SPECIFICITY OF THE FISHERY AND COMMON FISHERY POLICY IMPLEMENTATION: A CASE STUDY OF THE WESTERN PART OF THE BLACK SEA

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ABSTRACT

The extension of the EU's borders into the Black Sera region will do little to improve the EU's environmental protection workload. On the contrary: the ecosystems of the Black Sea are in the state of degradation. Eutrophication from nutrient enrichment and overfishing are particularly significant pressures in the western region.

Joining the EU has had relatively little impact on the national fisheries legislation of Bulgaria and Romania because the Common Fishery Policy is directly applicable to EU member states. It does not need translating into national legislation. Rather, most of the changes have been in relation to systems and procedures. This is included improvement in data collection and market systems, such traceability and labeling as well as Vessel Monitoring System national monitoring centers creation.

Total landings in western part shelf area for 1992-2005 period are 135 948 tons: 39 770 tons in Romanian and 96 178 tons in Bulgarian waters. Most actively exploited and most abundant fish species in the western part of the Black Sea is sprat, followed by anchovy and horse mackerel. Turbot (*Psetta maxima*) is heavily exploited, but reported catches are very small in comparison with the total catch amount: 735.78 tons for 15 years. Sprat, traditionally in both countries is being caught in very large amounts with passive and active fishing gears. No Total Allowable Catch calculations (quotas) exist in Bulgaria, with exception of turbot.

Essential difference in qualitative composition of catches in Bulgaria and Romania exist, concerning sea snail (*Rapana thomassiana*).
It stands out the necessity of urgently implementation of ecosystem approach in managing living resources and particularly the fish part in marine area of both adjoining countries.

KEY WORDS : Black Sea, environmental protection, fishery legislation

Aims

The main task is to collect the information and knowledge of the state and the evolutionary tendencies of the main gregarious species stocks in the Romanian and Bulgarian marine area, with the aim of harmonizing their evaluation methods and sustainable exploitation measures (STAICU *et al*., 2006).

Background

The extension of the EU's borders into the Black Sea region will do little to improve the EU's environmental protection workload. On the contrary; the ecosystems of the Black Sea are in a state of degradation. Eutrophication from nutrient enrichment and overfishing is particularly significant pressures in the western region.

Both of these problems are compounded by the Black Sea's characteristics. It is an inland sea, surrounded by six countries: Turkey; Bulgaria; Romania; Ukraine; Russia; and Georgia. Its connection with the Mediterranean is via the Sea of Marmara, a sea itself bordered entirely by Turkey.

Fish catch data is often incomplete, hampering stock assessments. Nonetheless, it is estimated that Bulgaria accounts for approximately two thirds of catches from the western shelf area, with Romania taking the rest. Over the last 14 years total recorded landings (FASAP, 2006) have fluctuated between 4,000 and 20,000 t. In 2005 recorded landings (NAFA, 2005) were close to their peak, with nearly 18,000 t taken by Bulgaria and 2,000 t landed by Romania (Table 1).

Table 1

Bulgarian and Romanian total landings
in the Black Sea for 1992-2005 period

	Bulgaria		Romania		Total
	Tonnes	**%**	**Tonnes**	**%**	
1992	3651	50	3683	50	7334
1993	4226	52	3901	48	8127
1994	11722	79	3058	21	14780
1995	7510	70	3163	30	10673
1996	7733	74	2682	26	10415
1997	9422	71	3872	29	13294
1998	8514	66	4431	34	12945
1999	9054	78	2507	22	11561
2000	4226	63	2476	37	6702
2001	1506	38	2431	62	3937
2002	13548	86	2116	14	15664
2003	10209	86	1610	14	11819
2004	5816	76	1820	24	7636
2005	17940	90	1940	10	19880
Total	**115078**		**39690**	**154767**	
Average	**8220**	**70**	**2835**	**11055**	
%	**74**		**26**		

Sprat is one of the most important fish species, being fished and consumed traditionally in both countries. It is the most abundant fish species in the region and accounts for most of the landings, followed by anchovy and horse mackerel. Whiting is also taken as a bycatch in the sprat fishery, although there is no targeted fishery beyond this. A fishery exists for turbot, a stock considered heavily exploited, but under-declaration of landings hampers management.

