovnik); a further growth could be

[1] Eurostat data on GVA for NACE code 52.22 in 2008 were abnormal and has been estimated based on the evolution of employment.

expected with the development of stops in other seaports and a better planning of the activity between the different seasons.

**Coastal tourism**

The largest maritime activity met a slight decrease between 2008 and 2010 as regards employment, mainly because of international crisis. Compared to other sectors (for instance cruise tourism), this maritime activity is mature in Croatia and this short-term decrease does not reduce the relevance of tourism activity in Croatia.

**Fishing for human consumption and fish for animal feeding**

Fishing for human consumption and fishing for animal feeding decreased between 2008 and 2010. This sector faces structural issues because of international competition and the lack of competitiveness of small scale fishery. Furthermore, the development of fishery is hampered by the state of fish stocks.

**Shipbuilding and ship repairs**

Shipbuilding and ship repairs met a decrease between 2008 and 2010. This sector met large difficulties because of the hard competition at global level, notably from Far-East. The privatisation of the sector does not allow predicting a growth of the sector in the next few years.

## 3.3 Ranking order of the 7 marine and maritime activities with most future potential

The sectors with most future potential are selected according to economic importance and growth.

Table 5 - Ranking order of the 7 marine and maritime activities with most future potential in Croatia

| Rank | Marine and maritime activities | Score |
|---|---|---|
| 1. | Coastal tourism | +++++ |
| 2. | Cruise tourism | +++++ |
| 3. | Passenger ferry services | +++++ |
| 4. | Short-sea shipping (incl. Ro-Ro) | ++++ |
| 5. | Yachting and marinas | ++++ |
| 6. | Marine aquaculture | ++++ |
| 7. | Shipbuilding and ship repair | ++++ |

**Coastal tourism**

- **Innovativeness:** this sector has not specifically developed new products and services in the tourism area but focuses more on traditional markets by taking advantages of its natural assets (Mediterranean climate, coastal area). **Score assigned: 0**
- **Competitiveness:** in recent years, competitiveness of this activity registered a strong increase especially if compared to neighboring competitors - Italy and Greece – offering therefore better “value-for-money” packages. **Score assigned: +**
- **Employment:** it is the largest maritime activity in terms of employment in Croatia. It is expected to have significant potential in terms of employment. **Score assigned: +**
- **Policy relevance:** this sector can be highly developed and structured thanks to political support (local, national and international levels) through space management, construction of infrastructure, promotion/communication, investments, organisation, compliance with international standards, etc. Furthermore, tourism is identified as a strategic sector by the National authorities and a specific strategy has been defined. **Score assigned: +**
- **Spill-over effects:** coastal tourism has links with many other marine and maritime activities in Croatia, notably ferry passenger services, yachting and marinas and cruise tourism. **Score assigned: +**

- **Sustainability:** the objective of national authority is to integrate the development of tourism in the sustainable development of Croatia, allowing to manage the entire territory in a sustainable way. **Score assigned: +**

<u>**Cruise tourism**</u>

- **Innovativeness:** this sector has not an innovative character in Croatia. **Score assigned: 0**
- **Competitiveness:** cruise tourism significantly grew in recent years because high potential of Croatian sites and islands to attract cruise ships. A little number of seaports became obligatory stops for international cruises in the Mediterranean area. **Score assigned: +**
- **Employment:** even if this maritime activity ranks 7$^{th}$ in term of size, cruise tourism has indirectly large economic impacts in the cities where it stops (1,15 million foreigner passengers in 2012 in Croatia), expecting to growth. **Score assigned: +**
- **Policy relevance:** this activity can be largely supported by policies at local, national and international levels to develop its activity (increase the number of stops and the number of ports) through space management and construction of infrastructure of in the seaports, investments in the vessels, etc. **Score assigned: +**
- **Spill-over effects:** this maritime activity has direct links with coastal tourism and the overall development of coastal areas. **Score assigned: +**
- **Sustainability:** cruising has no major negative impacts on the environment in Croatia and it has positive impacts on the other pillars of sustainable development (social and economic), notably through the jobs it provides. **Score assigned: +**

<u>**Passenger ferry services**</u>

- **Innovativeness:** this activity has no innovative component in Croatia. **Score assigned: 0**
- **Competitiveness:** this maritime activity ranks second in Croatia among the fastest growing, which illustrate the capacity of this sector to develop. **Score assigned: +**
- **Employment:** large number of jobs provided and located along the Croatian coast. **Score assigned: +**
- **Policy relevance**: this maritime activity can be supported by policies to develop through space management and construction of infrastructure of in the seaports, investments in the vessels, cooperation in the development of international connections. **Score assigned: +**
- **Spill-over effects:** links with coastal tourism. The development of ferry connections could increase tourists flows **Score assigned: +**
- **Sustainability:** this mean of transport has less impact on environment than others for tourist transportation (notably compared to planes). Furthermore, from a social point of view, passenger ferry services play an important role in the territorial development of Croatian thanks to the connection between the main land and the islands. **Score assigned: +**

<u>**Short-sea shipping**</u>

- **Innovativeness:** this activity has no innovative component in Croatia. **Score assigned: 0**
- **Competitiveness:** short-sea shipping accounts for 84% of maritime freight in Croatia and this activity may increase its attractiveness thanks to broader connectivity with rail and road in the Balkan area. **Score assigned: +**

- **Employment:** according to the data provided in the ch. 1, there are 3.266 jobs in this activity. **Score assigned: +**
- **Policy relevance:** short-sea shipping can be supported by policies for enhancing space management, building infrastructure in the seaports (quays, interconnectivity facilities, intermodal platforms, storage areas…), investing in vessels modernisation, cooperating for the development of international connections. **Score assigned: +**
- **Spill-over effects:** there are no spill-over effects with other marine and maritime activities. **Score assigned: 0**
- **Sustainability:** this mean of transport has less impact on environment than others (notably compared to airfreight) and it plays an important role, from an economical point of view, on the supply and the export of the industries in Croatia and the whole Balkan area (for instance, Ploče seaport plays an important role in the economy of Bosnia and Herzegovina). **Score assigned: +**

Yachting and marinas

- **Innovativeness:** this activity has no innovative component in Croatia. **Score assigned: 0**
- **Competitiveness**: yachting and marinas is not particularly competitive in Croatia due to a lack of organisation of the sector at national level but also at local level. For instance, specific areas are not necessarily dedicated to yachting and marina in the seaports. **Score assigned: 0**
- **Employment:** this sector represents significant employment in coastal areas, notably through the 98 nautical ports along the coastline. The employment is on a growth trend with an increase of 26% of the sailboats between 2007 and 2012. **Score assigned: +**
- **Policy relevance:** this maritime activity can be supported by policies to develop its activity through space management, construction of infrastructure of in the seaports and development of services. **Score assigned: +**
- **Spill-over effects:** there are direct links between yachting and marinas and coastal tourism. **Score assigned: +**
- **Sustainability:** despite the high seasonality of this activity generates some concerns regarding boat sewages in summer period, the activity has limited impacts on environment, especially for the use of sailing boats. In terms of environment sustainability, the activity has a significant potential. **Score assigned: +**

