

# Fishery and Mariculture

## Fishery

### Introduction

Fishery is a traditional activity of our coastal and island area and is the core livelihood activity for most people living there. Commercial fishery is carried out by more than 50 companies registered for the activity of fishing. Mariculture, the activity of cultivation of marine organisms in sea or brackish water, has particularly and rapidly developed in the area of Zadar County. Fish processing is a 100 year-old tradition of Zadarska County. First canned fish companies on the Adriatic coast were located in Zadar. The processing capacities of “Adria”, “Mardešić”, “Marituna” and “Ostrea”, the Fishery Cooperative “Ribarska sloga” and “Gavros” are leading in the fishing industry in Croatia. Canned and salty fish, packaged fish and fishmeal are all produced in the mentioned factories and facilities. Processing, as well as fish farming, is an export oriented activity and the products are exported to Italy, the Czech Republic, Poland, Hungary and Bosnia and Herzegovina. The table below shows the fishing fleets per counties for the year 2009. Zadar County is ranked 4<sup>th</sup> based on its total number of vessels (following Istria, Primorje-Gorski Kotar County and Split-Dalmatia County).

Table1. Fishing fleets per counties for the year 2009

COUNTY	Trawlers	Purse seiners	Other	Total number of vessels
Istria	147	23	788	958
Primorje-Gorski Kotar	98	27	592	717
Lika Senj	13	0	91	104
Zadar	109	95	397	601
Šibenik-Knin	57	13	290	360
Split-Dalmatia	117	49	625	791
Dubrovnik-Neretva	11	10	338	359
<b>TOTAL</b>	<b>552</b>	<b>217</b>	<b>3121</b>	<b>3,890</b>

Source: Croatian Ministry of Agriculture, Fisheries and Rural Development

The table below shows the catch of fish and marine organisms per counties for the year 2009 where it is evident that Zadar County was leading in the total catch compared to other Adriatic counties.

Table 2. The catch of fish and other marine organisms per counties for the year 2009 (in tons)

COUNTY	Pilchard	Anchovies	Hake	Surmullet	Prawns	Total catch
Istria	4,323	839	31	171	15	6,943
Primorje-Gorski Kotar	4,146	2,829	193	134	167	8,545
Lika-Senj	0	0	9	2	3	50
Zadar	14,589	5,813	108	118	27	25,785

<b>Šibenik-Knin</b>	707	736	120	115	28	<b>2,182</b>
<b>Split-Dalmatia</b>	4,431	2,930	317	285	112	<b>10,226</b>
<b>Dubrovnik- Neretva</b>	494	627	27	16	18	<b>1,633</b>
<b>TOTAL</b>	<b>28,690</b>	<b>13,774</b>	<b>805</b>	<b>841</b>	<b>370</b>	<b>55,364</b>

Source: Ministry of Agriculture, Fisheries and Rural Development in the Republic of Croatia

The following table shows the comparison between mariculture production in the Croatia and Zadarska County.

Table 3. Mariculture production 2009 (tons)

	<b>Croatia</b>	<b>The County of Zadar</b>
<b>White fish</b>	<b>5,000</b>	<b>2,500</b>
<b>Tuna</b>	<b>4,200</b>	<b>2,400</b>
<b>Shellfish</b>	<b>2,000</b>	<b>50</b>
<b>Total</b>	<b>11,200</b>	<b>4,950</b>
<b>Fish fingerlings in pieces</b>	<b>11,000,000</b>	<b>15,000,000</b>

Source: Development of mariculture in Zadar County T. Vodopija1 and L. Bavčević2, 11<sup>th</sup> Mediterranean Symposium in Zadar

Fishery in Croatia is an activity that involves numerous fish species. From a biological standpoint, the Adriatic Sea has a total of 410 fish species and 100 of these are commercially exploited. This is a typical situation for multi-species fisheries and is characteristic for all Mediterranean countries.

### **Eco-friendly farming in fishery**

According to the eco-friendly farming action plan, which is the basic document for the activities of Zadar County Commission, the most significant activities that are to be developed further in the field of fishery are:

Mariculture (shellfish farming, fish farming in sea and brackish water) and aquaculture;

Sustainable fisheries in line with the Code of Conduct for Responsible Fisheries.

