



The Leisure Nautical Sector in the Atlantic Area

C. Perez-Labajos^{1,2}, B. Blanco^{1,4,*}, L. Sánchez^{1,5}, E. Madariaga^{1,6}, E. Díaz^{1,7}, B. Torre^{2,8}, C. López^{2,9} and S. Sanfilippo^{2,10}

ARTICLE INFO

Article history:

Received 31 January 2014;
in revised form 10 February 2014;
accepted 06 March 2014.

Keywords:

Maritime Economy, Leisure Nautical,
Recreational Nautical, Human Capital,
Innovation.

ABSTRACT

According to the so-called "maritime economy", maritime activities are one of the key elements of the Lisbon Strategy. According to the European Union, those sectors related to the exploitation of the seas have contributed to the building of the Atlantic Area identity. Some subsectors from the maritime economy face tough times, while other offer great opportunities for economic growth and employment. In this context the HARVEST ATLANTIC (Harnessing All Resources Valuable to Economies of Seaside Territories on the Atlantic) project is developed, approved by the Atlantic Area Interreg IV-B Program. This study includes the main results obtained from the above mentioned project related to the recreational nautical sector in four countries from the Atlantic area (Spain, Portugal, Ireland and Scotland). The surveys that were conducted among companies from the sector included different aspects related with their location, innovation, human capital and policy making.

© SEECMAR | All rights reserved

1. General Description - Recreational Nautical Sector

The recreational nautical sector presents a multi-sectorial structure revolving around two closely related, complementary axes: boats and recreational marinas. This is a very dynamic, expanding sector, which connects and impulses numerous economic activities: pleasure craft construction (shipyards), coastal

urban development (marinas and harbours), industry (electronics, motors, and auxiliary industries) and services (accessories, rentals, distribution and training)(Hall,2001). It also shares deep ramifications with the tourist sector (nautical tourism). Recreational boating, as a tourist activity, plays an important part within marine and coastal tourism (Hall, 2000; Favro and Glamuzina, 2005; Cerit and İçöz, 2006; Horak et al., 2006; Xiao and Smith, 2006; Méndez, 2002)..

In developed countries, the growth of the recreational boating sector depends on numerous factors coinciding within a determined space (country or region): principally, the availability of adequate installations, the price of vessels, income levels, and the legal and fiscal framework within which the recreational nautical sector develops (Perez-Labajos et al., 2009).

This is a sector with a high consumption of services, and a large proportion of intermediate consumption. A recreational boat requires motors, generators, electronics, polymeric components and an endless list of elements from auxiliary industries which, without the former, would have no use. The multipliers associated with the impact of the recreational nautical sector indicate that the total employment is six times the initial direct effect of the sub-sector, while the gross added value undergoes a final increase five times its direct effect (García-Reche et al., 2010; Lee, 2001; Perez-Labajos, 2011; CEET et al., 2012).

The leisure activities developed by recreational boating are

¹Ocean and Coastal Planning and Management I+D+i Group. University of Cantabria. Germán Gamazo nº 1, 39004 Santander.

²Banca y Finanzas de la Empresa (Bank and Finances of the Company I+D+i Group). University of Cantabria. Av. de los Castros s/n- 39005 Santander

³Titular Professor, E-mail address: clabajos@unican.es, Tel. +34 942201362

⁴Titular Professor, E-mail address: blancob@unican.es, Tel. +34 942201897

⁵Ayudante Doctor, E-mail address: lidia.sanchez@unican.es, Tel. +34 942 200944

⁶Ayudante, E-mail address: ernesto.madariaga@unican.es, Tel. +34 942201361

⁷Ayudante, E-mail address: emma.diaz@unican.es, Tel. +34 942202265

⁸Titular Professor, E-mail address: aria.torre@unican.es, Tel. +34 942200941

⁹Ayudante Doctor, E-mail address: carlos.lopez@unican.es, Tel. +34 842203906

¹⁰Ayudante Doctor, E-mail address: sergio.sanfilippo@unican.es, Tel. +34 942202007

*Corresponding author: B. Blanco. E-mail address blancob@unican.es, Tel. +34 942201897 (B. Blanco.)

essential to modern societies, yet paradoxically, they are subject to a permanent contradiction. On the one hand there exists a growing demand for such activities. On the other hand, there is a lack of social acceptance of their possible negative externalities. When the problem is not dealt with as a whole, a negative viewpoint is often presented, sometimes in an interested or subjective manner, which does not correspond to reality (Lukovic, 2007; Marchand and Kracic, 2006; Phillips and Jones, 2006; Baine et al., 2007).

Marinas are basic infrastructures that allow us to sustain and develop nautical tourism while enhancing coastal tourism. In this regard, the orderly development of nautical tourism should require sufficient development of such infrastructure as to satisfy the existing excess of demand. However, the question is not quite so simple. There is controversy between those who defend and oppose the marinas. Opponents of the development of marinas often argue that such infrastructures cause a negative environmental impact. In developed countries a favourable environmental impact report is usually required as a prerequisite to the construction of a marina. Nevertheless, somewhat paradoxically, on occasions even a favourable report does not modify the arguments for rejection.

As yet, there is not enough research to support a general scientific position as to the convenience, or otherwise, of marinas. Nevertheless, it is a fact that recreational boating is a growing activity that requires an orderly development of sufficient infrastructure. Therefore, the challenge society faces is not to deprive itself of this important leisure activity, but to develop it and promote it in a way that is economically, socially and environmentally sustainable.

In the following sections, the main results obtained from the analysis of the recreational nautical sector in the Atlantic area will be presented. Therefore, first, the value chain is described and the general market situation is analysed. Secondly, the European regulatory framework and the European strategic framework of the recreational nautical sector are analysed. Thirdly, some aspects related to location, innovation, human capital and policy making in the recreational nautical sector in Harvest regions are studied. Finally, policy implications and conclusions are stated.