Catches of bluefish and bonito have increased in recent years. Together with other migratory species, this is believed to be caused by environmental conditions as well as changes in fishing effort. The biggest difference in landings between Romania and Bulgaria is that concerning the sea snail (*Rapana thomassiana*). Since being accidentally introduced from the Pacific in the 1940s it has increased to the extent that it supports commercial fishing, albeit with negative consequences for the Black ecosystem. Unofficial statistics suggest that sea snail landings by Bulgaria in 2005 were 8,500 tones, representing nearly half of the country's total annual catch. Sea snail landings do not feature in Romanian statistics however, making it difficult to determine the significance of this fishery.

Joining the EU has had relatively little impact on the national fisheries legislation of Bulgaria and Romania because the Common Fisheries Policy (CFP) is directly applicable to EU Member States. It does not need translating into national legislation. Rather, most of the changes have been in relation to systems and procedures.

This has included improvements in data collection and market systems, such as traceability and labeling. Enforcement systems have been improved, equipping vessels over 15 metres long with satellite vessel monitoring systems (VMS) and setting up national monitoring centres.

As with the Mediterranean Sea, the use of Total Allowable Catches (TACs) is currently limited, with Bulgaria only setting a TAC for the turbot fishery for example. It has, however, still been necessary to make some changes to national legislation on stock conservation, in areas such as landing sizes and gear restrictions. Future changes in resource management include further monitoring improvements and reducing illegal and unreported catches. Priorities beyond resource management include adapting fleet capacity (modernization, hygiene and safety improvements) and development of the aquaculture, manufacturing industries and marketing.

Many of the changes to the Bulgarian and Romanian fisheries management system should make a positive contribution to the region. The Black Sea is, however, an example of the need to manage more than individual fish stocks. Wider environmental issues highlight the importance of applying the ecosystem approach, as envisaged by the proposed marine strategy Directive, and as required by the CFP. In doing so, Romania and Bulgaria will need to cooperate with the remaining four non-EU bordering countries, as well as with each other (RAYKOV, 2006).

EXPERIMENTAL

The data are collected during scientific surveys in Bulgarian and Romanian marine areas, using standardized methodology and similar fishing gears in the northwestern part of the Black Sea. Official statistics from NAFA – Romania and Bulgaria and unofficial statistics from Private Fisheries Union – Burgas, Bulgaria (FASAP, 2006). Vessel monitoring system and its implementation in Bulgarian marine area was carried out by VMS control center situated in Varna.

RESULTS AND DISCUSSION

There are many evidences that Black Sea ecosystem still functioning in a "trembling" way. Despite of its natural resilience, all living marine resources suffer the "echo" of two driving forces caused by the human activities: nutrient enrichment of the basin, which leads to trophic cascades with first visible effects: phytoplankton blooms, hypoxia at the bottom layer, mass mortalities of demersal species and overexploitation, caused by irrational utilization of the marine resources.

The western part of the Black Sea (Bulgarian and Romanian waters) is very good example of these negative ecological effects manifestation. It stands out the necessity of urgently implementation of ecosystem approach in managing living resources and particularly the fish part in marine area of both adjoining countries

The historical databases of commercial catches play crucial role in accurate assessment of the dynamics of the fish populations. Total landings in western part shelf area for 1992-2005 period are 115 078 thous.tons: 39 770 tons in Romanian and 96 178 tons in Bulgarian waters.

Most actively exploited and most abundant fish species in the western part of the Black Sea is sprat (80 thous.tons, VPA estimates), followed by anchovy and horse mackerel. Turbot (*Psetta maeotica*) is heavily exploited, but reported catches are very small in comparison with the total catch amount: 735.78 tons for 15 years. Sprat, traditionally in both countries is being caught in very large amounts with passive and active fishing gears. Whiting (*Merlangius merlangus euxinus*) doesn't present in catches independently, but only as a by-catch of sprat. The highest TAC has been calculated for sprat: in Romanian territorial waters: 10 thousand tons. Maximum sustainable yield (MSY) strategy has been applied to the sprat (in Bulgaria) in order to avoid the uncertainties connected with discards and unreported catch. The calculated value for MSY is 11 380 thousand tons. No Total Allowable Catch calculations (quotas) existed in Bulgaria, with exception of turbot: 20 tons/year TAC calculated for 2006 and 30 tones for 2007. The calculated TAC's for 2008, common for Bulgaria and Romania are 15 000 t sprat, shared between both countries and 90 tones turbot (45 in Bulgarian territorial waters and 45 in Romanian waters).