### **Financial indicators**

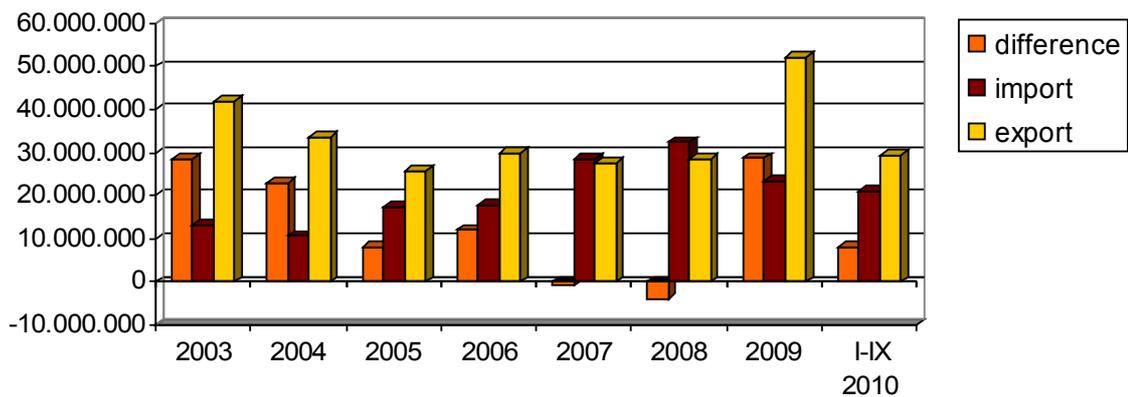
Table 4. Financial indicators for January – September 2010

<b>Code and description of activities (National Classification of Activities 2007)</b>	<b>Number of companies</b>	<b>Total revenue (EUR)</b>	<b>Total expenditure (EUR)</b>	<b>Fees and salaries (net) (EUR)</b>	<b>Number of employees</b>	<b>Investment in fixed assets (EUR)</b>
<b>A</b>						
Agriculture, forestry and fisheries	122	70 mil.	83 mil.	6,9 mil.	1,318	5,9 mil.
C10 Production of foodstuffs	79	54 mil.	50 mil.	6 mil.	1,457	1,5 mil.
C11 Production of beverages	7	12 mil.	13 mil.	1,1 mil.	200	0,6 mil.
<b>Total Zadarska County</b>	<b>2,612</b>	<b>1,063 mil.</b>	<b>1,053 mil.</b>	<b>96,6 mil.</b>	<b>20,132</b>	<b>157,4 mil.</b>

Source: FINA, processed by the Croatian Chamber of Economy, County Chamber Zadar

The total revenue of 70,6 million EUR and the total expenditure of 83,1 million EUR were the results achieved in the field of agriculture, forestry and fisheries. The expenditure outweighed the revenue by 12,5 million EUR, which indicates reduced efficiency in this activity. This activity employed 1,318 employees and 6,9 million EUR were disbursed for fees and salaries. An average net monthly salary was 579 EUR. Investments amounted to 5,9 million EUR. This activity accounted for 6.6% of total economic revenues, 8% of total expenditures, 6.6% of employees and mere 3.7% of investments.

Table 5. Import and export trends in the fisheries and aquaculture sector in the Zadarska County in the period 2003 - September 2010 (USD)



### Processed fish

The tradition of fish processing industry in Croatia is more than 130 years old and is one of the first industries on the Croatian coast and islands. Quantity-wise, canned fish is still the predominant form of industrial fish processing. However, due to the changes in nutrition habits and the requirements of the local and foreign markets, there has been a significant increase in the production of fish products such as salted anchovies, frozen fish, smoked fish, fish marinades etc. Salted fish production must be particularly emphasized, as it augmented considerably in the past decade. The processing and packaging of marine fish and other marine organisms is an activity that has developed in the past few years in both coastal area and the hinterland of Zadar, Benkovac and Gračac in particular.

