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STATE OF SMALL SCALE FISHERIES SECTOR IN THE ROMANIAN AND BULGARIAN BLACK SEA DURING THE PAST DECADE

S. Nicolaev¹, V. Maximov¹, V. S. Raykov²

¹ National Institute for Marine Research and Development
"Grigore Antipa" Constanta, Romania

² Institute of Oceanology - Bulgarian Academy of Sciences Varna, Bulgaria

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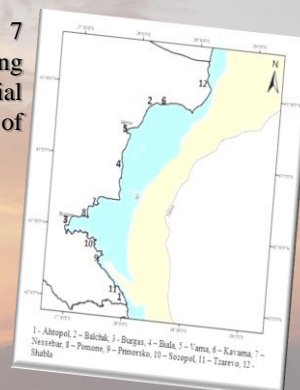
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Current status of marine small scale fisheries

Romanian small scale fisheries are practiced along the Romanian coast in four fishing ports (Sulina, Cape Midia, Constanta and Mangalia) and other 18 small fishing stations, located between *Sulina - Vama Veche*, at depths ranging between 2 - 20 m and sometimes up to 60 m, when practicing specialized turbot, shad or dogfish fisheries. Most of the fishing activities are carried-out in territorial waters. The main Bulgarian fishing ports for landing catches are in Burgas, Varna,

Baltchik, Sozopol, Nessebar and 7 fishing points. Bulgarian fishing activities are carried-out in territorial waters (12 Nm), but significant part of the fishing occurs up to 100 m depth.



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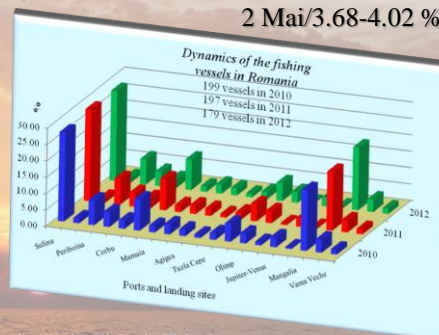
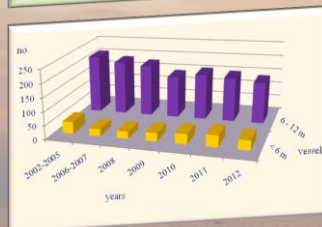
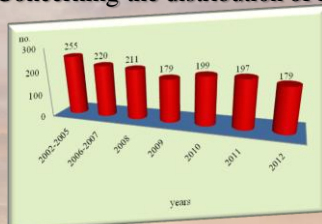


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Current status of marine small scale fisheries

In the Romanian small-scale coastal fisheries, during 2002-2012, a total number of 279 - 255 licensed vessels/year were used, of which 16-20% are boats smaller than 6 m and 84-80% boats 6-12 m long. Most of these boats are fitted with engines (93.45 %). Concerning the distribution of fishing boats during the past three years, it can be noticed that the main activity ports are Sulina/27.14 -27.89 %, of the total number of fishing boats, Mangalia /17.89 - 19.13%, Cape Midia /9.29 - 9.55 %, Periboina/7.54 - 7.89%, Costinești/5.26 - 5.53%, Vadu/4.21 - 4.52%, 2 Mai/3.68-4.02 % .



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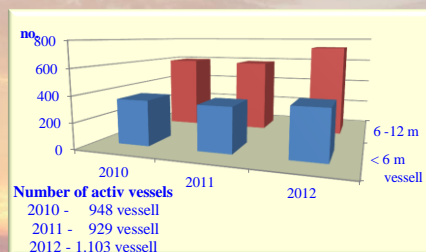
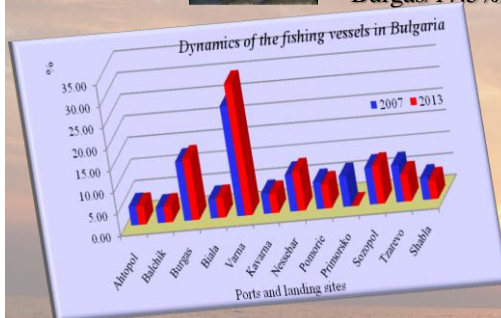


Current status of marine small scale fisheries

The Bulgarian fishing fleet consists of 1,994 registered vessels (2013) with a total of 6,476 GT and 5,544 kW. The fleet decreased compared to previous years: 2,547 in 2008 and 2,546 in 2007. The Bulgarian fleet operates exclusively in the Black Sea and 95.28 % of the Bulgarian vessels are <12 m length.



