

STUDY ON THE IMPACT OF FISHERY ACTIVITIES ON THE MARINE NATURA 2000 SITES

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Abstract

The current Common Fisheries Policy allows better integration of the requirements of environmental protection into fisheries management. This directly contributes to the achievement "Birds" Directive and „Habitats”, too. Moreover, it provides a system of marine habitats and species protection from the harmful effects of fishing, even in cases where the provisions of Natura 2000 does not apply. In the fish, along the Romanian coast, there are several companies who use motor boats and other fishing equipment. Also, beyond 20 m isobaths activates fishing vessels B-410, Baltica and T.C.M.N. Of the 28 fishing points, 18 would write their activities inside SCIs and all are located inside the only marine SPA, SPA0076. Of the total registered boats, about 64% operating within marine Natura 2000 sites. Data from control and monitoring programs should allow recognition of the conservation status of species and habitats present in sites. Conservation measures to be instituted in marine sites will be aimed at maintaining or restoring species and habitat, which has been designated at a favorable conservation status.

Key words: conservation, fishing, marine sites, Natura 2000

INTRODUCTION

Fish and fishing are integral parts of many companies and make an important contribution in the socio-economic and welfare in many regions and states.

Fisheries production is used in a variety of ways, based on subsistence, trade in fishery products.

Despite the enormous importance and values of world fishery resources suffer the combined effect of overexploitation and environmental degradation.

For fisheries managers is important to understand that where resources are overexploited or exploited in an irresponsible manner in the future will be negative consequences.

Reduction of fish stocks to critical biological and ecological levels, will cause a loss of potential benefits especially for food, income, employment and others, both short and long term.

MATERIAL AND METHOD

Qualitative and quantitative composition of fish catches was obtained from fisheries statistics has been achieved by centralizing periods of time and dates from the profile

companies and interviews with fishermen. Fishing effort (no. of vessels, no. seines, days of activity) was obtained from company dates and records kept by the National Agency for Fisheries and Aquaculture. The statistical dates used to assess allowable catch exploitable biomass.

RESULTS AND DISCUSSION

In the fish sector, along the Romanian coast, there are several companies who use motor boats and other fishing equipment [2]. Also, beyond 20 m isobath vessels activates B-410, Baltic and TCMN (Table 1). Of the 28 fishing points, 18 would write their activities inside and all are located inside the only marine SPA, SPA0076. Of the total registered boats, about 64% operating within marine Natura 2000 sites.

Marine fisheries in the Romanian Black Sea shore area is done in two ways:

- *coastal trawler* fishing vessels active, type B-410, Baltic TCMN other types, equipped with pelagic trawl and gill of plaice, large working area, at depths exceeding 20 m;

- **stationary fishing** practiced along the coastline, 28 points in the fishery, located between the Sulina Vama Veche in shallow coastal zone (3.0 to 11.0 m) with fixed gear

(seines, gillnets, longlines Ohana and beach seines) and up to 40-60 m, turbot gillnets and longlines.

Table 1 Number of fishing boats and equipment used in marine fishing (2004-2009)

