

CONSERVATION OF DOLPHINS FROM THE ROMANIAN BLACK SEA WATERS

Project N^o: LIFE00NAT/RO/7194



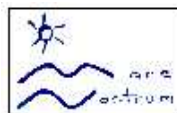
LEYMAN'S REPORT

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September 2004



CONSERVATION OF THE DOLPHINS FROM THE ROMANIAN BLACK SEA WATERS

(Project co-financed by the European Union through the LIFE-NATURE Programme)

Partners:

- National Institute for Marine Research and Development "Grigore Antipa" Constanta;
- NGO "Mare Nostrum" Constanta;
- Museal Complex for Natural Sciences – Dolphinarium, Constanta

Duration: July 2001- July 2004-08-04

WHAT IS LIFE?



LIFE is the financial instrument supporting the Community environmental policy. Adopted in 1992, it then covered the period 1992-1995. Further regulations were adopted in 1996 for a second phase and in 2000 for LIFE III (2000-2004).

LIFE aims at co-financing actions both in nature conservation (LIFE-Nature) and in other fields of the environment (LIFE-Environment) as well as specific environmental actions outside EU (LIFE Third Countries).

Within the meaning of LIFE, the nature conservation actions are those "required to maintain or restore the natural habitats and the population of species of wild fauna and flora at a favourable status".

In practice, LIFE-Nature must contribute to the implementation of the "Birds" (79/409/EEC) and "Habitats" (92/43/EEC) Community directives and, in particular, to the establishment of the European network of protected areas - Natura 2000 - aiming to the on-site management and conservation of the most valuable fauna and flora species and habitats in Europe.

Two species of marine mammals listed in Annex II of "Habitats" Directive are living in Black Sea too.

WHAT ARE THE MARINE MAMMALS?

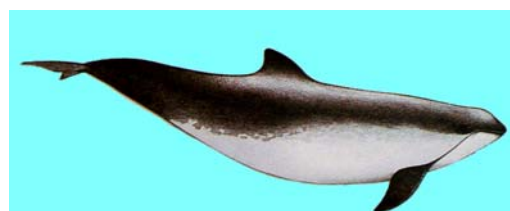
Most writers use the term "marine mammal" to include members of 5 different mammalian groups: cetaceans (whales, dolphins and porpoises), sirenians, pinnipeds (sea lions, the walrus and seals), marine and sea otters, and the polar bears. They are more in common with the terrestrial mammals: the cetaceans are more closely related to horses, pigs, and zebras, the pinnipeds with bears and weasels, and the sirenians are more closely allied to elephants.

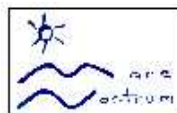
All marine mammals have undergone major adaptations, which permit them to live in the water. The cetaceans spend their entire lives in the water, while other marine mammals come ashore for various reasons, at particular times in their life cycle, most commonly to reproduce, molt or rest.

WHAT SPECIES OF MARINE MAMMALS LIVE IN THE BLACK SEA?

Out of the more than 120 species of marine mammals described by the "FAO Species Identification Guide" edited in 1994, in the Black Sea live only 4: 3 pertaining to Cetacean Order and one to Carnivora, that is the Mediterranean seal (*Monachus monachus*). The three dolphins are:

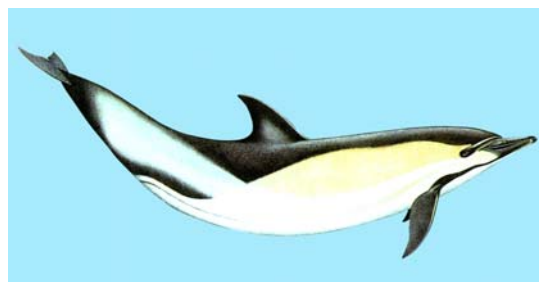
➤ *Phocoena phocoena relicta* (English common name: porpoise; Romanian common name: focena, porc de mare, marsuin) is a small sized species,





◀ *Tursiops truncatus ponticus* (English common name: bottlenose dolphin; Romanian common name: afaalin, delfin cu bot de sticla, delfin cu bot gros), is the biggest (up to 3.5m long); it is probably the most familiar because prevalence in captivity worldwide, and frequency appearance on television and in advertising, and

➤ *Delphinus delphis ponticus* (English common name: common dolphin; Romanian common name: delfin comun).



WHAT ARE THE THREATS TO THE CONSERVATION STATUS OF THE DOLPHINS IN THE BLACK SEA?