Concerning the distribution of vessels on ports, it can be noticed that the main activity port is Varna, with more than 35% of the total number of vessels, followed by Burgas/17.5%, Nessebar/12.32% and Sozopol/11.98 %



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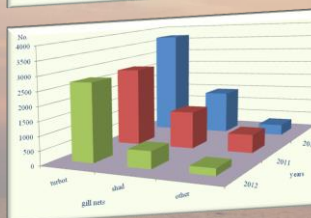
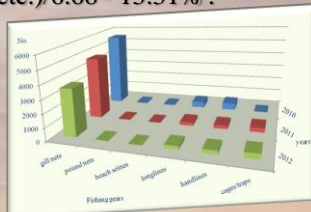


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Current status of marine small scale fisheries

In the Romanian small scale coastal fisheries, the main fishing gear is the gillnet, used both for pelagic and demersal species. The highest number is held by turbot gillnets/66.71 - 76.66% of all the gillnets used, followed by shad gillnets/16.61 - 26.78%, and other types of gillnets (gobies, dogsfish, bluefish, horse mackerel etc.)/6.68 - 13.31%.



With reference to the distribution, during the past three years, of fishing gears on fishing stations, the highest number were used in the Sulina port (27.22%), followed by Olimp (14.22%), Costinesti (12.63%), Periboina (11.98%), Cape Midia (8.75%) and Mangalia (6.46%)



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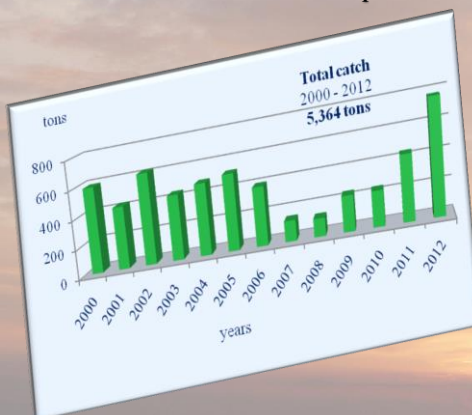


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Catch dynamics in the coastal area

At the Romanian coast, small scale fisheries are characterized by the activity being carried-out during the first four/seven months of the fishing season (March-October), when the main commercial fish species reach the coastal area for spawning and feeding.



While during 2000-2005 the annual catches ranged between 423 - 616 t, with an annual mean of 508.85 t, the following years the catches dropped by 42.5% compared to the annual mean, namely from 392 t/2006 to 120 t/2008. After 2008, the economic operator along the Romanian coastline changed their option, prioritizing the fitting of vessels with equipment and gears specialized for turbot fishing and rapa whelk harvesting. The catches have slightly increased, from year to year, from 236 t /2009 and over 750 kg/ 2012

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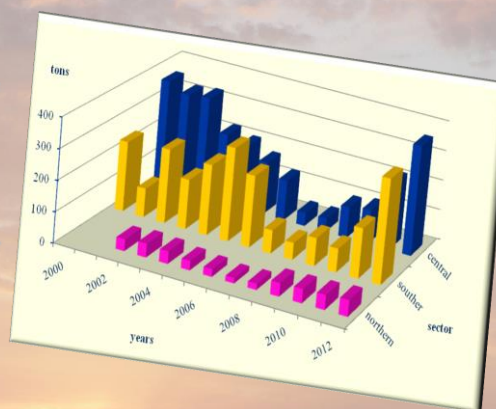
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Catch dynamics in the coastal area

In Romania, the coastal small scale fishing takes place in three main sectors:

- a. **Northern sector** - between *Sulina* and *Gura Portiței*;
- b. **Central sector** - between *Gura Portiței* and *Cape Midia*;
- c. **Southern sector** - between *Cape Midia* and *Vama Veche*.