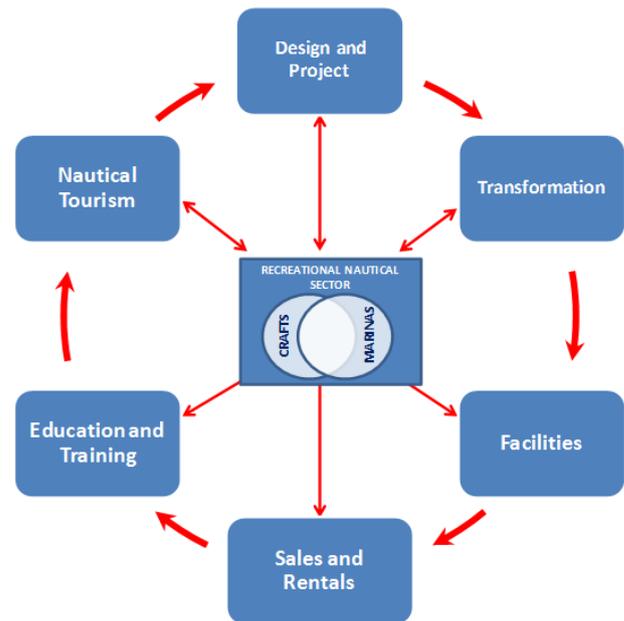
2. Value Chain of Recreational Nautical Sector

The supply chain of the recreational nautical sector (RDT + i) incorporates a range of activities that can be innovated, and thus, either directly or indirectly, constitutes an input for innovation. The sub-sectors that make up the recreational nautical sector value chain are shown in Figure 1. The activities of these sub-sectors follow:

1. Design and Projects.

Activities related to the project design of harbours and pleasure craft: Preliminary designs; Design and R & D consultancy of vessels and marinas; Engineering projects; Re-engineering; feasibility analysis, technical, economic, financial and commercial studies for marinas, and leisure

Figure 1: General structure of the supply chain in Recreational Nautical Sector



Source: Own Elaboration

vessels; research and design of marinas and pleasure vessels; research and innovation in activities related to the construction of ports and pleasure craft.

2. Construction.

Activities related to the construction and maintenance of ports and leisure craft: Construction of marinas; industrial and commercial buildings; Moorings and docks; Material for the construction and outfitting of vessels, radar and radio beacons; motors, electronic equipment and electrical panels; Propellers and propulsion equipment; Rudders and rudder blades; carpentry, covers and upholstery; Cables and nautical rope.

3. Facilities.

Activities related to the facilities and services offered in the marinas for boats: Maintenance and repair of vessels; berths and mooring services; tow boats; Telecommunications services, insurance services and classification of vessels; Cranes; Dry-dock; Car parks, rental of shops and open areas; Sports and catering facilities; Service charges (water, electricity, telephone, and internet); Sale of fuel.

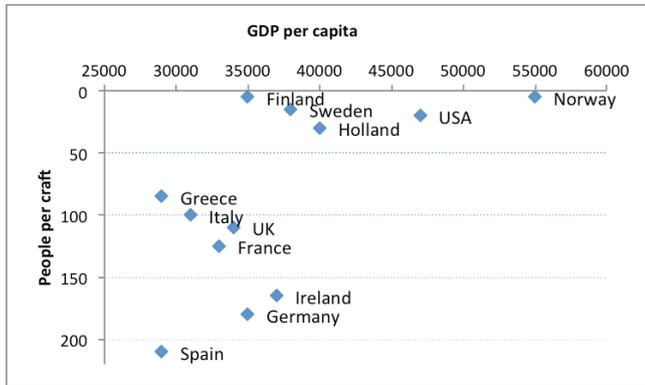
4. Sale and rental.

Activities relating to the sale and rental of moorings and leisure vessels: Sale and purchase of new and second-hand moorings (leasing); sale of new and second hand boats; rental of moorings; boat rentals, with or without crew.

5. Education y practical training.

Educational and training activities related to recreational boating: Teaching services in sailing schools, public and private academies; Development of practical learning in training vessels; Simulators; Nautical Material; Publica-

Figure 2: Growth potential of the Recreational Nautical Sector



Source: International Council of Marine Industry Associations. Own elaboration

tions; Consultancy services; Public administration services providing testing to access sailing qualifications.

6. Nautical Tourism.

Nautical tourism includes maritime leisure activities, such as the cruise ships, sports fishing, diving, sailing, windsurfing, rowing, charters, yachts, boat trips, marine ecotourism, tourist submarines, equipment rental, etc..

Furthermore, nautical tourism relates very directly to other activities that combine to make up coastal tourism (restaurants, hotels, sports facilities, second homes, holiday home rentals, etc..).

3. Market Situation

Faced with a deep financial crisis with dramatic economic consequences, the European nautical industry has reacted quickly, taking steps to find new markets outside traditional markets (Europe, North America, Australia / New Zealand), invest in new models and new technology measures to promote innovative products, reduce production costs and defend its position as world leader. Moreover, the prices of new vessels are more competitive to consumers than in the past.

The problem of financing, for both industrial production and the acquisition of vessels must still be met, taking into account the difficulties faced by the European banking system. Financial institutions no longer accept the value of recreational boats as credit collateral. Furthermore, the second hand market has stagnated, with boats held by banks selling at very low prices (EEASC, 2013; ICOMIA, 2012; Kovacic et al., 2006a; Kovacic et al., 2006b; Nauticayyates, 2012; Sánchez, 2007).

Figure 2 shows the growth potential of the recreational nautical sector in a given country by comparing GDP per capita (along the x-axis) with the total inhabitants for each recreational craft (on y-axis). It is evident that countries with relatively similar GDP per capita (Spain, France, UK, Italy and Greece) display a different nautical development (number of inhabitants / pleasure craft).

What follows is a synthesised version of the international European market:

Spain. The sale of used boats has been maintained with a good level of operations. In the first half of 2013 there were 1,990 sales. The severe crisis in Spain along with high taxation that increases the price of boats over 8 metres 33% has depressed the sector.

France. The production of recreational vessels fell by 14% in 2012 to a volume of €780 million. The internal market was down 17% to €250 million and the export market fell by 12%.

Italy. More than half the turnover of recreational boating in Italy, 52% corresponds to the production of new boats.

Germany. The Germans bought 15% more imported boats in 2012 to reach 13,451 units. Turnover decreased - 5% in 2013.

The UK exports 35% of its production, which in turn supports its internal market now showing signs of recovery.

Portugal. The bulk of its shipyards produce small motorboats targeted at a market of consumers most suffering the crisis. In 2013 exports increased to 40 units, of which only one has been destined for the domestic market.

Greece. The sale of used boats has remained strong thanks to foreign owners, especially in boats over 5 years old.

Turkey is a major exporter of mid length boats and or over 24 metres long.

Poland. It is one of the few European countries with good growth expectations given the economic growth, 1.1% in 2013 and 2.3% expected in 2014. In 2013 new facilities opened, even equipped with CNC capable of automatically creating moulds up to 20 metres long.

Czech Republic. Just one shipyard survives, manufacturing small aluminium boats thanks to their innovation and competitive prices.

Croatia. Also successful in 2013 with significant growth in the field of nautical tourism and charters supported by a significant distribution of marinas along 6,000 km coastline and 1,187 of Dalmatian coast.

Holland. In 2012 100% of production of Dutch vessels over 15 metres was destined for export, when this would normally be half, thus highlighting the importance of the foreign market.

Sweden. Most boats purchased by the Swedes are imported. Domestic production is based on the manufacture of small boats up to 7 metres long.