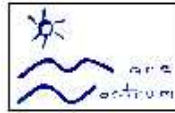
Being at the top of the food pyramid, marine mammals play a major role in ecological equilibrium of marine ecosystems. Due to this position, they are very sensitive to ecological conditions and in direct competition with some human activities. That is way, many efforts have concentrated on these environmental conditions with negative impact on the marine mammals, including on the dolphins from Black Sea, the so called "threats", for scientific as well as cultural and aesthetic reasons.

In the past, commercial killing was the main human activity affected the populations of the three dolphin species from the Black Sea, especially of the common dolphins and harbour porpoises. Nowadays, the most important man-made threats are presented by habitat degradation, disturbance and incidental capture in fishing gear.

We give below the inventory of threats presented by Dr. Alexei Birkun in the paper "Cetaceans of the Mediterranean and Black Sea. Black Sea – State of knowledge and conservation strategies. ACCOBAMS/MOP1/Inf.6, 218 pp":

- Direct killing
- Habitat degradation through:
 - Pollution: nutrient pollution; oil pollution; persistent organic pollutants (diverse types of organohalogenes used as fertilizers in agriculture); trace elements; radioactive contamination; microbe (fecal) pollution; introduction of alien species; acoustic pollution
 - Physical modification of the seabed through: sand extraction, offshore gas and oil exploitation, bottom trawling.
- Disturbance
 - Marine traffic,
 - Military activities,
 - Scientific researches and dolphin-watching activity
- Interaction with fisheries
 - Impact of dolphins on fisheries
 - Impact of fisheries on dolphins -
ex. accidental mortality in fishing gear.
- Capture for dolphinaria; commerce with living animals.





- Natural mortality and pathology: virus infections, bacterial diseases, mycoses, parasitic diseases, environmental hazards, etc.

We describe below some of the most important threats:

Directed killing. All the Black Sea coastal countries, following industrial interests, participated on the mass direct killing of small cetaceans, the first registering lasting from 1837, which describes the catches from the Crimea zone and especially in the Bosphorus Strait. In 19th century, the cetaceans were killed almost exceptionally for oil obtained by melting of their fat, and in 20th, especially in USSR, the dolphins oil found new application in the pharmaceuticals as the raw material for vitamin-D-containing medicines and in the tanning industry. Purse-seining and shooting were the two principal methods used in Black Sea cetacean fisheries.

The precise number of Black Sea killed and processed in the 19th and 20th centuries is unknown. In 1939, the Russians caught annually 135,000-140,000 specimens. In 1950-1965, former USSR, Bulgaria and Romania caught a total of 1,128,000 individuals. The Turkish fishermen caught important quantities, as the Russian level.

The dolphins direct killing was banned in the former USSR, Bulgaria and Romania in 1966, and since 1983 - in Turkey.

Incidental takes - most often occur when specimens get caught in large set nets to catch fish. Unable to escape or reach the surface, they drown and perish. Certain types of fishing gear, such as gill nets, are particularly dangerous to small cetaceans.



Habitat degradation. The encroachment of human civilization on natural habitats represents a serious threat to the survival of some stocks. Coastal development may destroy fish nurseries, eliminating the food supply of the local cetaceans. Continued urban development and industrialization threatens these regions. Pollutants - as a form of habitat degradation - enter the food chain near the bottom and build up in the top of predators, such as cetaceans. The effects of toxins are not entirely clear. The

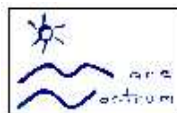
death of cetaceans due to pollution is difficult to recognize, especially when it occurs in large number.

Disturbance. Besides the marine traffic which cause death due to collisions and propeller injuries, ironically, an important method of improving public awareness about the cetaceans and promoting conservation measures (dolphin -watching activities) may also be a serious threat to these creatures.

WHY WAS NECESSARY A PROJECT FOR DOLPHINS CONSERVATION?

Despite of the great number of research projects undertaken by the Romanian researchers, especially from the Romanian Marine Research Institute, becoming after 1999 National Institute for Marine research and Development "Grigore Antipa" Constanta, soon after its establishment in 1970, the study of dolphins in their natural habitat was almost ignored, excepting the interest for non-traumatic methods of their catching. After 1972, once with the establishment of Dolphinarium from Constanta, their researchers begun the dolphins study, but the observations were focussed especially on the behaviour and feeding of dolphins in captivity.