# Mariculture

## Introduction

Mariculture is an activity that has significantly and rapidly developed in the area of Zadarska County. The first fish farming activity involved sea bass, which was then followed by gilthead sea bream, sharp-snouted sea bream and tuna. 19 white fish farms (sea bass, gilthead sea bream and sharp-snouted sea bream), 5 tuna farms and 13 shellfish farms (mussels) have been registered in the area of the county, namely in the area between the island of Pag and the island of Vrgada. Today's production in the areas under concession in Zadar County boasts over 2,500 tons of tuna and around 2,000 tons of white fish and some shellfish and trout. Mariculture is mainly an export-oriented activity. Sea bass and gilthead sea bream are mostly exported to Italy and Slovenia and tuna is exported to Japan. Tuna has become one of the most significant export products in Croatia. There are currently 37 mariculture concessions in the area of Zadar County and according to the contracts it is possible to farm on an annual basis: 4,970 tons of tuna, 4,885 tons of white fish and 1,185 tons of shellfish.

## The history of mariculture in Dalmatia

Zadar County has a long tradition of marine fish and shellfish farming, as is the case with the whole of Dalmatia. First documented activities of the farming of marine organisms (fish and shellfish) began in the Roman period. First Dalmatian fish ponds for fish farming date back to the 1<sup>st</sup> century. Roman landowners, colonialists and deserving veterans frequently embellished their luxurious summerhouses with fishponds. In the middle Ages, fish and oyster farming developed in the proximity of the coastal monasteries. Feudal landowners soon joined this trend and for centuries onward they appropriated and exploited top locations for fish and shellfish farming. Fish pools and ponds were used for the farming of: mullets, gilthead sea breams, sea basses and eels.

## Fishermen of Zadar County – the pioneers of mariculture

The project of cage farming of tuna began in the area of Zadar at the end of 1995, upon the initiative of a handful of emigrants from the town of Kali on the island of Ugljan. Because of the increased demand for tuna on the global and, in particular, on the Japanese market and its high prices, tuna fishing quotas were cut, at first in the southern hemisphere and then in our country too. Kali Tuna was founded at the end of 1995. It was the first company in this part of the Mediterranean to start with tuna farming. Since then, tuna business has become extremely important for Croatian mariculture and is one of the most successful Croatian exporting projects. Kali Tuna initiated its experimental production in 1996 in its tuna farm along the island of Iž. During the first year of production it succeeded in farming and marketing 39 tons of tuna on the Japanese market. Several other companies followed the footsteps of Kali Tuna and started to farm tuna.



## Farmed species

The predominant white fish species in Croatian fish farming sector are sea bass (*Dicentrarchus labrax*) and gilthead sea bream (*Sparus aurata*) and their quantities amount to around 4,000 tons per year. Furthermore, Croatian fish spawning sites produce around 20 million pieces of sea bass and gilthead sea bream fingerlings a year. Given the specific conditions of the eastern coast of the Adriatic, sea bass is a more favourable species for farming compared to gilthead sea bream and the ratio between these two species is 80:20 in favour of sea bass. Most of the farmed white fish is marketed on the local and EU markets (Italy).

Blue fish farming concerns tuna (*Thunnus thynnus*) in floating cages on semi-protected and open areas of the Middle Adriatic. Farming is based on the catch of small-size wild tuna (8-10 kg) and their further farming until they reach the marketing size (30 kg). Annual production is approximately 5,000 tons of the total value of around 80 million euro and is intended for the Japanese market.

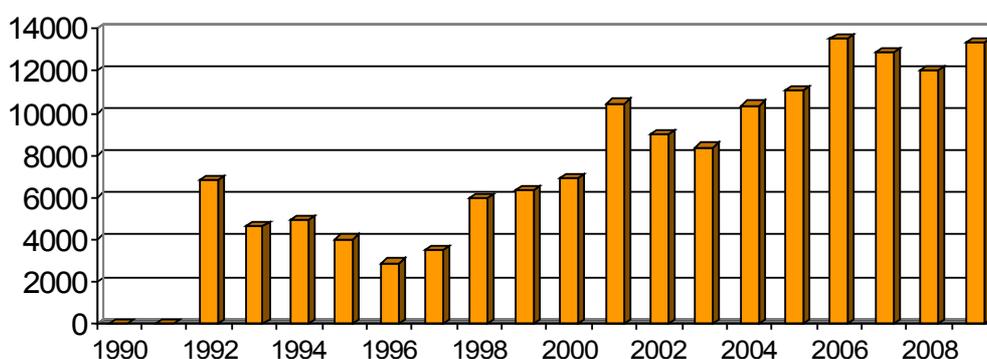
Shellfish farming concerns mussels (*Mytilus galoprovincialis*) and oysters (*Ostrea edulis*), which are farmed on “pergolar” ropes in specifically controlled areas that are under constant monitoring. Annual production is around 3,000 tons of mussels and around 2 million pieces of oysters and is only intended for local market. Farming of these species is of negligible size in Zadarska County.