Norway, Denmark and Finland follow the same trend, though it is worth noting how the late arrival of summer has a negative effect on sales figures.

Austria. Austria is landlocked, with few inland lakes, indicating the lack of importance of this sector that exports 99% of its product to Scandinavia and to Asian markets.

4. The Sector at European Level

4.1. General Description of Recreational Nautical Sector at European and Atlantic Area Level

The marine industry in Europe is made up of over 37,000 companies, providing direct employment to 234,000 people and generating an annual turnover of €20,000 million in 2011. 97% of companies are SMEs, while large groups make up around a dozen companies. The economic and financial crisis in 2008

and 2009 led to an average reduction in sales and industrial production of around 40 to 60 %, in which all product segments were affected. This has meant the loss of more than 46,000 jobs and a contraction in the manufacturing sector's total turnover of around 3000 to 4500 million Euros. Large companies and SMEs have lost the same percentage of jobs. Both the loss of jobs and the reduction of turnover have occurred primarily in the industrial section of the sector (i.e. shipyards and accessory and component manufacturing). Services (rental/charter of leisure craft, repair and maintenance, marinas and harbours) have also started to feel the effects of the crisis. Nevertheless, Europe remains the world market leader as the American competitor weakens, and despite growth in emerging countries such as Brazil, China and Turkey.

Industrial activity in the sector covers the whole range of shipyard production, from small boats to super-yachts over 100 metres in length. However, the nautical industry is more traditionally focussed on the production of vessels with a maximum length of 24m (the construction of which is regulated by Directive 94/25/EC). The industry produces equipment and components (engines and propulsion systems, rigging, electronics and navigation systems, candles, paintings, interior furnishings), nautical accessories (safety devices, textiles, etc.), and equipment for water sports activities (scuba diving, windsurfing, canoeing / kayaking, etc.).

The service activities are numerous and varied given that they cover the management and development of the 4,500 marinas in Europe (providing 1.75 million moorings for a European fleet of 6.3 million vessels) and include trade and boat maintenance, rental and charter on sea or freshwater (crewed or otherwise), sailing schools, maritime experts, financial services and nautical insurance expertise, etc. The European industry is an open and competitive industry that sells about two thirds of production on the domestic market and exports to traditional markets like the United States, Canada and Australia / New Zealand. Following the drop in demand from these countries, the European industry experiences a growing increase in exports to emerging markets in Asia (mainly China) and Latin America (mainly Brazil).

4.2. Regulatory Framework

The European regulatory framework for the recreational nautical sector varies considerably from country to country with regards conditions of use (nautical licenses, registration, safety regulations and equipment, taxation, etc.). These national differences fragment the single European market, creating confusion among economic operators and users, and are a form of unfair competition. The most glaring example is, of course, the Mediterranean, where, from Spain to Greece, through France, Italy, Slovenia and Croatia, each country regulates nautical activity in a different manner. Such differences in treatment do not exist for other means of transport, such as cars, trains or planes.

Directive 94/25/EC has allowed the European harmonisation of safety requirements for recreational craft with lengths between 2.5 and 24 metres. This directive was amended in 2003 (Directive 2003/44/EC) with the addition of new requirements for environmental considerations (for example, reduced levels

of emissions and noise pollution from nautical motors) and the inclusion of the "personal watercraft" (jet skis) within the scope of the directive.

In fifteen years, the application of this Directive has led to the international development of over 60 harmonised EN-ISO standards applicable to vessels and "personal watercraft". These rules, of European origin, are now used as a technical reference point worldwide. Directive 94/25/EC has also enabled the creation of a single European market for recreational craft, easing trade conditions, competition and intra-European trade. European Economic and Social Committee (EESC) requests that the Commission submit coherent proposals, to allow for the creation of a single European market for nautical services, leading to convergence of conditions of use and navigation in Europe.

Directive 94/25/EC is currently under review and subject to debate between the European Parliament and the Council (proposed Directive COM (2011) 456 final). The most notable changes include a further reduction of gas emission levels for nautical motors, the obligation to install on board tanks or sewage treatment systems, and adaptation to the requirements of the new European legal framework for marketing of harmonised products (Decision n° 768 /2008 and Regulation 765/2008/EC).

4.3. Strategic Framework

The European Economic and Social Committee propose the need to develop the following strategies in the recreational nautical sector:

Negotiate with third party countries (particularly the United States, China and Brazil) new reciprocity norms for European access to their markets.

Increase market surveillance to prevent pleasure boat imports from third party countries that do not conform to the European standards of noise and emissions, thus leading to unfair competition. Favouring standardised and continuous training that allows for recognition of professional qualifications acquired, thus boosting labour mobility. Social forces advocate a European training passport in the sector. ES C 133/ 2 Official Journal of the European Union 09.05.2013 Build a European database of recreational maritime accidents, in order to understand risks of these activities and adopt more appropriate safety regulations and standards.

Adopt uniform safety regulations in the Union territory, in particular in marine basins such as the Mediterranean Sea, the Baltic Sea and other European waters.

Order a technical study to review the current system of design categories, as requested by the European Parliament in the framework of the revision of Directive 94/25/EC.

Facilitating nautical industries access to European funds for research, development and innovation, as with industries engaged in other modes of transport.

Promote the adoption and use of effectively enforced international standards. United States, for example, participates in the development of ISO standards, but does not recognize or use them internationally, preferring instead to implement American standards.

Harmonise the fiscal treatment of nautical tourism in the single European market. Some Member States apply the reduced VAT rates of the hotel industry to moorings and yacht charters, while others apply the standard rates with obvious, unjustified disadvantage for their domestic operators.

Strengthen the attractiveness of sailing for the younger generation, both as a professional sport and recreational activity.

5. The Sector within the Harvest Regions

5.1. Description of the Sector in the HARVEST Regions

Cantabria is a coastal region whose autonomous government has legislative powers in the development of marinas. The recreational fleet totals 6,000 vessels registered in one of the region's six existing marinas: Castro Urdiales, Laredo, Santoña, Santander, Requejada and San Vicente de la Barquera, 20 % of vessels are less than 4 metres long.

Cantabria has 14 nautical sports facilities with a total of 3,653 moorings. The first vessels registered date back to 1907 in Castro Urdiales, 1914 in Santander, 1924 in Santoña, 1943 in Laredo, 1952 in Requejada and 1969 in San Vicente de la Barquera.

The typical boat in the region is between 5 and 7 metres long and a size of 2.8 G.T. The majority of registered vessels (97.67 %) are less than 10 metres long. As regards the age, it is a young fleet with more than half of the vessels (59.56 %) with less than 10 years old (ADIN, 2012; Esteban, 2000a, 2000b, 2000c, 2001; FEAPDT, 2011; Meyer-Arendt, 2004; Perez-Labajos et al., 2001, 2006, 2009).