No	Fishery points	Boats			Fishing equipments			No. pers.	Marine sites
		Total	With engine	Without engine	Seines	Gills	Seine		
1	<i>Sulina</i>	2	2	-		100	-	3	ROSCIO066 Danube Delta Marine area
2	<i>Sf. Gheorghe</i>	1	1	-	1	100	1	3	
3	<i>Perișor</i>	3	-	3		10		8	
4	<i>Periboina</i>	3	-	3	1	15	-	20	
5	<i>Edighiol</i>	2	-	2		20	1	20	
6	<i>Chituc cherhana</i>	4	3	1		-	-	2	
7	<i>Vadu</i>	5	3	2	2	150	-	10	
8	<i>Corbu</i>	3	-	3	1	212	1	7	
9	<i>Cap Midia</i>	4	1	3	2	50	1	10	
10	<i>Cap Midia cherhana</i>	6	3	3	2	50	-	12	
11	<i>Tabăra Năvodari</i>	8	8	-	1	60	-	8	
12	<i>Mamaia sat</i>	6	3	3	6	50	1	12	
13	<i>Mamaia pescărie</i>	5	5	-	-	150	1	16	
14	<i>Constanța Tomis</i>	2	2	-	-	50	-	5	
15	<i>Agigea (+microf. de acva. marina)</i>	3	-	3	2	30	-	8	
16	<i>Eforie Nord</i>	5	2	3	-	20	-	50	ROSCIO197- Submerged beach Eforie Nord – Eforie Sud
17	<i>Eforie Sud</i>	8	8	-	2	25	2	20	
18	<i>Tuzla</i>	5	5	-	1	50	1	14	ROSCIO273- Marine area from Tuzla Cape
19	<i>Tuzla far</i>	3	1	2	1	20	-	6	
20	<i>Costinești</i>	5	-	5	2	136	1	20	
21	<i>Golful Francezului</i>	5	3	2	-	10	-	17	
22	<i>Halta Pescarus</i>	6	6	-	-	10	-	10	
23	<i>Tailageac (Olimp)</i>	6	5	1	2	25	-	12	
24	<i>Jupiter Cap Aurora</i>	4	2	2	-	10	-	18	
25	<i>Saturn</i>	3	-	3	-	10	-	16	ROSCIO094 Sulphurous springs from Mangalia
26	<i>Mangalia</i>	6	6	-	-	100	-	20	
27	<i>2 Mai</i>	6	4	2	2	20	-	15	ROSCIO269 Vama Veche – 2 Mai
28	<i>Vama Veche</i>	4	-	4	4	20	-	8	
T O T A L		123	73	50	30	1.503	10	370	

In passive fishing, although fishing effort was relatively constant, production dropped drastically. The structure of catches by species fishing net over the years shows a trend which largely reflects both the main fish stocks and changes in environmental factors. The only species that has provided some consistency in the catch is sprat, who appeared alongside southern hake. Anchovy and mackerel have arrived in the catches virtually disappear by the middle of this decade. In the past 10 years the effort has

declined steadily, reaching an average of 29-35 of seines, located along the entire coast, from port to Vama Veche, about being engaged in this activity. 150-200 fishermen, from 500 in 1983. Capture fisheries resulting from the purse is delivered fresh or stored and processed (salted) in the 15 fishery stores where human consumption is sent to either state or sometimes smoked salt or animal consumption only fresh [1].

The fish actively dominance in a sprat catches provided by over 85%, followed by

southern hake. Of the 21 existing vessels in the middle of the last decade (12 I.P. Constanța and 9 I.P.Sulina), the number of vessels has decreased dramatically, reaching only 7 active vessels in 2000 and less than five vessels in recent years.

While in the early '90s, the number of people directly involved in fishing was about 180-200, it fell sharply to around 50 people. The fish is brought ashore from ships as salt, one part being shipped for consumption in this form, and some form of canned processed. Quantities are limited and as fresh supplies.

Besides the two forms of fishing, the Romanian seaside recreational fishing is

practiced, especially in tourist season more intense, and in the last decade, a subsistence fishing practiced by the locals. This latter form of fishing does not carry too much pressure on fish stocks as long as they practice a craft level. Analysis of the fishing net fishing (1980-2008) highlights the sprat species, southern hake, alos, anchovy and horse as own weight in fish species passively.

The main object is the sprat fishing vessels (over 80%), these being the most important species in proportions varying from year to year, southern hake, mackerel and shark (Fig. 1).

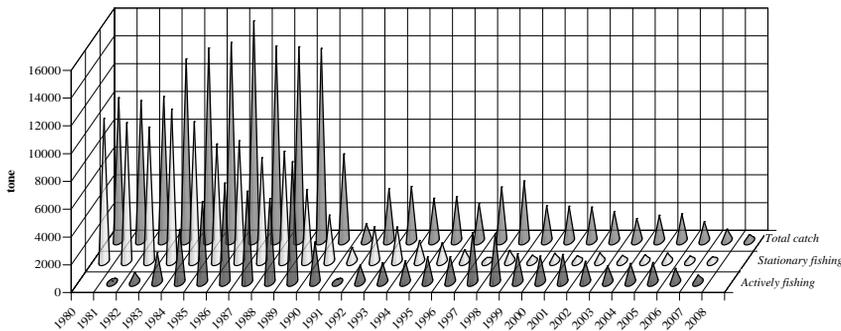


Fig. 1 Catch (full, active fishing and fishing stationary) made at the Romanian Black Sea coast in 1980-2008 period

In stationary fishing in the '80s and '84, total catch has remained relatively constant (approximately 10,000 tons), that after the year 1985 to decline gradually, reaching a minimum of 290 tonnes in 1997 [1].