Marine aquaculture

- **Innovativeness:** innovation is supported by institution such as the Mariculture Business Innovation Center of the University of Dubrovnik. **Score assigned: +**
- **Competitiveness:** the Croatian sector is competitive, notably thanks to the presence of hatcheries for the production of fish fries. **Score assigned: +**
- **Employment:** this maritime activity does not rank among the largest ones in Croatia with 105 jobs in 2010 (see chapter 1). **Score assigned: 0**
- **Policy relevance:** the policy relevance of marine aquaculture is high, notably through the implementation of the EMFF. **Score assigned: +**
- **Spill-over effects:** there are no spill-over effects with other marine and maritime activities. **Score assigned: 0**
- **Sustainability:** the impact of marine aquaculture on environment is limited and lower than the one of fishery which impacts fish stocks. **Score assigned: +**

**Shipbuilding and ship repair**

- **Innovativeness:** the activity cannot be considered as “innovative” in Croatia. **Score assigned: 0**
- **Competitiveness:** this activity faces new challenge since 2013 because of the privatisation of the shipyards, and this activity may decrease in the next few years. However, privatisation could increase the competitiveness of the sector, and the development of different specialisations (especially in ship repair) and in connection with other activities, could boost the comèpetitiveness of the sector. **Score assigned: +**
- **Employment:** it is the second largest maritime activity in Croatia with more than 15.000 jobs. **Score assigned: +**
- **Policy relevance:** shipbuilding and ship repairs can be supported by policies to develop a strategy to face the international competition: research and innovation, increase of competitiveness. **Score assigned: +**
- **Spill-over effects:** the development of this activity could have an impact on other transport activities (passenger ferry services, short-sea shipping), especially as regards connection with islands. The activity therefore could generate a wide number of externalities. **Score assigned: +**
- **Sustainability:** this activity has no specific impacts on environment. **Score assigned: 0**

# 4. Growth scenarios for 6 most relevant and promising marine and maritime activities

Below a synoptic overview of the 7 largest, fastest growing and with most future potential activities is provided.

Table 6 - Sets of top-7 marine and maritime activities ranking in order of size/growth/future potential

| Top-7 current size | Top-7 recent growth | Top-7 future potential |
|---|---|---|
| Coastal tourism | Marine aquaculture | Coastal tourism |
| Shipbuilding and ship repair | Passenger ferry services | Cruise tourism |
| Fishing for human consumption | Cruise tourism | Passenger ferry services |
| Short-sea shipping (incl. Ro-Ro) | Coastal tourism | Short-sea shipping (incl. Ro-Ro) |
| Water projects | Fishing for human consumption | Yachting and marinas |
| Passenger ferry services | Shipbuilding and ship repair | Marine aquaculture |
| Cruise tourism | Fishing for animal feeding | Shipbuilding and ship repair |

The table below presents the 6 most relevant and promising marine and maritime activities in Croatia.

Table 7 - 6 most relevant and promising marine and maritime activities

| 6 most relevant and promising marine and maritime activities |
|---|
| Coastal tourism |
| Cruise tourism |
| Passenger ferry services |
| Short-sea shipping (incl. Ro-Ro) |
| Yachting and marinas |
| Marine aquaculture |

## 4.1 Overview of the 6 most relevant and promising marine and maritime activities

**Coastal tourism**

Coastal tourism is the most relevant and promising maritime activity in Croatia, nevertheless its economical weight is even underestimated in our calculation as it does not include the foodservice for instance. This activity is the largest among the most relevant and promising and, even if it faced a slight decrease between 2008 and 2010, has still high potential of growth in Croatia.

**Passenger ferry services, Cruise tourism and Yachting and marinas**

Other marine and maritime activities selected are directly or indirectly linked to tourism: passenger ferry services, cruise tourism and yachting and marinas. Thus, the selection of these activities in addition to coastal tourism is consistent and the development of each of these sectors may lead to synergies at local and national levels in Croatia. Each of them has a strong potential in Croatia, even if they are not at the same stage of development (mature stage of passenger ferry services and nascent stage of cruise tourism). We shall take into account that the development of the two of these activities (passenger ferry services and cruise tourism) is highly connected to other Mediterranean countries, notably Italy.

**Short-sea shipping**

Short-sea shipping has been selected within the most relevant and promising marine and maritime activities. Even if it has decreased between 2008 and 2010, this maritime activity has strong potential in Croatia thanks to the ports of Rijeka and Ploče. However, the future development of this activity is highly related to the growth of Croatian and Balkan economies, the cooperation with neighbouring countries and the connection of the seaports to other transport networks (rail, road).

**Marine aquaculture**

Marine aquaculture is selected among the most relevant and promising marine and maritime activities because it is the fastest growing in Croatia, even if it has a limited economic importance. Marine aquaculture has a good potential in Croatia thanks to the presence of hatcheries, the development of seabass, seabream, oysters in the South of the country and the diversification through new species.

## 4.2 Description of the nature of each of the 6 maritime economic activities and value chain

**Coastal tourism**

Croatia is one of the most important destination of tourism flows in the Mediterranean. According to the Ministry of tourism, 95.500 people are employed in the catering and tourism sector, which represents 7% of total employment in the country. The tourism expenditure is estimated at 7,3 billion euros (6,3 billion foreign and 1 billion national).

There are more than 852.000 registered beds: 49% in private households, 25% in camp sites, 13% in hotels, 13% in other accommodation facilities. Only 40% of hotel capacity within a high category (4 and 5 stars)

There were 11,5 million tourist arrivals in 2011 and over 60,4 million overnights in registered commercial accommodation (Croatian Bureau of Statistics).

Nights spent in seaside resorts account for 93,5% of the total nights spent in Croatia in 2011: this illustrates the overwhelming importance of coastal tourism within the national tourism framework. The first country of origin of international tourists is Germany, the second one is the neighbour, Slovenia.

Table 8 - Number of night spent in Croatia in the different categories of resort (2011)

| Kind of location | Number of nights (1000 nights) | % of total |
|---|---|---|
| Seaside resorts | 56.439 | 93,5% |
| Other resorts | 1.669 | 2,8% |
| Zagreb | 1.092 | 1,8% |
| Mountain resorts | 448 | 0,7% |
| Bathing resorts | 366 | 0,6% |
| Other tourist resorts | 341 | 0,6% |
| **Total** | **60.354** | **100%** |

Source: based on Croatian Bureau of Statistics

Table 9 - Breakdown by nationality of the number of nights spent in Croatia by tourists (2011)

| Country | Number of nights | % total |
|---|---|---|
| DE | 12.487.389 | 23% |
| SL | 6.389.183 | 12% |
| IT | 4.994.547 | 9% |
| AT | 4.836.232 | 9% |
| CZ | 4.388.696 | 8% |
| PL | 3.134.012 | 6% |
| SK | 2.282.066 | 4% |
| NL | 2.223.874 | 4% |
| HU | 1.746.138 | 3% |
| RU | 1.497.761 | 3% |
| FR | 1.483.546 | 3% |
| UK | 1.236.855 | 2% |
| BiH | 1.061.467 | 2% |
| Others | 6.989.539 | 13% |
| **Total** | **54.751.305** | **100%** |

Source: based on Croatian Bureau of Statistics

The activity is highly seasonal, 87% of all the overnights take place between June and September.