The scarceness of the data on populations abundance, distribution, migrations, natural and anthropogenic threats at the conservation status, as well as the biology, ecology, ethology, genetic even the taxonomy became more evident at the first Black Sea Marine Mammals Meeting, held in Istanbul (Turkey) in December 1995, where the NIMRD took part. Taking into consideration the national report presented by each country, the Group prepared an Action Plan, comprising research and training actions, public awareness and collaboration with other governmental and non-governmental organizations. Regrettably, the Plan has failed due to the lack of funds.

It is now well known that the presence of threats to dolphins particularly in the Black Sea is evident and pressing. As a consequence, cetacean populations are at risk and show alarming rates of decline. Concern for this situation is fully justified, because the pressures exerted by humans on the marine environment are increasing. If action is not taken, very likely populations of cetaceans will disappear from the region.

Given our present state of knowledge, we understood it is imperative to implement instruments for conservation, but there remain many tasks to be undertaken to refine such protection in an environment whose complexity and size should encourage us to work together. The mission for solve these problems has taken by **ACCOBAMS - An Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area.**



The purpose of the ACCOBAMS Agreement is to reduce the threat to cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals.

Actually, this intergovernmental Agreement materializes the deep interest shown by the riparian Countries and the European Commission, to preserve all species of cetaceans in their environment by requiring stricter measures then were defined in the texts adopted previously.

It is the first Agreement binding the Countries in these two sub-regions, enabling them to work together on a matter of general interest.

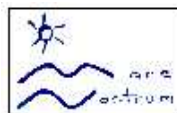
In addition, it calls for collaboration and sharing of the work with International Organizations competent for conservation of the marine biodiversity.

In November 1996, Romania, represented by NIMRD, participated at the Third Meeting of Negotiations of ACCOBAMS. In 2000, through the Law No. 91, Romania ratified this Agreement, and soon after NIMRD was nominated as Focal Point for liaison with ACCOBAMS by the Ministry of Environment and Waters Management.

ACTIONS PROPOSED BY NIMRD FOR CONSERVATION OF THE DOLPHINS FROM THE ROMANIAN WATERS THROUGH A LIFE-NATURE PROJECT

National Institute for Marine Research and Development "Grigore Antipa" proposed to European Union this project bearing in mind a few considerations:

- The financial support granted through LIFE-NATURE Program represents non-reimbursable credit, which covers a part of the total costs of the project agreed by the European Commission;
- Importance of the LIFE-NATURE Projects in the process of the preparation of Romania's joining the European Union, as well as available instrument for development and implement the Community environmental policy at regional and local level;



- The fact that the Strategic Action Plan for the Rehabilitation and Protection of the Black Sea (1996), at Article 62 of its chapter "Biological diversity protection" provides the main measures, which shall be taken for restoring populations of marine mammals;

- The fact that the signing the Bucharest Convention (April 1992), and ratifying the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS)(May 2000), Romania has agreed to undertake coordinated measures for achieving and maintaining an enhanced conservation status of the cetaceans from the Black Sea Romanian waters.



On the other hands, the NIMRD's researchers, participating at the scientific and actions meetings organized by different regional and international environmental organizations, took knowledge about the status of research and issues about cetaceans, not only from the Black Sea but also from other marine areas. Finally, they should proposed research projects, identifying the actual status of the marine ecosystem from the Romanian littoral as well as the threats to the biodiversity, in general, and to the dolphins in particular.

In 2001, NIMRD Constanta, in partnership with NGO "Mare Nostrum" and Dolphinarium, launched the project entitled "Conservation of the dolphins from the Romanian Black Sea waters", for which it was granted with financial support from European Commission.

The Project proposed about 20 actions, most of them being inspired and in compliance with the Conservation Plan of the ACCOBAMS. All of them, excepting E2, were fulfilled, the results being these previously expected in Project. So, main actions:

Action A1: Establish the work methodology and survey plan for assessment of dolphins abundance and distribution in the Romanian waters.

Action A2: Initiation of the voluntary network for dolphin strandings and sightings surveys at the Romanian Black Sea coast.

Action A3: Training in methodology for field data collection, including sightings and strandings recording.

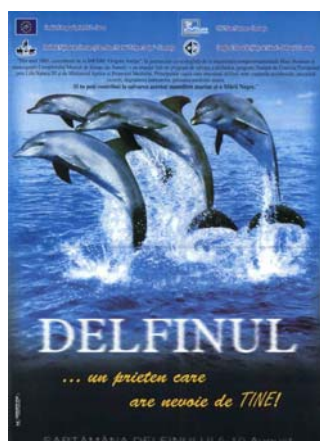
Action A4/F2: Set up the Marine Mammal Data Base (MMDB) for the Romanian Black Sea coast; Operate the Marine Mammal Data Base (MMDB) for the Romanian Black Sea coast.