Tourism is now the world's largest industry, with global revenues of around 475 000 million and accounted for 699 million "arrivals" of tourists. The economic impact of the sector in the EU on average corresponds to 5.5% of GDP and 6% of employment. In Portugal, tourism accounts for 11 % of GDP and about 10 % of employment, values which give this sector a truly critical importance to the country. The Sea-Tourist activity in Portugal has seasonal characteristics, developing mainly between the months of May and October and has now largely local scope, with the highest concentration in the Algarve, Porto, Lisbon, Peniche (Berlenga) region, and even in the Azores and Madeira. The emergence and growth of the nautical recreational activities in the last decade, has encouraged the development of this important commercial and economic activity, however, appears still an incipient sector in the country (Comissão Estratégica dos Oceanos, Portuguese Government)¹¹.

The Portuguese coast has great potential for the development of the nautical recreational industry. However, despite the advances of the last decade, the lack of infrastructure and port facilities for specific support to nautical recreational activities is still recognised. This is particularly felt in the northern region of mainland Portugal, where lack of infrastructure, in particular the lack of marinas, is more serious. However, although there are still few marinas in Portugal built from scratch, there

is infrastructure access and under - river navigation in estuarine areas and ports of trade and fishing ports, with areas available for creating support for Recreational Boating (Comissão Estratégica dos Oceanos, Portuguese Government)¹².

Then the results of the survey conducted among companies of the recreational nautical sector in the harvest regions related to aspects such as location, innovation, human capital and decisions are analyzed. The values of the factors analyzed for companies in the field of recreational nautical are compared with those obtained for firms in the other Harvest sectors, in relative terms.

5.2. Location

The reasons that best justify the location of the interviewed companies of the Harvest regions, which work in the field of recreational nautical, are shown in Figure 3.

For companies in the recreational nautical industry, unlike what happens to the average value of companies in the other sectors, their proximity to raw materials and infrastructure (74.1%), the opportunity to exploit an existing need (70.4%) and proximity to other companies in the same business or related activities (66.7%) are crucial factors.

The location of the activities that set up the recreational nautical sector in the vicinity of marinas, recreational ports and piers is crucial. This is because marinas are the infrastructure on which gravitate most activities of the recreational nautical industry. Their locations will be determinant for the localization of vessels and the many activities and services that are developed around them. Ultimately, recreational fleet are the unit of consumption of the services offered around recreational ports that are located in a given spatial domain.

The demand for recreational crafts, understood as the desire to have a boat to practice leisure water activities, depends on numerous factors involved in a given spatial domain (Region). It mainly depends on the availability of appropriate facilities, vessel prices and income levels.

Those companies that develop activities related to the recreational sailing sector tend to cluster around marinas or nearby. Occasionally, some companies are installed in the port area (workshops, sailing boats, sails, chandlers, restaurants...).

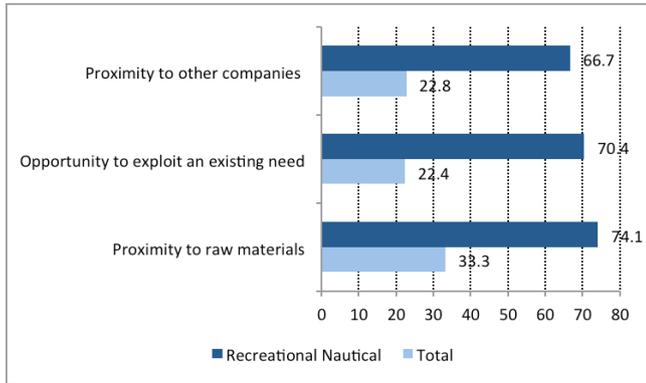
Figure 4 shows the location of the most significant markets for the recreational nautical sector in the Harvest regions. The main market is the International European Market (71.4%), in contrast to other sectors whose most important markets are national and local.

There is a large European International Market of second-hand recreational boats. Numerous companies in the recreational nautical sector act as intermediaries and/or agents of that market. Additionally, there are numerous engine boats licensees from European and Asian brands. Finally, there is also an international replacement parts market which is channelled through companies specialized in this activity. The sector dimension is local when offering regional services, primarily for maintenance and repairs.

¹¹<http://www.ordemengenheiros.pt/fotos/editor2/eng.naval/2relatoriocoo-parti-ii.pdf>

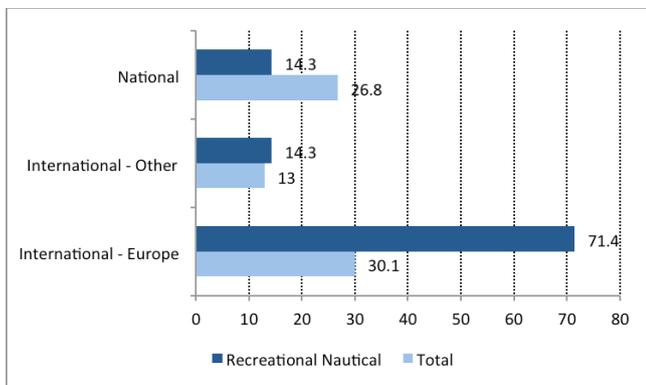
¹²<http://www.ordemengenheiros.pt/fotos/editor2/eng.naval/2relatoriocoo-parti-ii.pdf>

Figure 3: Key factors for the location decision



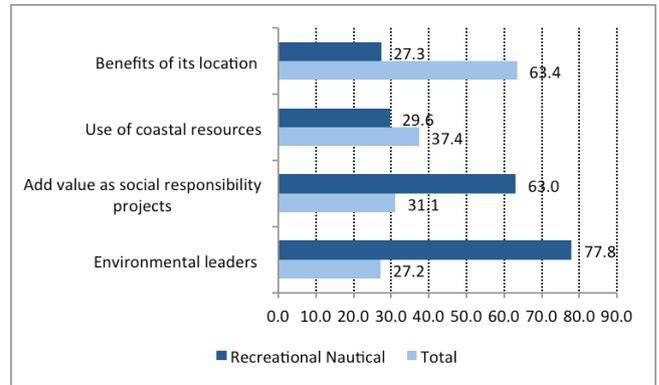
Source: Own elaboration

Figure 4: Most significant markets



Source: Own elaboration

Figure 5: Benefits of being located in the Atlantic Area



Source: Own elaboration

The potential benefits for recreational nautical companies of being located in the Atlantic Area are shown in Figure 5.

Overall, the surveyed recreational nautical companies from the Harvest regions benefit little from its location in the Atlantic Area (27.3%), as opposed to other companies from other analysed sectors (72.7%). Marinas and boats do not have a common treatment, neither a specific homogeneous consideration by the fact of being located in the Atlantic Area. There is not a distinct policy in this area through which companies can benefit.