**Cruise tourism**

In 2012, 802 cruise vessels have been in Croatia, the number of passengers reached 1,15 million. The main seaports are Dubrovnik-Neretva (72% of the stops) and Split-Dalmatia (19%).

Cruises in the Mediterranean and Adriatic seas are operated by international companies. Considering the nationality of the vessel, Italy is the largest EU Member States in terms of number of cruise passengers calling for Croatia.

Table 10 - Number of cruise passengers by vessels' nationality (2012)

| Flag of vessel | Number of passengers | % of total |
|---|---|---|
| Panama | 282.772 | 24,49% |
| Italy | 279.538 | 24,21% |
| Bahamas | 159.757 | 13,83% |
| Malta | 150.759 | 13,05% |
| Bermuda | 130.889 | 11,33% |
| Netherlands | 53.532 | 4,64% |
| UK | 32.779 | 2,84% |
| Portugal | 29.489 | 2,55% |
| Others | 35.299 | 3,06% |
| **Total** | **1.154.814** | **100,0%** |

Source: based on Croatian Bureau of Statistics

**Passenger ferry services**

There were 12,9 million passengers in 2011. Croatian network is composed of national (notably between mainland and islands) and international connections (notably with Italy: Ancona and Bari seaports). The largest passenger seaports (incl. cruises) are Split, Dubrovnik, Zadar, Korcula, Cres, Jablanac, Supetar, Preko (more than 1 million passengers each in 2010). 80 ferries and passenger ships were operating in 2010.

The main companies operating in Croatia are:

- Jadrolinija
- Blue Line
- SNAV
- Venezia Lines

Passenger ferry services play a role in the tourism area but also in the territorial development in Croatia thanks to the connections with islands, for instance Krk (19.286 inhabitants) and Korčula (5.889 inhabitants). Ferry connections are necessary for these areas to stay attractive for business and inhabitants who do not work on the islands.

**Short-sea shipping (incl. Ro-Ro)**

Total traffic flows in Croatian seaports reached 21,8 million tonnes in 2011: this was mainly due to international traffic (84% of traffic), while most of the maritime freight in Croatia is transported through short-sea shipping (82%).

There are five freight seaports in Croatia:

- European importance : Rijeka and Ploce
- Regional importance : Zadar and Split
- Local importance : Sibenik

There were 67 Croatian cargos operating in 2010.

Rijeka is involved in the North Adriatic Port Association with ports from Italy, Croatia and Slovenia. The aim of this network is to work on the attractiveness, harmonisation (tariff), studies, promotion and lobby.

## Yachting and marinas

Nautical tourism is identified by National Authority as a strategic area for tourism in Croatia. In 2012, 176.030 vessels used sea moorings in Croatian marinas, 63% were sailboats.

Foreign vessels account to more than 50% of total vessels: this highlights the fact that Croatia is by far an international tourism destination. Among the total number of vessels:

- 46% were Croatian
- 18% were Italian
- 12% were German
- 8% were Austrian
- 4% were Slovenian.

Marinas represent 63% of nautical ports in Croatia. Other nautical ports are anchorage, mooring and other ports. Primorje-Gorskikotar area (North of Croatia) covers 30% of the number of nautical ports in Croatia. The number of ports is relatively well spread among other areas, except in Dubrovnik-Neretva area (since it is a "cruise-oriented" destination), which accounts only to 6% of the number of nautical ports.

**Table 11 - Number of nautical ports in Croatia (2012)**

| Ports | Marinas | Anchorage | Mooring | Others | Total | % total |
|---|---|---|---|---|---|---|
| Primorje-Gorskikotar | 14 | 8 | 6 | 1 | 29 | 30% |
| Zadar | 10 | 7 | 2 | - | 19 | 19% |
| Šibenik-Knin | 11 | 1 | - | 1 | 13 | 13% |
| Split-Dalmatia | 12 | 1 | 2 | 1 | 16 | 16% |
| Istria | 12 | - | 2 | 1 | 15 | 15% |
| Dubrovnik-Neretva | 3 | - | 1 | 2 | 6 | 6% |
| **Total** | **62** | **17** | **13** | **6** | **98** | **100%** |

Source: based on Croatian Bureau of Statistics

The profit from marinas is mostly due to the renting of moorings (81% for stationed vessels and 19% for vessels in transit), while "maintaining services" account to 8% of the total income.

**Table 12 - Profit realised by nautical ports in 2012 (excluding VAT)**

| Source of profit | % total |
|---|---|
| Renting of moorings | 74% |
| Maintaining services | 8% |
| Other income | 18% |
| **Total** | **100%** |

Source: Croatian Bureau of Statistics

According to a survey led in 2007 by the institute of tourism (source: Impact of nautical vessels on Croatian nautical seaports capacity, Perko and Stupalo), the attractiveness of Croatian nautical ports is due to many competitive advantages as: spatial distribution of marinas, preservation of nature, cleanness of the sea, social security and hospitality. In the same time, capacity and equipment of marinas, image of the country and "value for money" of the overall nautical offer were perceived as weaknesses.

## Marine aquaculture

Total production in Croatia amounts to between 6.000 and 12.000 tonnes each year. The farming activities are wide-spread in all Croatian coastal counties with a higher concentration in Zadar county.

Main species are sea bass and sea bream with approximately 5.000 tonnes each year. According to the Ministry of Agriculture, there are 30 companies operating in Croatia in 47 locations. Farming is carried out in floating cages using advanced techniques with a closed production cycle (including spawing). The markets are Croatia and EU countries, mainly Italy.

Tuna production accounts for 2.000 tonnes annually and it is almost entirely exported to Japan (5 companies registered in 10 locations). Tuna is farmed in floating cages in the Central Adriatic or in Zadar and Split areas. The production system is based on the catch of small tuna which are kept until they reach the market size.

Shellfish production includes mussels and oysters (between 330 and 3.500 tonnes of production each year over the period 2007-2012[2]). The production is sold exclusively to domestic market. Traditional technologies are in place for shellfish spawning. It is based on the collection of young shellfish from the nature. There is no shellfish hatchery in Croatia at present.

Most of farms are small enterprises and family-run businesses.