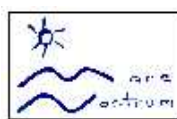
Action A5: Technical review regarding adverse impacts on marine and land-based economic activities on dolphins.

Action A6: Carry out a reconnaissance field study for assessing the current biological and ecological status of Romanian coastal ecosystems, and for inventorying the economical activities with adverse effects on dolphins.

Action A7: Draw up a National Action Plan for Dolphins Conservation (NAPDC).

Action A8: Accomplish or enforce (in case of currently declared Vama Veche - 2 Mai Marine Reserve) a special protection status and develop a management plan for the site found through the reconnaissance filed study to offer ideal conditions for dolphin





conservation.

Action D1: Implement plan for shore-based observations and aerial surveys.

Action D2: Survey incidental dolphin catches in commercial fishing gears.

Action E1: Organization of the annual celebration of Dolphin Week in Constanta, Eforie and Mangalia on mid July.

Action E2: Build a Visitors Field Center and undertake pilot dolphin-watching activities.

Action E3: Mass media promotional campaign.

Action E4: Mount an Itinerary Exhibition on Dolphins in Dolphinarium, local high schools and other educational institutions.

Action E.5: Two days national consultation workshop with the participation of local stakeholder with regards to the National Action Plan for Dolphin Conservation.

Action E.6: Producing and maintaining the project web site.

Action F.1: Maintain communication with casual surveyors, consisting of: casual sightings and stranding recordings in the Romanian coastal waters, transmitted by fishermen, coast guard, commercial ships and offshore operations.



Results

In order to assess the status of dolphin populations, the methodology on regional and international level was used. First, a field-guide on work methodology was prepared, where there were described the main biological characteristics of the three species of dolphins from the Black Sea and also from the Romanian waters. Then, the main factors with adverse impact on dolphins were identified, and finally the methodology for dolphin research was outlined, establishing the survey categories for the dolphins in the Romanian waters (land-based observations, sightings recordings by boat and aerial surveys).

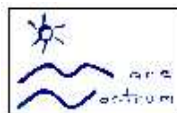
For preparation of this guide, the information obtained within the workshop "Training course on cetacean monitoring in Black Sea" were used (3-5 December 2001, Constanta, Romania); the training was organized by the ACCOBAMS Secretariat with scientific assistance of the experts from BREMA Laboratory (Simferopol, Ukraine) and THETYS Institute (Venice, Italy).

Once determined these elements, a survey plan was prepared, materialized in establishing the surveillance zone between Vama-Veche - Sulina, from seashore up to 30-35 Nm (50-60m depths), the establishment of the voluntary network and collaborators, the data which are to be collected.

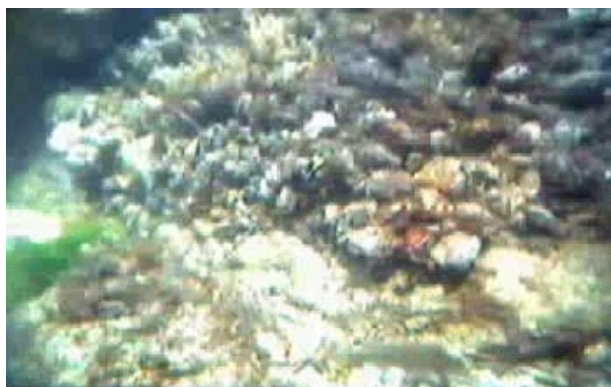
In order to stock the data obtained in the field about the dolphins from the Romanian littoral, the DataBase of the marine mammals from the Romanian littoral (MMDb) was designed, which comprises especially the data on dolphins monitoring: strandings (alive or dead); incidentally catches; sightings (land-based, boat-based and aerial).

In order to establish the distribution, migration routes and the causes of the mortalities (diseases and incidentally catches) of the dolphin populations, there

was raised the necessity for carrying out an analyses of the environmental factors (biotic, abiotic and anthropogenic) which could influence direct or indirect these aspects.



Based on the literature information, there were inventoried the main types of pollutants having significant effects on the dolphins, both direct or indirect, as well as the economical activities developed on land or sea, and their impact on marine ecosystem, implicitly on the dolphins from the Romanian waters. This study revealed that the most dangerous threats on dolphins are: degradation and disturbance of the critical habitats for vital cycle of the dolphins, such as the reproduction and nurseries, feeding and wintering sites, migration routes, reducing of the feeding resources, incidental or deliberate catching from fisheries and pollution.