The fixed gear fisheries catches dominate traditional species: anchovy (5.8 - 48%), sprat (6.12 to 35.47%), grass goby (2.9 to 16.5%), horse (0 - 8.5%), turbot (0.4 to 24.4%), southern hake (1.3 to 24.8) and mullets (0.2 to 10.8%). In sprat fishing with active gear exceeds 80.00% (ranging from 70.49 to 96.2%), followed by 2.5 to 13.3% in southern hake, turbot, mullet and rarely (0.1 to 1.7 %), horse (0.25 to 1.56%) and anchovy (0.2 to 2.5%).

Sprat is the only species which showed an almost normal natural fluctuation and actually relatively good. Romanian platform, depending on environmental conditions,

fishing for sprat agglomerations were estimated at about 60,000 tons, allowing a total allowable catch (TAC) in around 10,000 tonnes and the turbot fishing agglomerations which have made biomass ranged from 250-1066 tons, recommended a TAC of 50 tonnes.

Clusters of shark was estimated at 750-1650 tonnes, is recommending a TAC of 50 tonnes and for southern hake were estimated at 8000-10000 tonnes being recommended a TAC of 1,000 tonnes. The data obtained in the case of shark stocks has to be carefully managed.

The quantity and quality of annual catches in the Black Sea primarily dependent on the state reserves the main species, their migrations and new generation value and completing annual inventories of the art of fishing and exploitation intensity.

Activities of the Romanian shore fishing, marine sites by default, are facing many problems [3,4]:

- the ecosystem of the sea have occurred and continue to show some strong mutations biological and ecological nature, the maximum growth of species with high power recovery (sprat) parallel to the almost complete disappearance of the other components (blue mackerel, bonito);

- exploitation of resources is done only over the continental shelf waters, particularly in Eastern and Southern sea winter and summer in Western and Northern Black Sea;

- the riparian countries have developed unevenly fishing fleets (Turkey, over 90% of total fleet);

- all riparian countries have extended their exclusive economic zones, which is practically in the Black Sea at present there are no free zones, which require Setting up a central body to regulate the first delimitation of areas of competence and issue regulations on the exploitation of marine resources.

Competition created by opening imports of fishery products, especially those frozen sprat in Poland and Bulgaria, exploited the inexperience of the new conditions, the aging fleet of vessels, lack of qualified staff and not least the increasing fuel costs have led to an involution of the Romanian marine fisheries, reflected very strongly in recent years by making a very poor effort, especially in active fishing offshore area, where activated 3 vessels only.

CONCLUSIONS

Expanding the European ecological network Natura 2000 in Romania could lead to conflicts between the Romanian and the marine fishery sites. At national level the following general measures should be taken on the management, conservation and protection of fishery resources:

- legal compliance demersal fisheries in the Romanian seaside;

- the development and appropriate financial support of a continuous system monitoring, control and supervision of state demersal and pelagic fish populations, catch and fishing effort;

- protection of fish species high economic value, by taking drastic measures to stop

illegal fishing and prohibit fishing in certain times of year;

- the special protection of spawning, feeding and wintering of resources;

- need sizing effort based on the assessment of total allowable catches to prevent overfishing situations;

- the development of fishing regulations;

- completion of the regular order of prohibition measures and recommendations resulting from research;

- establish and promote coastal environmental monitoring systems in order to discover the shortest time possible degradation of any origin, occurring in the aquatic environment;

- minimizing waste and non-target catches of fish species concerned, that other species aquatic organisms, aquatic ecosystems by the users and the impact on associated or dependent species;

- education/training of fishers in the proper use of handling techniques-release dolphins accidentally caught by fishing gear and their record;

- to intensify control of fishing zones.

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