## 4.3 Description of economic and infrastructural scenario

**Coastal tourism**

Tourism has largely grown in Croatia between 2007 and 2012, with +12% nights spent. This growth is largely based on the development of international tourism (+16% nights spent by foreigners) while domestic tourism decreased by 19%.

Table 13 - Number of nights spent by foreigners and Croatian people in 2007 and 2012

| Type of tourist | 2007 | 2012 | Evolution 2007/12 |
|---|---|---|---|
| Foreign tourists | 49.574.630 | 57.522.137 | 16% |
| Domestic tourists | 6.430.862 | 5.221.326 | -19% |
| **Total** | **56.005.492** | **62.743.463** | **12%** |

Source: based on Croatian Bureau of Statistics

Even if this sector is on a growth trend on the long term, several issues have been identified at national level:

- lack of differentiation of products and services,
- lack of innovative attractions in the national offer,
- growth based on expansion of private households accommodation,
- insufficient investment activity and too few new hotel capacity,
- traditional ways in tourism marketing,
- inherited orientation towards seasonal operations.

Following this diagnosis, the Croatian Tourism Development Strategy until 2020, elaborated in 2013 by the Ministry of Tourism, has four objectives 1) investments 2) upgrading the accommodation structure and quality 3) new employment 4) increase in the tourist consumption.

The targets defined for 2020 at national level are:

- 960.000 beds in commercial accommodations
- 86 millions overnights
- 24,7% of occupancy rate
- 14,3 billion euros for tourist expenditures
- 31.000 new jobs
- 7 billion euros invested

The potential of growth of coastal tourism is important in Croatian and several opportunities are identified. Croatia must be present on new markets, attract clients on new consumer segments, increase its orientation through high value products (*i.e.* increase standards of accommodation), develop the use of new technologies and promote networking among stakeholders at local and national levels (clusters). In the

[2] See comment on the evolution of marine aquaculture production in 4.2.

same time, the environmental aspects must be taken into account to develop a sustainable tourism and comply with different standards and regulations.

## Cruise tourism

The cruising sector met a very large growth between 2007 and 2012: there are more vessels coming in Croatia and they are larger. Indeed, the number of cruises grew by 28% and the number of passengers by 66%. The increase of the boat size implies adaptation of the infrastructures in the seaports. The main area benefiting of these growth is the city of Dubrovnik, which is a stop on international cruises in the Mediterranean Sea.

Table 14 - Number of foreign cruises and number of cruise passengers in 2007 and 2012

| | 2007 | 2012 | Evol 2007/2012 |
|---|---|---|---|
| Cruises | 628 | 802 | 28% |
| Passengers | 694 104 | 1 154 814 | 66% |

Source: based on Croatian Bureau of Statistics

The growth potential of cruise tourism is high in Croatia. There are two ways to develop the activity: a better planning of the traffic to reduce seasonality and the development of the activity in new ports (Dubrovnik gets most of the stops).

The growth potential in Dubrovnik is to attract clients from January to December and it could become a home port for cruise vessels with air connections for passengers from whole Europe. However, the decrease of the number of air connection during winter still remains a problem. Dubrovnik keeps on investing in the seaport with a project of new cruise terminal of 1.350 m which will be able to accommodate approximately 12.000 passengers, customers and service users. The investments must comply with the standards of different type of vessels: large cruisers during summer and smaller one during winter and for short distance cruises.

The port of Split is in process to develop its activity with an expansion of the area dedicated to ferry and cruise vessels, in order to support the growing tourism industry. This project is financed by the European Bank for Reconstruction and Development (EBRD): a EUR 18 million sovereign guaranteed loan to the Port of Split Authority is planned to extend and reconfigure the passenger wharves. This will allow the port of Split to welcome more cruise ships and will have impact on tourism in all the area round the city.

Some investments planned in Zadar seaport, which mainly focuses on passengers and cargo, also include a terminal adapted for cruise vessels. This would lead to a diversification of the seaport and development of cruising in the Central Croatia.

## Passenger ferry services

The total number of passenger is increasing in Croatia (+1,6% between 2007 and 2011). In the same time, the number of vessels is decreasing and the GT of the fleet is increasing. This means that passenger transport is performed by larger vessels and that the sector is looking for more efficiency.

Table 15 - Number of passengers carried in seawater and coastal transport in Croatia (1000 pas.)

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Number of passengers | 12.723 | 12.861 | 12.550 | 12.506 | 12.926 |

Source: based on Croatian Bureau of Statistics

Table 16 - Passenger ships in seawater and coastal transport in Croatia

| | 2007 | 2008 | 2009 | 2010 | 2011 | Evol 2007/11 |
|---|---|---|---|---|---|---|
| Number | 91 | 88 | 88 | 85 | 88 | -3% |
| Passenger seats | 34.730 | 34.025 | 34.261 | 33.568 | 32.498 | -6% |
| GT | 107.099 | 108.851 | 106.318 | 103.717 | 111.271 | 4% |
| KW | 223.878 | 225.324 | 218.437 | 211.065 | 201.297 | -10% |

Source: based on Croatian Bureau of Statistics

This maritime activity is mature and the growth potential is not as high as for nascent marine and maritime activities. However, ferry passenger services are very relevant in Croatia and the growth potential is significant. The growth is linked to external factors, notably the development of tourism in Croatia but also on:

- Development of connections:
- At international level with Italy and on a North-South axis from Rijeka to Greece (including Montenegro and Albania);
- At national level: connections with islands;
- Decrease seasonality of the activity by maintaining connection out of summer season. This would play an important role in the attractiveness for the living in islands.
- Evolution of the sector:
- Invest in the infrastructures: several investments are planned for ferry passenger infrastructures: Dubrovnik and Zadar.
- Reduce costs and increase the competitiveness (i.e.: larger boat with higher rate of occupation).

**Short-sea shipping (incl. Ro-Ro)**

Short-sea shipping activity decreased in the last years. A national strategy is under development for maritime transport in Croatia (available in 2014).

Table 17 - Goods traffic in seaport in Croatia

| | 2007 | 2008 | 2009 | 2010 | 2011 | Evolution (2007/2011) |
|---|---|---|---|---|---|---|
| **Total** (1000 t) | 30.097 | 29.223 | 23.377 | 24.329 | 21.862 | -27% |
| **National traffic** (1000 t) | 4.954 | 4.603 | 3.460 | 3.368 | 3.472 | -30% |
| **International traffic** (1000 t) | 25.143 | 24.620 | 19.917 | 20.961 | 18.390 | -27% |

Source: based on Croatian Bureau of Statistics

The growth potential of short-sea shipping in Croatia is important. Croatia is well situated to be the gate of Balkan and to increase its role in EU flows from Far East. To achieve these goals, some investments are needed in the infrastructures, notably in the interconnectivity with rail and roads. Some investments are planned with this objective in Rijeka and Ploče:

- In Rijeka, it concerns the upgrade of the rail connectivity and the extension of container terminal (from 328 m to 628 m)
- In Ploče, it concerns a new cargo terminal (dry bulk cargo terminal and container terminal) in relation with the project of Pan-European VC Motorway Corridor (build in Bosnia and Herzegovina and North Croatia).