The main sector of activity in small scale coastal fisheries is the central sector (49.66%), followed by the southern sector (42.89 %).

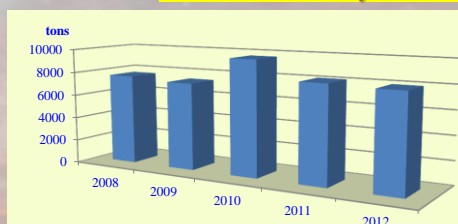
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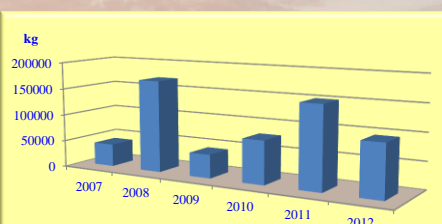
Catch dynamics in the coastal area



Total landing in Bulgarian Black Sea

During 2008-2012, the total catches made by Bulgaria ranged between 7,395 t/2009 and 9,686 t/2010. Out of the total catch, 50 %, is the catch achieved by small scale coastal fisheries.

The catches of main species by the small scale fisheries using GNDs and other gears ranged between 41,957 t/2007 and 170,320 t/2008, with a value of 151,109/2011.



Catches of main species by the small scale fisheries using GNDs and other gears

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The species composition of the catches

The main fish catches characteristic in the Romanian small scale sector is the presence of a very big number of species, of which the main ones are the small size ones.

| Species | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| whiting | 82000 | 72000 | 55000 | 41177 | 23469 | 27267 | 14740 |
| turbot | 42000 | 42000 | 47000 | 48767 | 48248 | 43248 | 43213 |
| sprat | 1142000 | 521000 | 234000 | 91707 | 41740 | 133838 | 90878 |
| anchovy | 23000 | 87000 | 15000 | 21371 | 49192 | 40801 | 19235 |
| goby spp. | 49000 | 37000 | 13000 | 16960 | 13476 | 21088 | 17145 |
| picked dogfish | 9000 | 17000 | 10000 | 4330 | 3069 | 4425 | 2144 |
| flathead mullet | 3000 | 4000 | | | 3513 | 99 | 149 |
| golden mullet | 2000 | 6000 | 7000 | | 4872 | 4105 | 1171 |
| Caspian shad | | | | | 1203 | 1233 | 1513 |
| Pontic shad | 9000 | 20000 | 48000 | 70595 | 45830 | 46353 | 24035 |
| horse mackerel | 19000 | 14000 | 11000 | 16783 | 6745 | 23129 | 20443 |
| red mullet | 5000 | 2000 | | 1536 | 1537 | 1901 | 1372 |
| common sole | | | | | | 590 | 881 |
| mussel | | | | | 429 | 1042 | 1902 |
| rapa whelk | | | | | 65 | 218256 | 588484 |
| other | 5000 | 14000 | 4000 | 17603 | 14788 | 822 | 7578 |
| TOTAL | 1390000 | 836000 | 444000 | 330829 | 258176 | 568197 | 834883 |

During 2006-2012, in the whole Romanian marine sector and during the whole fishing period, the dominance in catches belongs to the species: *Sprattus sprattus*/sprat (10.89-82.16%), *Alosa immaculata*/pontic shad (2.39-21.34), *Psetta maxima* maeotica/turbot (3.02-18.69), *Engraulis encrasicolus*/European anchovy (1.65-19.05%),

followed by the traditional species: *Merlangius merlangus* euxinus/whiting (1.77-12.45%), *Gobiidae*/goby (2.05-5.13%), *Trachurus mediterraneus* ponticus/horse mackerel (1.37-5.07%), *Squalus acanthias*/picked dogfish (0.9-1.36%), *Mugilidae* /bluefish (0.16-3.25%), *Alosa tanaica*/Caspian shad (0.18-0.47%) and other (0.7-3.4%)

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Catch dynamics in the coastal area

During 2007 - 2012, in the whole Bulgarian marine sector, 4 species were caught in the near shore zone using GND (drifted nets): bonito, gobies, shad and Black Sea shad. However, the reported catches of shad and gobies with driftnets might be a misreporting of catches using GNS and therefore these data should be treated with caution.