## Mariculture – a fast growing sector

Aquaculture and its component mariculture are a sector of food production that has shown the fastest growth in the past three decades. All expert and economic indicators show that the global mariculture production will raise dramatically, as vast open seas are the only larger space that will remain available for food production. Mariculture’s fast growth is a result of a number of factors where the most significant ones are:

- An increase in demand for aquatic organisms caused by the growth of population and the need for food in developing countries and the changes occurring in nutrition habits of consumers in developed countries who recognize aquaculture products as “healthy” food.
- Limited offer of products in demand caused by reaching the limits of renewable biological resources exploitation.
- Constant technological development that makes farming of new species of aquatic organisms possible and economically profitable.

Table 6. Croatia Aquaculture Production in tonnes 1990. - 2009.



Source: FAO Fishery statistics



## **Reasons for investing in mariculture of Zadar County**

Zadar County is the most successful Adriatic county as regards the production and export in the sector of mariculture. However, there are still significant development opportunities in this area. The advantages of mariculture in Zadar County are the proximity to the largest markets, especially the Italian market, sea cleanliness and quality and the perception of high quality fish from the Adriatic that is pertinent to foreign markets. It is important to emphasize that Croatia is the only country in Europe with juvenile tuna farms; other countries only deal with tuna fattening.

### **1. Natural resources**

The indentedness of the coastline and clean environment make the coastal area of RC and Zadar County a unique location in the whole of Mediterranean area. The coastline consists of numerous technologically beneficial and quiet bays, coves and channels suitable for mariculture. There is a whole range of sites adequate for different types of farming of marine organisms. The climate and oceanographic conditions favour rapid and successful fish and shellfish reproduction. The coastal area of Zadar County is still unpolluted and clean, which is a basic precondition for farming. According to the “Study of Use and Protection of the Sea and Underwater Area in Zadarska County” of 2003 and in line with the accepted classification, environmental conditions of the sea in the coastal area of Zadar are of top category, which quality and description-wise implies: oligotrophic sea, of blue colour, sufficiently oxygen-saturated and more than 10 m of transparency.

### **The state of marine environment, mariculture and fisheries indicators database**

At the end of 2006, the Environmental Protection Agency in collaboration with the Institute of Oceanography and Fisheries from Split launched the project of implementation of a network application for entering, publishing and managing the state of marine environment indicators. The database is available at <http://www.izor.hr/azo/>. The web page contains numerous indicators, among which the quantitative assessment of the environmental state of transitional, coastal and open waters and the quality of farmed marine organisms and the sea these are farmed in.

### **2. The existing experience and expertise**

Croatia, and in particular its mariculture in Zadarska County, has often played a role of a pioneer in the Mediterranean area. This is still very much reflected in the existing experience and accumulated knowledge and in trained, professional and scientific staff. The existing scientific institutions are well experienced and are fully able to follow and assist the sustainable development of this activity.

### **3. The existing offer of marine organisms not fulfilling the requirements of market demand**

In high-income countries and in Croatia there is a growing trend of turning towards healthy and highly nutritional food where sea products play a significant role. Meat

consumption has decreased and fish is more and more introduced into modern diet. Concurrently, the catch offer is reduced because of the pressure exerted on natural resources, which made it imperative to put catching under stricter and more organized control. It is clear that the mariculture market keeps increasing and becoming more demanding. Global and local consumption continues to grow. Today, consumption per capita in Croatia is between eight and nine kilograms and the average for the EU is around 20 kilograms.

#### **4. Mariculture as a complementary aspect of tourism**

Thanks to the momentum tourism is undergoing, the local market keeps opening up. The growth of the sector of tourism in the region has strengthened the demand for mariculture products. Mariculture is extremely compatible with tourism and fishery, which are both traditional activities of the coastal area.