Cooperation between seaports (for harmonisation of tariff and planning infrastructure) and promotion will also be needed to reinforce attractiveness of Croatian seaports which are in competition with other Mediterranean ports but also with Northern European ports. The development of shipping also increases the risks of pollution (transport of harmful substances), thus a specific focus is given by Croatian Authorities on safety of navigation and pollution prevention.

## Yachting and marinas

There have been 4 new nautical ports built between 2007 and 2012 (+4%) and the number of mooring has increased by 10% to reach 17.454 in 2012.

However, the number of boats in Croatian nautical ports has decreased by 18% over the period, due to the drop of 50% of motor yachts. In the same time, the number of sailboats increased by 26%. The analyses by sizes show that the fleet has largely evolved over the period: large decrease of the number of vessel under 10 m and a parallel increase of the vessel with a length between 15 and 20 m.

**Table 18 - Number of vessels in nautical ports in Croatia in 2007 and 2012**

| | Motor yachts | Sailboats | Others | Total |
|---|---|---|---|---|
| 2007 | 125.314 | 90.190 | 5.371 | 220.875 |
| 2012 | 62.988 | 113.257 | 5.383 | 181.628 |
| Evol 2007/12 | -50% | 26% | 0% | -18% |

Source: based on Croatian Bureau of Statistics

Yachting and marinas has a large growth potential in Croatia. The objective of national strategy for nautical tourism (2009-2019) is the creation of 15.000 new moorings and the construction of 15 new high-quality locations: Rovinj, Pula-sv. Katarina, Rijeka-Porto Baroš, Novalja, Pakoštane, Zadar, Šibenik-Mandalina, Dugi Rat, Split-Žnjan, Marina, Vis, Dubrovnik-Gruž, Slano, Orebić and Vela Luka.

According to the national strategy, the expectations of growth of the sector is 9,8% between 2007 and 2019 while GDP growth rate in Croatia is expected to be 5%. According to the strategy, the total income of nautical tourism will be EUR 2 billion in 2018.

## Marine aquaculture

Croatian production was relatively stable between 2007 and 2010 but dropped in 2011 and 2012. The decrease since 2011 may be due to a statistical anomaly resulting of new data collection system. Real production is estimated to be at the same level of 2010 (source: Baker, Ian; Marriott, Sean; (2013), “Preparing Croatia for the introduction of the Community Led Local Development in the Fisheries Sector”, UNDP Croatia).

According to data from Croatian Bureau of Statistics, over the period 2007-2012, the total production decreased by 42% because of the collapse of shellfish (-91%) and pelagic fish (-54%). The seabass and seabream productions increased by 13% over the same period.

**Table 19 - Evolution of marine aquaculture production (t)**

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | *Evol 2007/12* |
|---|---|---|---|---|---|---|---|
| **Seabass and gilthead seabream** | 3 950 | 4 500 | 5 000 | 5 200 | 4 494 | 4 480 | *13%* |
| **Pelagic fish** | 4 180 | 3 711 | 4 200 | 3 592 | 2 312 | 1 907 | *-54%* |
| **Oyster and mussels** | 3 500 | 3 000 | 2 100 | 2 100 | 420 | 330 | *-91%* |
| **Others** | 50 | 0 | 0 | 0 | 39 | 57 | *14%* |
| **Total** | 11 680 | 11 211 | 11 300 | 10 892 | 7 265 | 6 774 | *-42%* |

Source: based on Croatian Bureau of Statistics

The growth potential of marine aquaculture is important, and the sector can rely upon several strengths:

- The presence of hatcheries;
- The development of sea bass and sea bream production;
- The know-how of fish and shellfish production, notably in the Bay of Mali Ston (South of Croatia).

Several bottlenecks have been identified: lack of capacity of investments, lack of seed stocks for shellfish production, insufficient production of fish fry (even if some hatcheries are present in the country). Public support and innovation (for instance thanks to the Mariculture Business Innovation Center from the University of Dubrovnik established in 2008), may help address these issues.

The strategy set up in 2002 planned a large growth which has not been reached yet. A new strategy shall be defined with adapted goals considering the change of context since 2002, notably the access to the EU.

The National Strategic Plan defines sectoral objectives for the period 2014-2020. Concerning aquaculture, the objectives are to promote sustainable development of the sector, increase the production and strengthen the competitiveness.

### 4.4 Regulatory environment

The regulatory environment covers:

- Marine and maritime activities related to tourism (coastal tourism, cruise tourism, yachting and marinas) through a number of texts which define the rules each type of service provider shall comply with and set up a “sojourn tax” to finance the tourist boards. This framework structures the tourism sector and gives the precondition for a further growth.
- Marine aquaculture with the definition of the procedures on licences and permits, which allows the monitoring and management of the sector.
- All maritime activities with Maritime code.
- All maritime activities through Environment Protection Act and Law on Physical Planning and Construction, which provide a framework to take into account sustainable development in the growth of the activities.

**Act on the provision of tourism services (2007)** regulates the manner and conditions for the provision of services in the sector of tourism. This covers the provision of services of tourist agencies, tourist guides, tourist escorts, entertainment organisers, agency representatives, tourism services in nautical tourism, tourism services on rural farms or family agricultural farms, tourism services in other forms of the tourism offer and other services provided to tourists in connection with their travel and stay. Specific provisions are defined for each of these categories. Common provisions indicate that each legal or natural person providing a service in the tourism sector shall:

- make public the conditions, content and the price of each service,
- for any service provided, issue an invoice, ticket or a numbered certificate to the user,
- act with utmost care, according to the rules and practices of the profession (professional diligence),
- duly keep the book of complaints, forward any complaints to the competent branch office of the regional unit, and issue a response to the complaint.

**Hospitality and Catering Industry Act (2006)** regulates the manner and conditions under which legal and natural persons may perform the hospitality and catering activity. The following categories are defined: hotels, camps and other types of accommodation facilities, restaurants, bars, catering facilities and simple service facilities. Specific provisions are defined for each of these categories, such as opening times and specific requirements regarding the arrangement and equipment of facilities.

Furthermore, the hospitality and catering service provider shall notably:

- establish standard specification for the foodstuffs needed for a specific dish, drink or beverage,
- visibly display prices of offered services,
- issue a bill for each provided service to a guest,
- keep a book of complaints and submit the stated complaint to the State Inspector’s Office as well as reply to the complaint.

The Act indicates that special standards may be established and quality marks may be awarded for certain hospitality and catering facilities in the category “Hotels”.