Furthermore, climatic and coastal terrain conditions are very different in the different Harvest regions. Coastal settlements try to locate their boats in the nearest ports of the region. Similarly, coastal resources are used by few nautical Harvest companies (29.6%). Among the companies offering services to the sector, very few of them use the resources from the coastal area for its commercialization, such as live bait for fishing. Many anglers buy bait from other coastal areas and others fish it themselves.

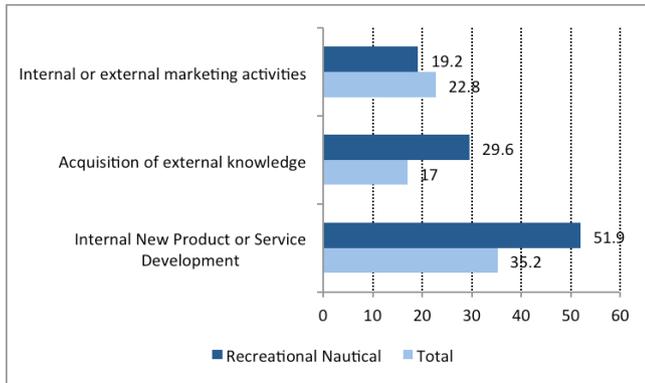
Surveyed companies in the recreational sailing sector think, more often than the other companies surveyed, that their activities, products or services are adding value to the image of their region and the Atlantic Area. Most companies identify themselves as environmental leaders in the marine sector (77.8%) and as committed companies with social responsibility projects (63%).

Coastal resources, like any other social resource, must be increasingly integrated in the activities of coastal societies, provided a respectful use of them. The state of current technology allows a balance between resource protection and use. In this regard, the development of marinas requires previous economic and environmental studies. Such an approach to development of recreational nautical activity and respect for the environment is dominant in both, business and industry users.

5.3. Innovation

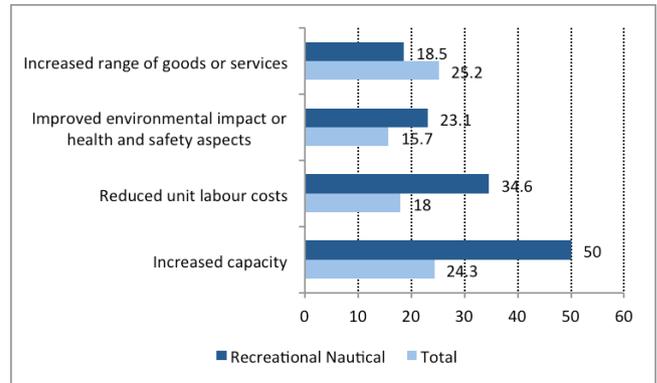
In the past year 2012, most surveyed companies from the recreational nautical sector, unlike other companies in the other Harvest sectors, were not involved in innovation activities (87%). Thus, no educational activity for staff involved in innovation

Figure 6: Innovation activities



Source: Own elaboration

Figure 7: Impact of the innovation activities



Source: Own elaboration

was developed. Equally, only a few companies developed marketing activities aimed at introducing innovations (19.2%). The number of companies that acquired external knowledge (licensing of intellectual property, patents, know-how, or specialized services) and developed designing activities (including industrial, product, process and service design and specifications for the production or supply) was not numerous either. The internal development of new products or services undertaken by companies in the sector (51.9 %) was the only positive aspect to be highlighted. Figure 6 shows the participation in innovation activities of recreational sailing companies from the Harvest regions.

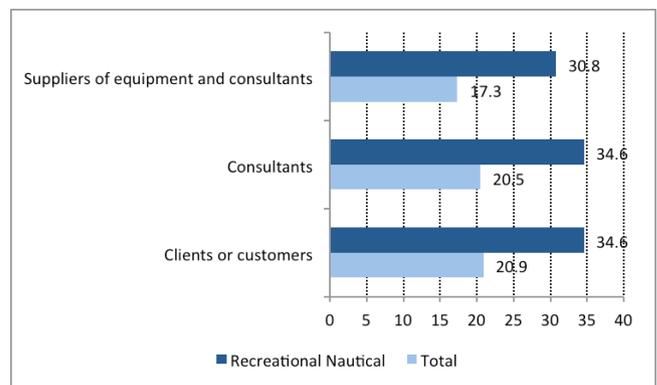
In Europe, due to the intrinsic relationship between the recreational nautical sector and the economic development, the economic crisis led to a significant contraction in the demand of recreational vessels. As a result companies have had to cut their costs including those budgets allocated to training, innovation and design activities. Equally, companies have reduced the prices of their services, infrastructures and equipment.

In 2011 and 2012, the impact of the innovation activities developed by companies from the recreational nautical sector could be seen in four main effects of different intensity:

- An increase of capacity in the 50% of the surveyed companies, more than twice as big as that for the rest of the companies from other sectors.
- A 34.6% reduction of labour costs.
- An increase in their range of products and services offered (18.5%).
- An improvement in health and security issues (23.1%).

In the biennium 2011-2012, new challenges and opportunities emerged due to the crisis and, as a result, recreational nautical companies started to search new ways of increasing productivity. Costs reductions and increases in productivity led to an increase in the capacity and new products and services appeared. Figure 7 shows the impact of the innovation activities in the recreational nautical companies from the Harvest regions.

Figure 8: Cooperation in innovation activities



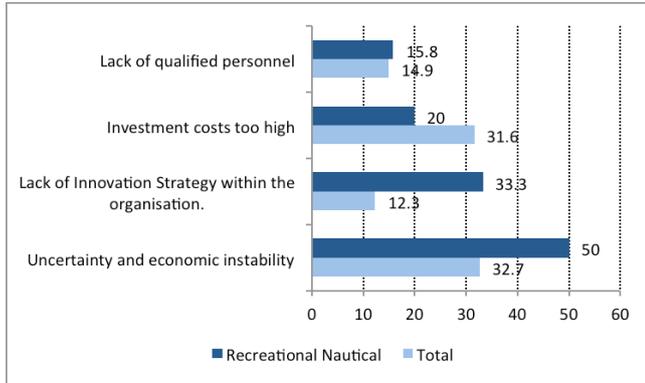
Source: Own elaboration

In the period 2011-2012, surveyed companies from the recreational nautical sector cooperated in innovation activities more than those companies from other Harvest sectors. Significantly, 34.6% of companies cooperated with consultants and customers, and 30.8% with equipment, materials and components suppliers. However, paradoxically, very few companies cooperated with those organisms directly committed to innovation (commercial laboratories, R&D companies, Public innovation organisms, or Private research institutes).