#### **5. The area available for mariculture development**

Fishery is expected to decrease and aquaculture production is expected to increase in both Europe and some other regions of the world. However, further growth in the European Union and in North European countries will most probably be impeded by space limitations, competition for water sources, rigid environmental measures and the development of market and low-cost import from non-European countries. Unlike North European countries, where the available coastal area is one of the main limiting factors, Croatia boasts significant opportunities for the development of fish and shellfish farming. Zadar County has all the natural preconditions and available locations for fish and shellfish farms and these have also been envisaged in the general spatial planning. The total farming area under concession covers 1,652,281.60 m<sup>2</sup> and the spatial plan of Zadar County is available on the following web site <http://www.zadarska-zupanija.hr/pp/karte/karte/32.jpg>

#### **Mariculture – a profitable activity**

White fish and shellfish farming are deemed a considerably profitable activity and tuna farming is an extremely profitable activity. Profitability-wise, the most significant countries of export are Italy and Japan. Tuna has been the most profitable fishery product for export in the past few years. We can put it this way: the efficiency of use of sea area for farming is some 7,000 times the efficiency of use of agricultural land for arable production.



#### **Markets**

The market for agricultural products of the region is mostly the Republic of Croatia. Many agricultural and processed products are marketed through the sector of tourism. The proximity of European market is a huge advantage. The caught fish is to a large extent marketed in Italy and is a treat for tourists at home too. Mariculture is an extremely export-oriented activity. Sea bass and gilthead sea bream are mostly exported to Italy and Slovenia and tuna is exported to Japan. Tuna has become one of the most significant export products for Croatia. As in the case of fish farming, fish

processing is also an export-oriented activity and the products are exported to Italy, the Czech Republic, Poland, Hungary, Bosnia and Herzegovina and the US market.

### **Sustainable development**

The “Study of Use and Protection of the Sea and Underwater Area in Zadarska County” of 2003 draws a conclusion that mariculture, provided that there is a reasonable and responsible management, is an activity of an acceptable environmental impact and is a suitable component of sustainable economic development in the coastal area. It is worthwhile mentioning that 65% of farming of marine organisms in Croatia is carried out on the islands and employment sustainability in these areas is one of the key issues for the overall sustainable development of the islands. Mariculture provides employment opportunities throughout the whole year, rather than just seasonal employment.

### **Legislative basis, support and incentives in fisheries and mariculture**

Past years have brought about a significant change in the legislative basis of RC in relation to the fisheries and aquaculture because of the process of harmonization with the European Union and its *acquis communautaire*. There are three main acts that regulate the sector of fisheries and mariculture: Marine Fisheries Act (OG 56/10), and the Act on Structural Support and Organization of Market in Fisheries (OG 153/09). Marine Fisheries Act regulates the management and protection of renewable biological sea resources and the method and conditions of fishing and farming. It also deals with the system of monitoring of fishing and farming, which is done through data collection, the system of vessel monitoring, the structure of supervision and inspection and all other issues relevant for marine fisheries. The Chapter VI of this Act contains the measures for the management of farming of fish and other marine organisms. It is established that the farming of fish and other marine organisms may only be carried out with a specific licence. Furthermore, the Act regulates the conditions of farming, the scientific research carried out on farms and the required training of persons managing the farm. The Act on Structural Support and Organization of Market in Fisheries covers horizontally the entire area of fisheries, in line with the relevant provisions of the *acquis communautaire* of the EU. The Act on Structural Support and Organization of Market in Fisheries prescribes the general conditions, objectives and measures and the manner of obtaining support within the framework of structural policy. It also regulates the special status support, the measures for organizing the market in fisheries, the users and participants in the implementation of the measures referred to in this Act and the institutional support. In order to assist the sustainable development in fisheries and aquaculture in Croatia, there are numerous supports and incentives available. The support available within the scope of the Act on Structural Support and Organization of Market in Fisheries primarily refers to the measures for production investments in aquaculture, the environmental protection measures, and public health and animal health. Besides the abovementioned measures, which are available within the framework of this Act, there are other forms of support for sustainable development in aquaculture, such as the support for insurance in cases of potential damages, the right to use the blue diesel fuel, the assistance for maintaining the fishpond ecosystem, the co-financing of farming in aquaculture and the support for establishing and developing fishery cooperatives.

## Salaries in the sector of fisheries

An average monthly net salary in the period between January-September 2010 in Zadar County for the activity of agriculture, forestry and fisheries was 579 EUR.