**Act on Sojourn Tax (2007)** set up a tax in order to finance tourist boards and thus plays an important role in tourism development at local and national levels. This tax is to be paid by night of overnight stay by:

- persons who use accommodation services in an accommodation facility providing catering services in a tourist municipality or town in which they do not have residence,
- passengers who stay overnight at a nautical tourism vessel (charter or cruise boats),
- persons who provide accommodation services in a homestay or a country homestay arrangement,
- owners of a holiday house or apartment in a tourist municipality or town, which is not an accommodation facility within the meaning of the Act, for themselves and for all persons staying overnight in that house or apartment,
- owners of vessels which are not nautical tourism vessels within the meaning of the Act, for themselves and for all persons staying overnight on that vessel for tourist purposes,

Some exceptions for the payment of this tax notably cover children, seasonal workers, members of the immediate family of local resident, owners of holiday houses if the holiday house is an original old family house.

**The Maritime code (2004)** is the basic act of maritime legislation in Croatia. This country is member of International Maritime Organisation and International Labour Organisation, thus all protocols, rules and codes adopted by the above mentioned organisations apply in Croatia.

**The Law on Marine Fisheries (2010)** regulates commercial fishing, non-commercial fishing and recreational fishing allowed with a license. It addresses the management, conservation and exploitation of fishery resources, sea welfare, monitoring and reporting on biological quality and diversity of the sea world, including aquaculture.

**The Regulation on aquaculture (2005)**, amended by several regulation since its entry in force, establishes the rules for the procedure for licences, permits and procedures for aquaculture.

**The Environmental Protection Act (2007)** establishes:

- the Croatian Environment Agency, which collects and uses environmental data and information to monitor and implement policies on environmental protection and sustainable development. This Agency coordinates government information and reports on implementing environmental regulations.
- the Environmental Protection and Sustainable Development Council composed of scientists, experts, public and other employees and representatives of central state administration bodies and representatives of civil society organizations active in the field of environmental protection. This Council coordinates and harmonises economic development and protection, to ensure that development is sustainable and that regulation is reasonable.

The Environmental Protection Act lists the primary sustainable development and environmental protection documents for the Republic of Croatia, this includes evaluations of aquaculture activities.

There is no maritime spatial planning regulation in Croatia, general and sectoral procedures apply. The main law is the one on **Physical Planning and Construction (2007)** which regulates the system of urban planning and construction, it defines the roles of the different administration involved and the procedures for zoning system and spatial planning. The law establishes the Council of Physical Planning of the State which gives opinions, suggestions and reviews on draft zoning document and other documents, recommendations on specific issues in the field of Physical Planning.

Spatial planning shall notably ensure:

- Spatial sustainability in relation to rational use and conservation capacity of space land, sea and seabed to the effective protection of space,
- Reasonable use and protection of natural resources, biodiversity conservation, environmental protection and prevention of the pollution risk,
- The integrity of valuable coastal ecosystem and the quality of bathing water and recreational
- Favourable business conditions for economic development.

# 5. Growth drivers and barriers to growth for the 6 most promising marine and maritime activities

The tables below provides an overview of growth drivers and barriers to growth summarising both benchmark and SWOT analysis. Detailed analyses have been reported in the Country fiche Annex

Table 20 - Growth drivers and barriers to growth for Coastal tourism

| COASTAL TOURISM | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | Specific research on tourism in Croatia: marinas, cruising, hostel…. | No barriers identified |
| **Development and innovation** | Attractiveness of Croatia for EU people (from Germany, Slovenia, Italia, Austria, etc.) due to its assets: Mediterranean climate and seacoast;<br>Upgrading the accommodation structure and quality;<br>Reinforce attractiveness for domestic tourists ;<br>Environmental protection policies;<br>Business support policies. | Lack of qualitative offer;<br>Decrease of nights spent by Croatian people;<br>Strong competition with other Mediterranean countries; |
| **Access to finance** | Financial public support | Low level of investments;<br>Limited access to finance due to crisis and high number of small and medium companies;<br>Difficult access to credit; |
| **Smart infrastructure** | Effective port system on the coast with many connection with Italy notably;<br>International airport in Zagreb. | Insufficient rail and road public transport. |
| **Maritime clusters** | No drivers identified | No maritime clusters linked to coastal tourism |
| **Education, training and skills** | Good standard of schooling;<br>Widespread presence of vocational schools and universities for tourism;<br>Good standard of schooling. | No barriers identified |
| **Maritime spatial planning** | Progressive implementation of the Physical Planning Act | Diverging interests;<br>High environmental pressure in some areas. |
| **Integrated local development** | Progressive implementation of the Physical Planning Act;<br>Advanced urban development planning. | Diverging interests;<br>Highly seasonal activity. |
| **Public engagement** | Strong public engagement through National strategy for tourism;<br>Marketing and advertising investments. | No barriers identified |

Table 21 - Growth drivers and barriers to growth for cruise tourism

| CRUISE TOURISM | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | No drivers identified | No specific research on cruising;<br>Limited resources. |
| **Development and innovation** | Cruising in development;<br>Attractiveness of Croatia of international cruises in the Mediterranean Sea;<br>Sector in progress of development in Croatia. | Strong competition with other Mediterranean countries |
| **Access to finance** | Large companies with investment capacities | Limited resources;<br>International cruising companies, not located in Croatia. |
| **Smart infrastructure** | Infrastructure in Dubrovnik and Split to welcome cruise vessels | Diverging interests |
| **Maritime clusters** | No drivers identified | No cluster |
| **Education, training and skills** | Maritime education (Rijeka, Dubrovnik, Split) | No barriers identified |
| **Maritime spatial planning** | No drivers identified | Diverging interests;<br>Concentration of the activity in a few seaports. |
| **Integrated local development** | No drivers identified | Highly seasonal activity<br>Environmental pressures;<br>Congested destinations. |
| **Public engagement** | Involvement of local authorities | No barriers identified |

Table 22 - Growth drivers and barriers to growth for passenger ferry service

| PASSENGER FERRY SERVICES | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | Specific research on passenger transport;<br>Extensive involvement and experience in maritime research. | Reduced funding due to the economic crisis |
| **Development and innovation** | Renovation of the infrastructure to match with tourism development | Limited funding |
| **Access to finance** | Public funding for infrastructure;<br>Financial public support for specific "public services". | Limited funding |
| **Smart infrastructure** | Renovation of the infrastructure to match with tourism development;<br>Port Environmental Review System (PERS) in project in Split;<br>Good general infrastructures. | Inadequate berthing infrastructure in some seaports |
| **Maritime clusters** | No drivers identified | No organized maritime clusters linked to passenger ferry services |
| **Education, training and skills** | Maritime education (Rijeka, Dubrovnik, Split);<br>Skilled people;<br>Good standard of schooling. | Difficulties to hire |
| **Maritime spatial planning** | Implementation of physical planning Act | Diverging interests with marinas |
| **Integrated local development** | Role in the development of tourism in islands and in coastal areas | Highly seasonal activity |
| **Public engagement** | Public engagement of Ministry (Ministry of Maritime affairs, Transport and Infrastructure) and local authorities | Red tape |