The relationship between companies from the recreational nautical sector and private organisms committed to innovation is verified through cooperation agreements that, in general, have a cost for companies. R&D public organisms do not consider a priority the development of new lines of research to develop innovations in the recreational nautical sector. Thus, cooperation is limited to customers and suppliers and, in some specific cases, to external consultants specialized in the issue that wants to be dealt.

There are many factors that can inhibit the innovation capacity of companies from the recreational nautical sector. Surveyed companies from the recreational nautical sector from the Harvest regions identified as the main key factor "uncertainty and economic instability", in 50% of cases. However, for the rest of the companies, that factor was just identifies in 32.7% of

Figure 9: Inhibiting factors of the innovation capacity



Source: Own elaboration

cases.

To a lesser extent, companies think that other factors that could inhibit the innovation capacity are: lack of innovation strategy within the organization (33.3%), too high investment costs (20%) and lack of qualified personnel (15.8%). Figure 9 shows the opinion of companies from the recreational nautical sector from Harvest regions regarding the inhibitor factor in the development of innovation capacity.

Economic uncertainty is, no doubt, an obstacle for companies' innovation capacity, but also for their whole development, affecting all the activities and elements. The economic crisis dimension has hindered progress. As a result, the recreational nautical sector has been deteriorating for the last few years. The end of the crisis and the start of the economic recovery allow now to affirm that the recreational nautical sector will grow by more than 1% over the next few years. That means a range of multiplier effects over other activities in the value chain, for instance, innovation.

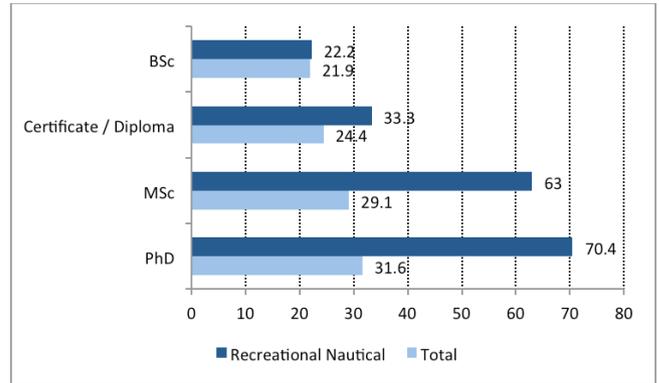
5.4. Human Capital

Surveyed companies from the recreational nautical sector have mainly qualified personnel. 70.4% of companies have PhD among their personnel, 63% have MSc, 22% have Bachelors and 33.3% have certificates or diplomas. Figure 10 shows the different human resources qualification levels or surveyed companies from the recreational nautical sector from the Harvest regions.

Only 21.7% of surveyed companies from the recreational nautical sector planned high qualification training needs and 38.1% had gaps in formation that could be satisfied by higher education institutions. Figure 11 shows the training and skills needs obtained in higher education institutions.

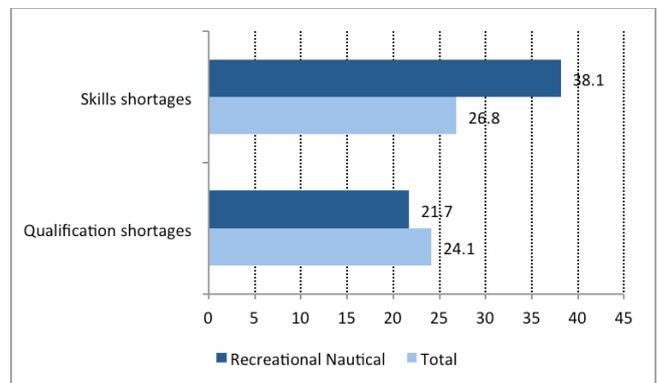
Those companies that integrate the recreational nautical sector are from a sector that needs high trained personnel. Many surveyed companies have PhDs in their own R&D departments or, based in cooperation agreements, in other R&D centers. Surveyed companies from the recreational nautical sector do not require human resources trained at higher education institutions.

Figure 10: Human Resources Qualification levels



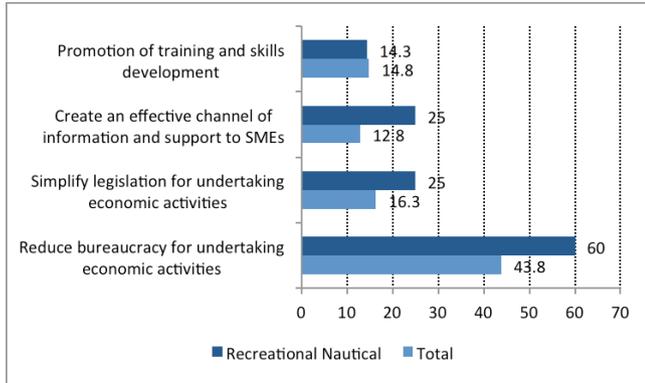
Source: Own elaboration

Figure 11: High educations needs



Source: Own elaboration

Figure 12: Mechanisms of stimulus of a favourable environment



Source: Own elaboration

5.5. Policy Making

The majority of surveyed companies from the recreational nautical sector (60%) think that policy makers could promote an adequate environment to benefit them, reducing bureaucracy to develop the economic activities. Some of them (25%) also think that policy makers could also help by making policies simpler and creating an effective channel of information and support for SMEs. Finally, to a lesser extent, 14.3% of companies think that promoting training and skills development could also favor that environment. Figure 12 shows the different mechanisms of stimulus that could help to develop a favourable environment for companies in the recreational nautical sector.

The recreational nautical sector is a highly regulated sector, with different security rules and different tax treatment in every Harvest region. Nowadays, there is a strong demand from the sector in Europe in order to eliminate numerous bureaucratic, administrative and tax barriers that reduce the attractiveness of the activity. It is intended to simplify the access to the activity and give it a more homogeneous treatment.

In the period 2011-2012, 68% of the surveyed companies from the recreational nautical sector received aids from the regional or local governments, 60% from the Central government and 52% from the European Union. Figure 13 shows the different sources of public aids received by the companies from the recreational nautical sector.

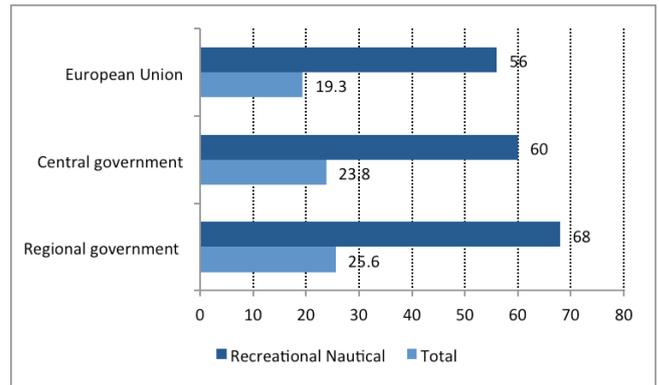
The aids are usually aimed to the development of infrastructures (marinas). Aids are usually financed by public and private sectors together. Public aids have three complementary sources: regional, national or European.