| Main target species | FAO code | Catch in 2007 | Catch in 2011 | Catch in 2012 |
|-------------------------------------|----------|---------------|---------------|---------------|
| <i>European sprat</i> | SPR | 2 984 585.0 | 3 957 895.0 | 2 836 201.9 |
| <i>Mediterranean horse mackerel</i> | HMM | 115 885.7 | 394 836.0 | 380 662.2 |
| <i>Atlantic bonito</i> | BON | 895.0 | 8 257.0 | 96 099.6 |
| <i>bluefish</i> | BLU | 8 218.9 | 29 387.0 | 550 782.7 |
| <i>flathead grey mullet</i> | MUF | 5 844.9 | 14 687.0 | 24 702.2 |
| <i>red mullet</i> | MUT | 12 595.0 | 176 199.0 | 131 488.3 |
| <i>picked dogfish</i> | DGS | 23 978.0 | 81 014.0 | 28 692.7 |
| <i>turbot</i> | TUR | 66 885.0 | 38 060.0 | 36 361.6 |
| <i>Rapa whelk</i> | RPN | 4 309 989.0 | 3 118 868.0 | 3 793 386.0 |
| <i>gobies nei</i> | GPA | 73 894.7 | 85 184.0 | 89 481.0 |
| <i>thornback ray</i> | RJC | 3 562.0 | 93 434.0 | 68 587.7 |
| <i>silversides nei</i> | SIL | 9 437.0 | 16 515.0 | 28 108.5 |

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Issues small scale fisheries in Romania are facing

- ▶ adverse weather conditions which affect fishing activities (no sheltered areas);
- ▶ ageing fishing fleet and increased fuel costs;
- ▶ inadequate vessels for marine fishing (risks of accidents at sea, inadequate working conditions);
- ▶ ineffective marketing and poor promotion of fishery products;
- ▶ poor organization of producers and fishermen;
- ▶ non-standard gears;
- ▶ low productivity and training levels;
- ▶ low sanitary - veterinary control;
- ▶ lack of almost all mechanization of fishing operations on board;
- ▶ reduced diversity of fishery products;
- ▶ species of low interest for local processing;
- ▶ limited access to financial resources;
- ▶ lack of landing facilities;
- ▶ insufficient technical equipment and obsolete installations.

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Issues small scale fisheries in Bulgaria are facing

The small scale fisheries in the Bulgarian coastal area also face many problems, such as:

- ▶ the insufficiency of measures aimed at restricting IUU fishing;
- ▶ fishing capacity: the poor condition of the ageing fleet;
- ▶ elaboration of a new Black Sea Fisheries Convention / Protocol, and for fishing capacity modernization of the fishing fleet;
- ▶ there were no strengths in international fisheries management, and reports from Bulgaria.

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Options for the sustainable development of small scale fisheries in Romania and Bulgaria

1. Tighter harmonization of fisheries development strategies with the opportunities offered by the state of marine living resources and the constraints imposed by the principle of the ecosystem approach and the FAO conduct framework for responsible fisheries.
2. Promotion of instruments for stimulating small scale fisheries and traditional fishing methods in support of local communities.
3. Developing mechanisms to resolve conflicts between different users of the marine ecosystem goods and services and marine fisheries under ICZM practices.
4. Promotion of more selective and less destructive to habitats gears and gears with low impact on endangered species, especially dolphins.
5. Stimulating the development of marine aquaculture with the aim of diversifying the species supply and reducing fishing pressure on natural stocks.

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Options for the sustainable development of small scale fisheries in Romania and Bulgaria

6. A clearer definition of the small scale fisheries extent (vessel size, activity sectors, gears) in Romania and Bulgaria.
7. Ensuring adequate water quality and sediment control in areas for shellfish rearing (Shellfish Waters Directive).
8. Implementation of mechanisms for the control of intentional or accidental introduction of exotic species.
9. Identification of critical habitats and their rehabilitation.
10. Harmonization of the management measures of marine fisheries with the requirements of the Natura 2000 network implementation.
11. Supporting scientific research and the monitoring system of living resources in order to improve support scientific background for fishery policy decisions.
12. Implementation of the Roadmap for the reduction of IUU fisheries.