Table 23 - Growth drivers and barriers to growth for short-sea shipping (incl. Ro-Ro)

| SHORT-SEA SHIPPING (incl. Ro-Ro) | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | Specific research on shipping in Croatia;<br>Extensive involvement and experience in maritime research. | Reduced funding due to the economic crisis |
| **Development and innovation** | Renovation of infrastructure | Connections with rail and road is not sufficient for each seaport;<br>Strong competition from the Far East. |
| **Access to finance** | Public funding for infrastructure | Limited resources |
| **Smart infrastructure** | Renovation of infrastructure : Zadar, Split;<br>Good general infrastructures. | No barriers identified |
| **Maritime clusters** | No drivers identified | No specific cluster |
| **Education, training and skills** | Maritime education (Rijeka, Dubrovnik, Split);<br>Skilled people. | Difficulties to hire<br>Attractiveness of jobs |
| **Maritime spatial planning** | No drivers identified | Diverging interests |
| **Integrated local development** | No drivers identified | No barriers identified |
| **Public engagement** | Public engagement of Ministry (Ministry of Maritime Affairs, Transport and Infrastructure) | No barriers identified |

Table 24 - Growth drivers and barriers to growth for yachting and marinas

| YACHTING AND MARINAS | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | Research on nautical tourism | No barriers identified |
| **Development and innovation** | Increase of some segment of the demand | Evolution of the demand |
| **Access to finance** | Public financial support | Difficult access to credit |
| **Smart infrastructure** | Good network of marinas | No barriers identified |
| **Maritime clusters** | No drivers identified | No specific cluster |
| **Education, training and skills** | Maritime education (Rijeka, Dubrovnik, Split) | No barriers identified |
| **Maritime spatial planning** | Few marine protected areas | Diverging interests with passenger ferry services and fishery;<br>High environmental pressure in some areas. |
| **Integrated local development** | Marinas are very important for tourism in coastal areas | Highly seasonal activity |
| **Public engagement** | Public engagement of Ministries (Ministry of Maritime Affairs, Transport and Infrastructure and Ministry of Tourism) | No barriers identified |

Table 25 - Growth drivers and barriers to growth for marine aquaculture

| MARINE AQUACULTURE | Growth drivers | Barriers to growth |
|---|---|---|
| **Maritime research** | Specific research on aquaculture (for instance Institute of Oceanography and Fisheries, MARIBIC);<br>Significant number of research programs focused on aquaculture. | No barriers identified |
| **Development and innovation** | Increase of seabass and seabream productions;<br>Opening markets due to integration to the EU;<br>Presence of hatcheries. | Decrease of pelagic fish and shellfish productions |
| **Access to finance** | Small and medium sized companies, family owned | Limited access to finance |
| **Smart infrastructure** | Modernisation of the farms | No barriers identified |
| **Maritime clusters** | No drivers identified | No maritime cluster |
| **Education, training and skills** | Each aquaculture farm is obliged to employ technical staff who has passed special exam for fish farmers;<br>Good level of schooling. | No barriers identified |
| **Maritime spatial planning** | Effective spatial planning scheme;<br>Potential sites for aquaculture have been included in physical planning. | Diverging interest with other MEA, notably tourism |
| **Integrated local development** | No drivers identified | Grey economy in shellfish production |
| **Public engagement** | Public engagement to facilitate the development of the sector: licence;<br>Aquaculture identified as a strategic sector. | No barriers identified |

# 6. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies

Four strategies have been identified:

- The "**Croatian Tourism Development Strategy until 2020**". It has been led by the Ministry of Tourism in 2013.
- The "**Nautical tourism development strategy of Republic of Croatia 2009-2019**", elaborated in 2008 by the Ministry of the sea, transport and infrastructure.
- **A strategy for agriculture and fishery** has been defined in 2002 by Croatian authorities. This strategy is still in force but is outdated because of the large changes in the context in 11 years, notably the access to the EU. According to Ministry of Agriculture, a new strategy shall be defined at present, the beginning of the process was planned in 2011 but no information is available at present.
- **A strategy for maritime transport** is under development by the Ministry of Maritime Affairs, Transport and Infrastructure. It should be available in 2014, no information are available at present.

**Croatian Tourism Development Strategy until 2020**

The axes of the strategy are:

- Marketing
- Tourism offer development
- Investments
- Human resources development
- Processes Management

The tourism strategy has direct links with coastal tourism and less direct links with other marine and maritime activities: passenger ferry services, cruise tourism and yachting and marinas.

This strategy may lead sustainable growth to the related marine and maritime activities thanks to:

- a better adaptation to the market demand;
- a professionalization of the different stakeholders of tourism;
- a reinforcement of Croatian image;
- investments in the accommodation offer;
- upgrades in the accommodation.

However, the lack of detailed timing and financing are weaknesses of this strategy.

**Nautical tourism development strategy of Republic of Croatia 2009-2019**

This strategy has been elaborated in 2008 by the Ministry of the sea, transport and infrastructure.

12 strategic goals have been defined,:

1. Sustainable resource use and management :
    a. area and environment (capacity, protected areas - natural, cultural…)
    b. nautical infrastructure (nautical ports, shipyards, ports open to public traffic)
    c. nautical tourism services (hiring vessels – yachts and boats - charter, organisation of circular tours and one-day excursions, vessel maintenance and repair in nautical ports and shipyards, vessel management, nautical tourist supply, nautical tourist information service, training participants in nautical tourism and other services for the purpose of nautical tourism

2. Reviewing physical-planning documents aiming at the realisation of moderate construction scenario of new reception capacities
3. Increasing reception capacities through rehabilitation, reconstruction and renewal of existing ports (historical ports in urban environment, abandoned military ports, upgrading nautical ports for the purpose of accommodating large yachts)
4. Setting up surveillance and management maritime navigation system
5. Equipping vessels and nautical ports with devices and equipment for the protection of marine waters from pollution and supervision of those vessels and ports
6. Setting up integral management for nautical tourism system (computerisation through database and maritime domain register)
7. Administrative procedure simplification and legislation harmonisation
8. Increasing vessel production for nautical tourism in Croatian shipyards – development of nautical tourism clusters
9. Stimulating upgrading of the existing and the construction of new repair and service centres
10. Strengthening competitiveness of all nautical tourism participants
11. Emerging technology and environmental standard use
12. Setting up continuous education system for participants in nautical tourism

The Action plan is detailed with a time schedule and financial assessment of each goal.

**Strategy for agriculture and fishery (2002)**

The objectives set up in the strategy for marine aquaculture are:

- to increase the volume of production to 10.000 t / year for fish and 20.000 t / year for molluscs,
- to improve competitiveness in the European market.