The majority of surveyed companies from the recreational nautical sector have less than 10 employees as it can be seen in Figure 14.

The turnover of those surveyed companies from the recreational nautical sector is very low, and it similar to the turnover of those companies from other Harvest sectors. Figure 15 shows the turnover obtained by the majority of surveyed companies.

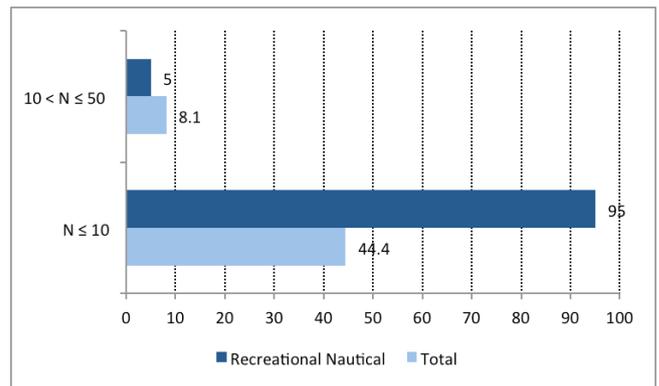
Those companies that develop their activity in the recreational nautical sector are small companies, that usually develop service (consultancy, maintenance, repairing, cleaning...)

Figure 13: Sources of public aids



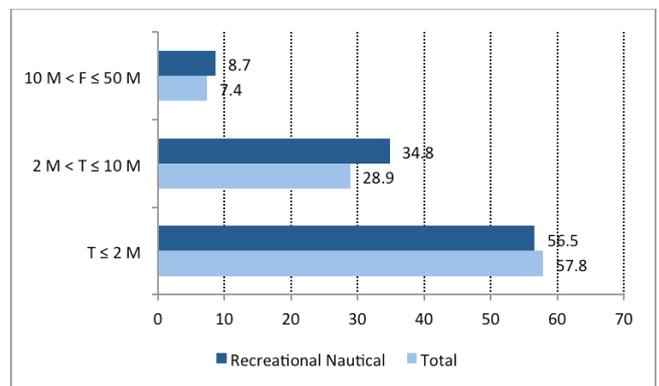
Source: Own elaboration

Figure 14: Recreational nautical companies size



Source: Own elaboration

Figure 15: Turnover of companies from the recreational nautical sector



Source: Own elaboration

and/or commercial activities (replacement parts, chandlers, sails ...). It is probably due to their small size, that their turnover is so low.

6. Summary and Policy Implications

6.1. Layman's Summary

This is a very dynamic, expanding sector, which connects and impels numerous economic activities: pleasure craft construction (shipyards), coastal urban development (marinas and harbours), industry (electronics, motors, and auxiliary industries) and services (accessories, rentals, distribution and training). It also shares deep ramifications with the tourist sector (nautical tourism).

The sub-sectors that make up the recreational nautical sector value chain are: design and projects, construction, facilities, sale and rental, education y practical training, and nautical tourism. Faced with a deep financial crisis with dramatic economic consequences, the European nautical industry has reacted quickly, taking steps to find new markets outside traditional markets (Europe, North America, Australia / New Zealand), invest in new models and new technology measures to promote innovative products, reduce production costs and defend its position as world leader.

The marine industry in Europe is made up of over 37,000 companies, providing direct employment to 234,000 people and generating an annual turnover of €20,000 million in 2011. 97 % of companies are SMEs, while large groups make up around a dozen companies. Industrial activity in the sector covers the whole range of shipyard production, from small boats to super-yachts over 100 metres in length. The service activities are numerous and varied given that they cover the management and development of the 4,500 marinas in Europe (providing 1.75 million moorings for a European fleet of 6.3 million vessels) Cantabria is a coast whose autonomous regional government has legislative powers in the development of marinas. The recreational fleet totals 6,000 vessels registered in one of the region's six existing marinas: Castro Urdiales, Laredo, Santoña, Santander, Requejada and San Vicente de la Barquera, 20 % of vessels are less than 4 metres long. Cantabria has 14 nautical sports facilities with a total of 3,653 moorings. The typical boat in the region is between 5 and 7 metres long and a size of 2.8 TRB. The majority of registered vessels (97.67 %) are less than 10 metres. As regards age, it is a young fleet with more than half of the vessels (59.56 %) less than 10 years old.

Companies' decision to locate is due mainly to the proximity to raw materials (74.1%). International markets are the most important for companies (85.7%). Businesses do not benefit a great deal from their Atlantic Area location. They are market leaders environmentally (77.8%).

The companies are engaged in new product and services development (51.9%). The impact of innovation in companies resulted in an increased capacity (50.0%). For the main part, companies cooperate in innovation activities with clients and consultants (34.6%). The main factors inhibiting the innovation capacity of enterprises are uncertainty and economic instability (50.0%).

Staff employed by the companies are generally qualified to PhD (70.4%). A shortfall in qualifications or skills that could not be met by higher and further education institutions was not detected. Companies believe that policy-makers can stimulate an environment favourable by simplifying legislation for economic activities and creating an effective channel of information and support for SMEs (25.0%). Enterprises mainly receive public grants through regional or local governments (68.0%). Companies are generally small with a low turnover.

6.2. Policy Implications

Strategies in the recreational nautical sector:

1. Negotiate with third party countries (particularly the United States, China and Brazil) new reciprocity norms for European access to their markets.
2. Adopt uniform safety regulations in the Union territory, in particular in marine basins such as the Mediterranean Sea, the Baltic Sea and other European waters.
3. Facilitating nautical industries access to European funds for research, development and innovation, as with industries engaged in other modes of transport.
4. Promote the adoption and use of effectively enforced international standards. United States, for example, participates in the development of ISO standards, but does not recognize or use them internationally, preferring instead to implement American standards.
5. Harmonise the fiscal treatment of nautical tourism in the single European market. Some Member States apply the reduced VAT rates of the hotel industry to moorings and yacht charters, while others apply the standard rates with obvious, unjustified disadvantage for their domestic operators.
6. Strengthen the attractiveness of sailing for the younger generation, both as a professional sport and recreational activity.

Conclusions

1. This report has identified that it is a dynamic expanding sector that connects economic activities such as pleasure craft construction, coastal urban development, industry and services.
2. New markets were found outside of traditional ones when the sector was faced with a global financial crisis to invest in new models and new technologies, to promote innovation and to reduce production costs.
3. Business location is decided mainly by proximity to raw materials.
4. The key recommendations identified in this report are:
 - The need to simplify legislation and create an effective channel of communication.
 - The need for uniform safety regulations and enforced international standards.