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

Technological innovations regarding the selection of fishing techniques and equipment:

- a. vessel renewal and modernization for improving the safety of navigation and to ensure the preservation of fishery products;
- b. providing small boats for fishermen, under 12 m length, built and adapted to the conditions of the marine environment;
- c. training instruments for the stimulation of young fishermen (under 40 years) who start for the first time this kind of activity;
- d. redesigning and improvement of fishing gears;
- e. clothes and gears manufactures;
- f. using gears aimed at reducing the impact of fishing on the marine ecosystems and bottom;
- g. developing selective fishing tools.

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

- h. developing sheltered landing points for coastal fisheries in order to improve working conditions, landings and their conditioning before market capitalization;
- i. developing the terrestrial infrastructure in order to ensure a long term profitable and competitive fishing industry;
- j. improving the quality and safety of fish products, according to Community quality and safety standards.

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

Modernization and development of fishing ports

- a. infrastructure development in order to ensure a long term profitable and competitive fishing industry through the modernization of ports and landing points;
- b. improving landing conditions, take over and depositing fish products in ports or first sale points;
- c. designing and building ports and landing points;
- d. infrastructure for supplying services to vessels and fishing boats;
- e. fitting with boat-houses for improving safety in loading and handling products.

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

Improving professional training and formation

- a. training fishermen in order to acquire the minimal knowledge about marine living resources and their place in the ecosystem;
- b. creating the premises for implementation of a resource management involving with the participation of producers starting the decision-taking stage;
- c. implementing adequate training programmes for the enhancement of work efficiency and productivity;
- d. developing activities diversification to promote multiple jobs for fishermen.

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

Promoting the establishment of production - processing - selling chain of fishing products

- a. developing infrastructure with the aim of ensuring a profitable and competitive fishing industry on the long term, through the modernization and construction of fishing ports and landing points;
- b. increasing efficiency of fish processing and marketing activities, according to the requirements of consumers and to the food quality and safety standards;
- c. developing fish markets and advertising campaigns for fishery products;
- d. assuring financial support for the development of fish markets in infrastructure;
- e. increasing fish products consumption from 2.44 to 3.32 kg/inhabitant

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Measures and recommendations concerning the promotion of small scale fisheries in Romania

Improving the activities regarding the administration and control of the access condition in certain fishing areas

- a. for the protection, conservation and rehabilitation of the marine ecosystem a series of measures should be taken in order to prevent pollution of the coastal areas and are required some special measures to protect breeding and growing areas;
- b. to prepare multiannual management plans, the central public administration (NAFA), together with all interested groups, will investigate and analyze all information on the implications of biological, social and economic strategies and different management options;
- c. fish management must take into account inter-annual variations of productivity, and needs to include them in its plans, fish availability must be treated very carefully not to be interpreted as changes in stock size.
- d. implementation of measures for the reduction of IUU fisheries (ROADMAP).

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Measures and recommendations concerning the promotion of small scale fisheries in Bulgaria

1. increasing the relative share of the fisheries sector in the GDP; the sector should achieve a sustainable share in the formation of the GDP - each year adding approximately 1.0% to it;
2. increasing the share of fish and other aquatic products in the Bulgarian foodstuff market; the annual consumption of fish per capita should reach 7.5-8.0 kg on average;
3. increasing the annual production of aquaculture products to reach at least 12,000 tons of fresh and processed fish and fish products; the primary products for the produced foods should be from own sources;
4. increasing the share of the valuable and delicacy species of fish to at least 60% for total aquaculture production; the increase should be at the expense of the share of the carp species;
5. restructuring of the Black Sea fishing fleet and increasing part of it with modernized fishing vessels with adequate and modern fishing equipment and facilities;

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Measures and recommendations concerning the promotion of small scale fisheries in Bulgaria

6. organization of an effective Fisheries Statistics System with capacity to cover at least more than 90% of the total volume of fish and other aquatic organisms production /catches and aquaculture;
7. projects by the private sector and by the non-governmental organizations should support fish stocks of value and market demanded fish species in the water basins;
8. increased income of the people employed in the sector;
9. increasing the share of specialists and workers in the sector with appropriate qualifications for their positions to 80%.

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