

**Ministry of Agriculture**  
Directorate of Fisheries

# Organizational structure of the Aquaculture Management in Croatia

Expert Mission on Aquaculture  
AGR IND/EXP  
54209

Zagreb, Croatia  
25–27 September 2013

*Ana Lukin*  
*Directorate of Fisheries*  
*Ministry of Agriculture*  
*ana.lukin@mps.hr*

# Content

## ▶ 1. Production



## ▶ 2. Management



# Capacity of Croatian Marine Aquaculture

- ▶ 7 counties
- ▶ 330 locations
- ▶ 4'856'068 m<sup>2</sup> of marine area
- ▶ 144 producers
- ▶ 8 species



## Regions of Croatia

- |                                   |  |
|-----------------------------------|--|
| 1. Istria County                  | 10. Pozega and Slavonia County         |
| 2. Rijeka County                  | 11. Virovitica and Podravina County    |
| 3. Karlovac County                | 12. Osijek and Baranja County          |
| 4. Zagreb County                  | 13. Sisak and Moslavina County         |
| 5. Krapina and Zagorje County     | 14. Slavonski Brod and Posavina County |
| 6. Varazdin County                | 15. Vukovar and Srijem County          |
| 7. Medjimurje County              | 16. Lika and Senj County               |
| 8. Koprivnica and Krizevci County | 17. Zadar County                       |
| 9. Bjelovar and Bilogora County   | 18. Sibenik and Knin County            |
|                                   | 19. Split and Dalmatia County          |
|                                   | 20. Dubrovnik and Neretva County       |
|                                   | 21. The City of Zagreb                 |

# Finfish

▶ **Seabass**  
(*Dicentrarchus labrax*)

▶ **Seabream**  
(*Sparus aurata*)

▶ **Meagre**  
(*Argirosomus regius*)

▶ **Common dentex**  
(*Dentex dentex*)

COUNTY	No of LOCATIONS	No of PRODUCERS	AREA m2
ISTRA	3	1	90'000
RIJEKA	5	3	156'289
ZADAR	24	8	931'371
ŠIBENIK	4	2	10'290
SPLIT	10	7	72'710
DUBROVNIK	3	3	49'362
<b>TOTAL</b>	<b>51</b>	<b>25</b>	<b>1'701'022</b>

# Shellfish

## ▶ European flat oyster

*(Ostrea edulis)*

## ▶ Mediterranean mussel

*(Mytilus galoprovintialis)*

COUNTY	No OF LOCATIONS	No OF PRODUCERS	AREA m2
Istra	35	17	382'479
Zadar	13	12	121'615
Šibenik	47	20	210'584
Split	1	1	2'000
Dubrovnik	159	68	1'067'552
TOTAL	225	118	1'784'230

# Finfish & shellfish

▶ **Seabass**  
(*Dicentrarchus labrax*)

▶ **Seabream**  
(*Sparus aurata*)

▶ **European flat oyster**  
(*Ostrea edulis*)

▶ **Mediterranean mussel**  
(*Mytilus galoprovintialis*)

COUNTY	No OF LOCATIONS	No OF PRODUCERS	AREA m2
ISTRA	1	1	113'560
RIJEKA	1	1	42'606
ZADAR	2	1	15'000
SPLIT	5	4	97'970
DUBROVNIK	1	1	33'600
TOTAL	10	8	302'736

# Bluefin tuna

*Thunnus thynnus*

COUNTY	No OF LOCATIONS	No OF PRODUCERS	AREA m2
Zadar	13	3	987'500
Split	1	1	80'580
TOTAL	14	4	1'068'080

# Locations & area of production

	No OF LOCATIONS	No OF PRODUCERS	AREA m2
FINFISH	51	25	1.701.022
SHELLFISH	255	118	1.784.230
FINFISH & SHELLFISH	10	6	302,736
TUNA	14	4	1.068.080



# Finfish production

- Closed farming cycle of seabream and seabass
- Hatchery
- Floating cages at sea
  
- Tuna production
- Capture based – farming to market size
- Floating cages at sea
  
- Most of finfish and tuna production is conducted in Zadar County



# Shellfish production

- ▶ Small family farms - production less than 50 t per farm annually
- ▶ Traditional way of producing
  - No hatchery
  - Collection of fry from nature
  - Floating parks (lines and pergolars)
- ▶ Most of shellfish production is conducted in Mali Ston bay (Dubrovnik County)