## Cluster "Mariculture"

In October 2008 the "Mariculture" Cluster was founded gathering the breeders of white fish (sea bass, gilthead sea bream and sharp-snouted sea bream), breeding of tuna and shellfish (mussels and oysters). This sector involves 120 producers, i.e. breeders out of which 36 are registered for breeding white fish, 8 companies deal in tuna breeding, and 105 breed shellfish. When this cluster initiative was initiated by the Ministry of Economy, Labour and Entrepreneurship, the Ministry of Agriculture, Fisheries and Rural Development, as well as the Croatian Chamber of Economy and Chamber of Crafts, in other words representatives of professional associations of the maritime sector, were also included. Through joint activities of the cluster, members will in cooperation with Chambers professional associations and scientific and research centre carry out activities with the aim of strengthening export competitiveness: development of new products and product diversification, achieving technical compatibility, joint export strategies and entering foreign markets, education and training and other marketing activities.

## Key Companies

### Cromaris d.d.

Cromaris is a company dedicated to breeding, selling and processing of fish. Their knowledge and expertise are inherited from the long experience of the greatest domestic names in mariculture and fish breeding, which have recently merged under the name of Cromaris.

Trg tri bunara 5, 23000 Zadar

Tel: +385 (0)23 254 960

Fax: +385 (0)23 250 883

Web: <http://cromaris.hr/>



### Mardešić d.o.o.

The "Mardešić" factory was founded in 1905, and fish production began in 1907. Considering that the factory is located in Sali on Dugi otok for more than 100 years it represents the main source of income for the local people and those of surrounding islands. Nowadays the factory produces canned fish, mostly sardines, anchovies, tunas and mackerels.

Sali bb, 23281 Sali, Dugi Otok

Tel: +385 (0)23 377 029

Fax: +385 (0)23 377 064

e-mail: [info@mardesic.hr](mailto:info@mardesic.hr)

Web: <http://www.mardesic.hr/>



**Mardešić**

### **Dalmar d.d. – open sea farming**

Their fish farms are located near the marine park of the wonderful Incononate Islands (Kornati): the fish swim in open sea and feed in an environment made favourable by the uncontaminated waters of the Croatian archipelago. Each fish is marked with a small flag that attests the origin and quality obtained by controls effectuated during the entire farming cycle. The packaging of the product is carried out using the most advanced technology for the selection,



weighing and distribution of the fish, thereby guaranteeing a high and constant qualitative standard over a period of time.

Dalmar d.d.

Obala Kralja Petra Kresimira IV br. 64,  
23211 Pakoštane

Tel / Fax: +385 (0)23 381 978

e-mail: [info@dalmar.hr](mailto:info@dalmar.hr)

Web: <http://www.sea-srl.com/public/en/dalmar.asp>

### **Jadran tuna d.o.o.**

Established in year 1997, Jadran tuna is following world's technology and market trends, and developing constantly. Since most of their production is quality tuna meat for Japan market (used in sushi and sashimi), they are using technology chosen and controlled by their clients in order to fulfil client's requirements. Today, they have 13 fishing ships, 2 towboats, refrigerator ship and several ships and boats used for farming and various interventions.



Jadran tuna d.o.o.

Vukovarska 86, 23210 Biograd na Moru

Tel: +385 (0)23 385 355

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e-mail: [jadran.tuna@zd.t-com.hr](mailto:jadran.tuna@zd.t-com.hr)

Web: <http://www.jadran-tuna.hr/>

### **Kali Tuna d.o.o.**

Kali Tuna farms Atlantic Bluefin Tuna in the calm waters of the Adriatic Ocean. The companies' core product is sashimi grade tuna. Kali Tuna seeks to produce and distribute healthy seafood in an economical, efficient and environmentally friendly manner. The company is located in the archipelago of Zadar, along Croatia's Central Adriatic coast.



**KALI TUNA** d.o.o.

Kali Tuna d.o.o.

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E-mail: [kali-tuna@kali-tuna.hr](mailto:kali-tuna@kali-tuna.hr)  
Web: <http://www.kali-tuna.com/>

### **Zadar-tuna d.o.o.**

Zadar-tuna is a company for production and trade, established December 17, 2004. Since May 2, 2008. Zadar Tuna takes over tuna farming and trade from AT together with the concession on maritime demesne «Pod Mrđinom» on Ugljan Island, as well as the associated equipment. Yearly planned farming is 230 tons.