Representatives of *fam. Gobiidae* have the largest part (from demersal fish species) in the Bulgarian Black Sea landings. The trends pointed out increase in sprat and sea snail catch that constitutes 91.43% from the Bulgarian Black Sea landings.

Essential difference in qualitative composition of catches in Bulgaria and Romania exist, concerning sea snail (*Rapana thomassiana*). Unofficial

statistics pointed out that sea snail landings are 8557.4 tons for 2005, representing 47% from the Bulgarian total catch in the Black Sea for the same year. Romanian statistics doesn't report on sea snail landings.

Migrating species, like anchovy and horse mackerel and especially the bluefish and bonito are being caught accidentally, with exception of 2005 when 358.8 t bluefish and 1113.2 t. Bonito yields have been registered in Bulgarian shelf zone.

It is very important to note that the catch size, concerning migrating species is highly dependant on hydro-meteorological conditions and trophic base, as well as the fishing effort.

An increasing trend regarding operational hours, reducing of the trap-nets total number (30 in 2005) and catch per unit effort in Romanian Black Sea waters was observed. Accordingly, the stationary operational units along the Bulgarian coast are 78 (trap-nets) and CPUE decreased.

Active fishing carries out by 1845 vessels (>15m: 44). Greatest part of vessels are <12m (1771) and operate till 5 mile zone mostly.

Achievements (CFP) till the moment:

I. Regarding VMS implementation:

Center for monitoring and control of the fishing vessels was created in Varna City-Bulgaria;

Delivering of the necessary equipment, training of the personnel and implementation of the existing system for satellite monitoring of the fishing vessels;

Project executor is "Scortel" Company.

The actual realization of this project started with installation of the board equipment onto board of the Bulgarian fishing vessel "Elis".

The process started with introducing system for report on the documentation for first sale of fish and other marine living resources started with introducing of the Ordinance No. 4 /13.01.2006 for conditions and order for first sale. This ordinance regularizes the following:

1. Conditions and order for realization of the first sale of fish products;
2. Standard terms and conditions for sell of the fish products.
3. Conditions and order for consumer's information in fish products trade.

First sale of fish products is sell of the alive, fresh, frozen, chilled or first treated on board or fish/marine organisms processing enterprise (on market for the first time after the catch). First sale of the fish products carries out at the registered "first sale" centers or to the registered buyers. The legislation base of (FAA, 2001) registers first sale centers.

First sale of fish and other marine living resources documents are:

1. Landing declaration;
2. Certificate of registered buyer;
3. First sale document;
4. Declaration of acceptance.

II. Modernization and reconstruction of the market:

If fish or other marine recourses are not intended for sale but for processing or later sale on the market, declaration of acceptance or transportation document must be issued. First sale of the products must be entered in the register. NAFA is keeping accountancy for these documents.

• All documentation that attends the catch and marketing must be placed to the NAFA disposal up to 48 hours. Non-execution of this duty is subject to high-handed methods, administrative pains and penalties.

• All information about Landing declarations, first sale declarations, declarations of acceptance is collectable for the purposes of the fishing statistics and is being controlled by the NAFA inspectors Department "Fisheries, aquacultures and control".

• At this moment in force is a procedure for modernization of the fishing ports in order to increase the efficiency of the control. Simultaneously, the procedure for control of the fishing activities will be carried out at stations of NAFA. The realization of this project is in process. The aim of this project is to assure the access of controlling inspectors to the fishing ports in order to check and confirm the reliability of the given information.