# Production Hatchery

- ▶ 3 hatcheries
- ▶ Production in 2012 – cca 14 mill. pcs of juveniles
- ▶ Seabream and seabass at most
- ▶ Common dentex – experimental
- ▶ 36,74 mill. pcs of juveniles were put in cages on farms in 2012
- ▶ Import of juveniles

# Production 2000 – 2011

Species	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Seabass</b>	1.800	1.800	1.800	1.702	2100	2.000	2400	2.800	2500	2.800	2.800	2.775
<b>Seabream</b>	700	700	700	808	800	1.000	1050	1.150	2000	2.200	2.400	1.719
<b>Mussel</b>	1.200	2.000	2.400	2.800	2400	2.500	3500	3.000	3000	2.000	2.000	399
<b>Oyster</b>	50	50	50	40	40	50	50	50	50	50	55	16
<b>Bluefin tuna</b>	1.200	2.500	3.971	4.679	3777	3.425	6700	4.180	3711	4.200	3.592	2.312
<b>Meagre</b>											2	39
<b>Sharpsnout seabream</b>	100	40	50								0,65	
<b>TOTAL</b>	<b>5.050</b>	<b>7.090</b>	<b>8.791</b>	<b>10.029</b>	<b>9117</b>	<b>8.975</b>	<b>13700</b>	<b>11.180</b>	<b>11261</b>	<b>11.250</b>	<b>10.849,65</b>	<b>7.260</b>

# Production 2012

## Total value

	AMOUNT (kg)	VALUE (€)
Finfish	4'649'253	25'497'399
Tuna	1'906'743	31'431'640
Shellfish	450'546	425'469
Total	7'006'542	56'929'039

# Management Institutions

## **Ministry of Agriculture** – domain ministry

Regulation: Marine Fisheries Act

- 4 by-laws (licenses, criteria, data collection, exam)

## Directorate of Fisheries

- Issues License for fish farming
- Data collection – basis for the realization of all rights
- Financial support

## Veterinary Directorate

- Food safety

# Management Institutions

EIA (Environmental Impact Assessment)

- Ministry of Environmental and Nature Protection

Concession of maritime area

- County

➤ Government – natural protected area

- Ministry of Sea, Transport and Infrastructure

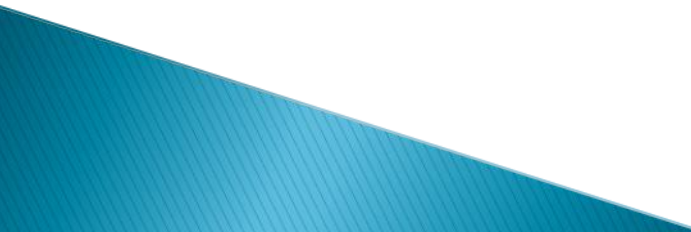
# Management Licensing procedure

- ▶ Physical plan – conducted by Regional County
  - ▶ Necessary approval and consent of all ministries in the government
  - ▶ Public hearing
- ▶ AZA (Allocated Zones for Aquaculture) through the Physical planning
  - ▶ Site selection criteria defined by low:
    - ▶ Salinity, depth, seabed, currents ...
- ▶ Zadar County – AZA defined using Integrated Coastal Zone Management (ICZM)



# Management Licensing procedure

## Location permit

- County
  - Defines capacity, technology, accurate position of farm, species...
  - EIA – document issued by Ministry of Environmental and Natural Protection
- 
- A blue decorative triangle with a fine grid pattern is located in the bottom-left corner of the slide.

# Management

## Licensing procedure

Ministry of Agriculture issues **License for fish farming**

- ▶ Contract of concession (Location permit, EIA)
- ▶ Document of Ministry of Environmental and Natural Protection
- ▶ Document of registration for aquaculture activity
  
- ▶ Defines species, position, capacity (maximum annual production) and duration of license
  
- ▶ Duration of the license is related to the duration of the concession (up to 20 years)

*Thank you for your attention!*

A teal-colored triangle with a fine, grid-like texture is located in the bottom-left corner of the slide.