Aknowledgements

This article has been developed thanks to the project Harvest Atlantic - *Harnessing all resources valuable to economies of seaside territories on the Atlantic*. It's an European project approved by the Atlantic Area Programme 2007-13, co-financed by the European Regional Development Fund (ERDF), developed between 2011 and 2014.

References

- ADIN (2012) Informe preliminar. Matriculación de Embarcaciones año 2012. ADIN. Madrid Baine, M., Howard, M., Kerr, S., Edgar, G., & Toral, V. (2007). Coastal and marine resource management in the galapagos islands and the archipelago of san andres: Issues, problems and opportunities. *Ocean & Coastal Management*, 50(3-4), 148-173.
- Centro de Estudios Económicos Tomillo, MSI y Cámara de Comercio de Malloca (2012). *IMPACTO ECONÓMICO DE LA NÁUTICA DE RECREO EN ESPAÑA Y PROPUESTAS PARA SU CRECIMIENTO*, MYBA, ANEN, AEGY y AENB. Madrid.
- Cerit, A. G., & Icoz, O. (2006). Tourism in marine environments: Introduction. *Tourism in Marine Environments*, 3(1), 1.
- ESTEBAN CHAPAPRÍA, V. (2000a): Futuro y expectativas del turismo náutico. UPV.
- ESTEBAN CHAPAPRÍA, V. (2000b): El planeamiento de infraestructuras para el turismo náutico. *Rev. Cuadernos de Turismo* n°6, Universidad de Murcia, Murcia.
- ESTEBAN CHAPAPRÍA, V. (2000c): Los puertos e instalaciones náuticas de recreo y deportivos como infraestructura turística, en *La actividad turística española en 1999*. AECIT. Madrid. .
- ESTEBAN CHAPAPRÍA, V. (2001): La oferta turística de las Estaciones Náuticas. UPV, Valencia.
- EUROPEAN ECONOMIC AND SOCIAL COMMITTEE (EEASC) (2013). Opinion of the European Economic and Social Committee on 'Nautical industries: restructuring accelerated by the crisis' (own-initiative opinion). 487TH PLENARY SESSION HELD ON 13 AND 14 FEBRUARY 2013. (2013/C 133/01)
- Favro, S., & Glamuzina, N. (2005). Contemporary problems of nautical tourism development in croatia. *Promet - Traffic - Traffico*, 17(2), 107-112.
- FEDERACIÓN ESPAÑOLA DE ASOCIACIONES DE PUERTOS DEPORTIVOS Y TURÍSTICOS (2011) *INFORME ANUAL DE PUERTOS DEPORTIVOS EN ESPAÑA 2011*. <http://www.feapdt.es>
- García-Reche, Marco-Serrano y Nieto Corredera (2010) *Los Puertos Deportivos en España: Estructura, Modelos de Gestión y Resultados Económico-financieros*. hinkcom Universidad Complutense de Madrid. Instituto de Pensamiento Estratégico, Madrid
- Hall, C. M. (2001). Trends in ocean and coastal tourism: The end of the last frontier? *Ocean & Coastal Management*, 44(9-10), 601-618.
- Hall, D. (2000). Sustainable tourism development and transformation in central and eastern europe. *Journal of Sustainable Tourism*, 8(6), 441-457.
- Horak, S., Marusic, Z., & Favro, S. (2006). Competitiveness of croatian nautical tourism. *Tourism in Marine Environments*, 3(2), 145-161.
- International Council of Marine Industry Associations (ICOMIA) (2012). *Recreational Boating Industry Statistics 2012* [http:// www .ICOMIA .ORG](http://www.ICOMIA.ORG)
- Kovacic, M., Grzeticc,, D., & Favro, S. (2006). Possibilities and limitations of spatial technical and technological development of a port of nautical tourism. [Mogućnosti i organizacija prostornoga i tehničko-tehnološkog razvoja luka nautičkoga turizma] *Nase More*, 53(1-2), 54-62.
- Kovacic, M., Grzeticc, Z., & Dundovic, C. (2006). Planning and selection of location for the nautical tourism port for sustainable development. [Planiranje i izbor lokacije za luku nautičkoga turizma u funkciji održivoga razvoja] *Nase More*, 53(3-4), 118-124.
- Lee, H. -. (2001). Determinants of recreational boater expenditures on trips. *Tourism Management*, 22(6), 659-667.
- Lukovic, T. (2007). Nautical tourism - definitions and dilemmas. [Nautički turizam - Definicije i dileme] *Nase More*, 54(1-2), 22-31.
- Marchand, H., & Skracic, V. (2006). The island and marine national park of kornati (croatia): A space in reprieve. [Le parc national insulaire et marin des Kornati (Croatie): Un espace en sursis] *Geographie*, 178(1521), 38-62.
- MÉNDEZ DE LA MUELA, G. (2002): El turismo náutico en La actividad turística en 2001. AECIT, Valencia, págs. 663 y ss.
- Nauticayyates (2012) *Mercado embarcaciones en España*. <http://www.nauticayyates.com/mercado-de-embarcaciones-de-recreo-en-espana-2012/#sthash.0X4iTPtO.dpuf>
- Meyer-Arendt, K. J. (2002). *BIBLIOGRAPHY for commentary: Recreation, tourism and sport geography...* Patiño Romarís, C.A. (2004) *El turismo náutico en Galicia: la oferta de puertos deportivos*. <http://www.udc.es/iuem>, Doc. 3, 2004
- Pérez-Labajos, C. Spending pattern of the recreational maritime sector and its impact on employment: The case of Cantabria, Spain (2001), *Marine Policy* 25 (3):187-196.
- Pérez-Labajos C, Blanco B. Leisure ports planning (2006), *Journal of Maritime Research* 3(2): 67-82.
- Pérez-Labajos, C., Bianco, B. Demand-income elasticity of leisure boats (2009), *Journal of Maritime Research*, 6 (1): 53-74.
- Phillips, M. R., & Jones, A. L. (2006). Erosion and tourism infrastructure in the coastal zone: Problems, consequences and management. *Tourism Management*, 27(3), 517-524.
- SÁNCHEZ PAVÓN, B. La financiación de infraestructuras, en: DÍAZ FERNÁNDEZ, Secretaría General de Turismo (2007) *Plan del Turismo Español Horizonte 2020*. Ministerio de Industria, Turismo y Comercio. Gobierno de España., Madrid
- Xiao, H., & Smith, S. L. J. (2006). Case studies in tourism research: A state -of -the -art analysis. *Tourism Management*, 27(5), 738-749.