Measures incorporated in (*Fisheries and Aquaculture Act*, 2001) Republic of Bulgaria:

♦ Regulation of the minimum allowable mesh size, since 1997 it has been increased in order to preserve the population of young fish;

♦ Bans and restrictions on the use of particular fishing equipment, which brings about over catch or damages the inhabited environment and resource reproduction;

♦ Fixing of the minimum allowable size of fish and other aquatics, subjected to fishing;

♦ Fixing of the terms and periods during the year, when the fishing of the respective species is forbidden;

♦ Determination of specific measures related to certain species and specified fishing zones;

♦ NAFA is responsible for the control activities, in respect to the observation of the technical measures on catches. MEW and the National Service "Border Police" support NAFA for performing control activities.

♦ The Republic of Bulgaria wishes to retain its right to apply more restrictive technical measures on fishing related to bottom trawling and dragging within the 12-mile territorial zone in the Black Sea, on the basis of Article 6 of Regulation 3760/92.

Effective management of marine living resources - Perspectives:

- Development of the national program for creating effective collaboration between science, fisheries and aquaculture;
- And institutions responsible for natural resources exploitation;
- Financial support of the researchers aiming investigations on continuous base;
- Creating scientific database of the natural resources state;
- Statistics improvement;
- Financial support for creating of turbot farm (restocking);
- Plan for optimization of the catch in conformity with the scientific investigations results.

Priority No.1

Fishing fleet capacity adaptation:

1. Reconstruction and modernization of the existing fishing fleet;
2. Improvement of the safety and onboard hygiene in conformity with the EU requirements.

Priority No.2

Development of the aquaculture, manufacturing industry and marketing:

- 75% reconstruction of the fish-breeding farms;
- Construction of 2 market places for First sale;
- Effective management;
- National program development for the fresh fish and fish products promotion;
- Fish farm creating (turbot), black-mussel farms, sturgeons farm; re-circulating system for delicacy species; organic aquaculture farms; shrimp farms.

Priority No.3

 Improving of the existing infrastructure of the ports, creating 2 new ports;

 Training of the personnel, developing new program for education;

 New statistical and information system developing;

 Fishing tourism program;
 Ecosystem based management programs and collaboration between stakeholders and scientific organizations.

Priority No.4
 Sustainable development of the coastal zones
 Effective monitoring program development on restocking activities;
 Sustainable management of the marine living resources;
 Reducing illegal and non-reported catches.

Fisheries management and policy:

The (FAA, 2001) includes provisions that all fishermen are obliged to fill in the landing declarations with information concerning the quantities caught and the fishing zones. A copy of the landing declaration must be submitted to the regional offices of the National (Executive) Agency for Fisheries and Aquaculture (NAFA) for the purpose of collection of operational catch information. EU requirements concerning landing declarations are responsibility of National Agency of Fishery and Aquaculture. Staff is appointed to collect

Operational information (landing declarations, sales notes, statistical data etc.).

Collection of market information:

Agricultural Market Information System (AMIS) is responsible for collecting, processing and transmitting all relevant market information on fisheries, in accordance with EU requirements.
VMS.

Following the requirements of the EU politics regarding the states with fishing fleet centers for surveillance of the fishing vessels have been created. Practical realization started with the equipping 18 vessels (>15m) in Bulgaria and Romania.

CONCLUSIONS

1. In the conditions of the highly changing environment, intensive exploitation of marine living resources and eutrophication of the Black Sea, increases need for annual stock assessment, growth parameters, age composition, total mortality components, recruitment and spawning intensity

estimation. Very important issue in analyzing of the given stock is to harmonize and to apply common models and methods (in all Black Sea countries) regarding shared stocks with transboundary distribution (sprat and whiting), migrating (horse mackerel and anchovy) and highly migratory predators (bonito and bluefish). Ecosystem approach must be applied in management and utilization of the marine living resources.

2. Taking into consideration environmental factors in the stock assessment – directly or indirectly influence on (through the trophic base) parental stock biomass and recruitment.

3. Type of the management strategy have to be defined regarding peculiarities of the fish species, type of exploitation, discards, by catch, unreported catch etc.

4. Collecting and data treatment have to be according the international directives i.e., taking into account number of fishing gears, landings (total, by species, monthly, seasonally, yearly).

5. Protecting and sustainable management of the sensitive habitats in the western part of the Black Sea.

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