Zadar-tuna d.o.o.

Head office:

Kolegina ulica b.b., 23272 Kali

Office:

Vatroslava Linsinskog 12b, 23000 Zadar

Tel: +385 (0)23 332 082

Fax: + 385 (0)23 331 834

Web: <http://www.zadarinfo.com/virt/www.zadartuna.hr/>



### **Ostrea d.o.o.**

The factory has been in fish salting since 2000 and under the name Ostrea since 2003. At the peak of the season the factory employs over 300 workers. Having a yearly production of 3500 tons today, Ostrea is the biggest producer of salted anchovies in Europe.

Ostrea d.o.o.

Benkovačke bojne 17, 23420 Benkovac

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Web: <http://www.ostrea.com.hr/>



### **Educational and scientific institutions in mariculture**

A big advantage for investors in this sector is the availability of expert and scientific institutions for training and necessary research.

University of Zadar

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Web: [www.unizd.hr/poljodjelstvo](http://www.unizd.hr/poljodjelstvo)

University of Dubrovnik - <http://www.unidu.hr/>

Department of Aquaculture

Undergraduate studies "Aquaculture"

Graduate studies "Mariculture"

University of Dubrovnik, the department of aquaculture is a co-founder of NACEE – Network of Aquaculture Centres in Central and Eastern Europe

Web: <http://www.unidu.hr/akvakultura/>

Institute for Marine and Coastal Research

Kneza Damjana Jude 12, 20000 Dubrovnik

tel: +385 (0)20 323 978

Web: <http://www.imp-du.com/>

Technological and business innovation centre for mariculture "MARI-BIC"

Bistrina bb, 20230 Ston

tel: +385 (0)20 752 802

University of Split

University Department Centre of Marine Studies

Livanjska 5/III, 21000 Split

<http://more.unist.hr/>

Undergraduate and graduate studies "Marine Fisheries"

(specialized in marine fisheries, mariculture and processing technologies)

Joint doctoral studies "Applied Marine Sciences", inter-university studies in collaboration with the Institute of Oceanography and Fisheries Split-Dubrovnik and some European universities

Head of the Centre: Doc. PhD Svjetlana Krstulović Šifner,

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Graduate studies "Fisheries and fishing"

3-year PhD studies "Fisheries"

The Faculty of Veterinary Medicine in Zagreb

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tel. +385 (0) 2390 111

<http://www.vef.hr/>

## Contacts

### **Ministry of Agriculture, Fisheries and Rural Development**

Ministry of Agriculture, Fisheries and Rural Development is the ministry competent for the sectors of aquaculture and fisheries. The Fisheries Directorate within the Ministry is competent for passing and implementing regulations. The Fisheries Directorate issue certificates electronically, through web-application on the web page [www.ribarstvo.hr](http://www.ribarstvo.hr).

### **Fisheries Directorate**

Hotel International, Miramarska 24, 10000 Zagreb

#### **Josip Suić, M.Sc., temporary head**

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Fax: +385 (0)1 6106 558

Ivona Musulin, secretary

[ivona.musulin@mps.hr](mailto:ivona.musulin@mps.hr)

[josip.suic@mps.hr](mailto:josip.suic@mps.hr)

### **Fishery and Fish Processing Industry Association at the Croatian Chamber of Economy**

The Fishery and Fish Processing Industry Association at the CCE gathers all the members whose core activity is fish farming, catching and processing. The Council of the Association deals with issues that are common to all companies in the area of fisheries and proposes the measures to solve such problems (the situation on the market, tax and customs policies, measures to improve the production etc.). The proposals for the measures are regularly submitted to the competent state bodies. There are three groups acting within the Council of the Fishery and Fish Processing Industry Association: aquaculture, fishery and fish processing.

### **Professional Mariculture Association at the County Chamber of Zadar (CCE)**

The Professional Mariculture Association acting at the County Chamber of Zadar within the Croatian Chamber of Economy gathers its member-companies whose core activity is white fish and tuna farming. It represents, advocates and promotes the interests of fish farming companies.

President: Denis Pece, BCom "Cenmar" d.d.

Tel: +385 (0)23 250 247

Business Secretary: M.Sc. Petar Pedišić, senior professional associate at the County Chamber in Zadar