Three strategic objectives have been defined (source: FAO):

1. Develop and modernise the mariculture production sector:
    - Improve the relationship between mariculture and the environment.
    - Modernise production at existing farms; promote existing and introduce new production technologies.
    - Establish new commercially reared endemic species.
    - Invest in new fish farms (building facilities and buying equipment); support semi-offshore production in semi open seas and offshore technologies for tuna faming.
    - Integrate mariculture within rural development.
2. Strengthen the basic infrastructure:
    - Establish national breeding centres in order to plan fish production with a total capacity of approximately 50 million fingerlings per year, in order to protect indigenous fish species and genetically pure populations.
    - Create special programmes as insurance for the long-term existence of European flat oyster larvae in the existing mollusc zones and natural habitats.
    - Encourage the integration of interests and communication between aquaculturists.
    - Organise and direct infrastructure and logistic support for the mariculture sector.
    - Improve systems for information flow between producers themselves as well as between producers and consumers so as to avoid market saturation and unfavourable price fluctuations.
3. Support research and development projects directed at product diversification (new domestic products and new species) and mariculture production to:
    - Become part of priority European Union projects focused on genetics, the interaction between mariculture and the environment as well as the contemporary management and administration of mariculture projects.
    - Define marketing and promotional strategies.
    - Build auction and trade centres for fresh fish and other marine products, in accordance with modern marketing standards for fish products.

- Increase mollusc production and construct centres for cleaning, opening and packing mussels.
- Create a positive attitude towards mariculture products and avoid any association with ideas such as “industrial”, “super-intensive” and ”large-scale”.
- Promote products and research into new ways of mariculture product distribution (promotional campaigns, fairs, exhibitions, quality certificates, product labelling, etc.)

Even if the sector highly evolved during the last decade, the first objective has not been reached with an annual production between 6.774 and 11.680 t for fish and shellfish compared to the 30.000 t expected. According to the Ministry, this strategy is no longer adapted to national context and shall be renewed.

**Strategy for maritime transport (2014)**

This strategy is under development by the Ministry of Maritime Affairs, Transport and Infrastructure. It should be available in 2014, no information are available at present.

**Contribution to Blue Growth and link with Smart Specialisation Strategies**

All most relevant and promising marine and maritime activities in Croatia are covered by at least one strategy.

The different strategies implemented (or in process of elaboration) in Croatia cover two of the five specific activities of Blue Growth: aquaculture and coastal and maritime tourism. We shall take into account that the one concerning aquaculture is outdated, thus, Croatian strategies specifically focus on coastal and maritime tourism (which include several maritime activities: coastal tourism, cruise tourism, yachting and marinas) which is a strategic area of Croatian activity.

The Smart Specialisation Strategies framework has not been taken into account in the definition of the strategies on tourism and aquaculture. No information is available on the use of Smart Specialisation Strategies framework in the present elaboration of the marine transport strategy. It shall be taken into account for the definition of strategies covering 2013-2020 period in Croatia.

Table 26 - Policies/interventions towards most promising marine and maritime activities and the Blue Growth objectives

| Level | Strategies | Objectives | Most relevant and promising marine and maritime activities | Links to BG Objectives | |
|---|---|---|---|---|---|
| National | Croatian Tourism Development Strategy until 2010 | - Objective A: Investments<br>- Objective B : upgrading the accommodation structure and quality<br>- Objective C : new employment<br>- Objective D : increase in the tourist consumption | **Coastal tourism**<br>**Cruise tourism**<br>**Passenger ferry services**<br>**Yachting and marinas** | - Healthy environment ;<br>- Increase the growth potential of activities ;<br>- Increase the attractiveness of coastal areas. | Maritime, coastal and cruise tourism |
| National | Nautical tourism development strategy of Republic of Croatia 2009-2019 | 12 objectives above listed | **Yachting and marines** | - Healthy environment<br>- Increase the growth potential of activities<br>- Increase the attractiveness of coastal areas | Maritime, coastal and cruise tourism |
| National | Strategy for agriculture and fishery (2002) | - Objective 1: Develop and modernise the mariculture production sector:<br>- Objective 2: Strengthen the basic infrastructure:<br>- Objective 3: Support research and development projects directed at product diversification and mariculture production | **Marine aquaculture** | - Contribution to an overall improvement in human diet and more quality merchandise<br>- Diversification of coastal communities activities<br>- Preservation of fish stock-sustainable aquaculture<br>- Promote aquaculture based on-binding strategic guidelines, multiannual national strategic plans and the exchange of best practice | Aquaculture |
| National | Strategy for maritime transport (under preparation, available in 2014) | Available in 2014 | **Short-sea shipping**<br>**Passenger ferry services**<br>**Cruise tourism** | - Healthy environment<br>- Increase the growth potential of activities<br>- Increase the attractiveness of coastal areas | Maritime, coastal and cruise tourism |

Table 27 - Policies/interventions towards most promising marine and maritime activities and the Smart Specialisation Strategies[3]

| Level | Strategies | Objectives | Most relevant and promising marine and maritime activities | Links to Smart Specialisation Strategies |
|---|---|---|---|---|
| National | Croatian Tourism Development Strategy until 2010 | - Objective A: Investments<br>- Objective B : upgrading the accommodation structure and quality<br>- Objective C : new employment<br>- Objective D : increase in the tourist consumption | **Coastal tourism**<br>**Cruise tourism**<br>**Passenger ferry services**<br>**Yachting and marinas** | - Innovation friendly business environments for SMEs<br>- Research infrastructures, centres of competence and science parks<br>- Universities-enterprise cooperation<br>- Cultural and creative industries<br>- Internationalisation |
| National | Nautical tourism development strategy of Republic of Croatia 2009-2019 | - 12 objectives above listed | **Yachting and marines** | - Innovation friendly business environments for SMEs<br>- Green growth |
| National | Strategy for agriculture and fishery (2002) | - Objective 1: Develop and modernise the mariculture production sector:<br>- Objective 2: Strengthen the basic infrastructure:<br>- Objective 3: Support research and development projects directed at product diversification and mariculture production | **Marine aquaculture** | - Innovation friendly business environments for SMEs<br>- Universities-enterprise cooperation |
| National | Strategy for maritime transport (under preparation, available in 2014) | Available in 2014 | **Short-sea shipping**<br>**Passenger ferry services**<br>**Cruise tourism** | - Available in 2014 |

[3] Smart Specialisation Strategies (S3) used for this logical analysis have been defined on the basis of the S3 horizontal approaches (or RIS horizontal priorities), as defined in the Guide to Research and Innovation Strategies for Smart Specialisation, available at http://s3platform.jrc.ec.europa.eu/en/c/document_library/get_file?uuid=e50397e3-f2b1-4086-8608-7b86e69e8553. See the Country fiche guide for more details at http://www.cogeaspa.it/blue-growth-study/country-fiches/?lang=en.

# Sources and references

This Country fiche has been compiled according to a common methodology adopted in the framework of this Study and more specifically in Task 2.

A "Country fiche Guide" and a detailed methodology ("*Methodology for identifying and estimating Maritime Economic Activities using NACE and other data*") are available at http://www.cogeaspa.it/blue-growth-study/country-fiches/?lang=en

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