For identifying the measures needed for improvement the conservation status of the dolphins from the Romanian waters, a study for describing the ecological status of all the biotic components of the two sub-systems - pelagial and benthic - during two seasons (autumn and spring) was developed.

The vulnerability of cetaceans subjected to the threats justified the implementation of some specific measures for conservation taken by the states and regional economic integration organizations, which exercise sovereignty and jurisdiction over any part of the range of a cetacean population, as well as the states, flag vessels of which are engaged, outside the limits of their national jurisdiction, in activities which may affect the conservation of cetaceans. These threats must be taken into consideration in every plan for conservation of cetaceans, to propose adequate measures for protection, co-operating to create and maintain a network of especially protected areas to conserve cetaceans. The National Action Plan for Conservation of the dolphins from the Romanian waters outlines the objectives, priority actions and coordination structure. These different components are support each other, and in order to have a great chance of success they must be taken together.

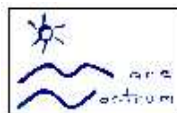


The NAPDC was prepared through the organization of two workshops, with participation of four consultants from: ACCOBAMS, an organization for animal protection from Germany, Romanian Academy and Museum of Natural History "Grigore Antipa" Bucharest; also main environmental decision makers were invited.

Final version of NAPDC was sent to the Ministry of Environment and Waters Management for approval, and also to ACCOBAMS. The ACCOBAMS Secretariat gave a good appreciation of the Plan, requesting the NIMRD agreement to be used by other countries as reference material.

Following the studies carried out within the project, and analyze of the results obtained from the dolphin monitoring, there was concluded that the most suitable areas for dolphins conservation could be the "Danube Delta" Biosphere Reserve/DDBR and Marine Reserve Vama-Veche - 2 Mai.

Having in view that the DDBR has already an authority and a management plan, including also measures for dolphin protection, through the present project there was drawn a management plan only for the second area.



Recently, the NIMRD Constanta obtained the custody of the Vama Veche - 2 Mai Reserve, the procedures for its extension, both into the shallow waters and the offshore up to the territorial waters, are ongoing. In collaboration with the Bulgarian authorities, the extension of this Reserve southward was proposed.

As for the survey plan, during 2001-2004 period, 44 land-based, 64 sea-based and 4 aerial surveys were carried out.

Within the boat surveys, a number of 700-800 dolphins per year were registered; the observations from the land resulted in about 600 dolphins per year.

The aerial surveys performed during tow seasons (winter and summer) shown that the dolphins did not occur in the Romanian waters during cold season, while in the warm season the number of dolphins ranged from 19 to 61 specimens.

The un-uniform distribution of the dolphins in the Romanian marine sector is controlled firstly by the seasonally variation of the environmental conditions, and secondly by the presence of the fish agglomerations which enter the diet of the dolphins.

The incidental catches of dolphins were produced through the fraudulent fishing practiced by the Turkish boats in the Romanian ZEE (in 2000), and through the intensification of the fishing effort carried out with the gill nets and trammel nets. Our data showed that the most dangerous for dolphins are the gill nets.



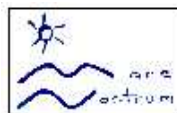
The highest number of the stranded dolphins on the Romanian beaches was produced due to the incidental catches abandoned in the sea by the fishermen which practiced a specialized fishing (more or less legally) for turbot and sturgeons. The strandings varied between 50 and 100 carcasses annually.



The strandings were reduced very much in 2004, as a consequence of the measures taken for minimizing the fraudulent fishing as well as the diminution of the fishing effort.

A remarkable achievement of the project is represented by the actions developed for the project promotion and the public awareness in general and the local people and stakeholders in special.





Members of the project team prepared and presented training courses for the fishermen and employed persons of Border Police and Romanian Navy.



There were achieved events and promotional and mass media products, such as: articles in local and national periodics, posters, grants for schools, press conferences, TV apparitions, TV promotional clips, radio spots, press interviews, scientific papers presented in different national and international workshops as well as periodics, itinerary exhibition and web site (www.delfini.cier.ro).

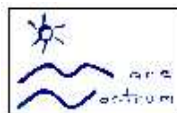


The most interesting aspect of this section was the working with children, who, carefully guided, were able to achieve prodigious activities. Also, the mass media involvement in the promotional campaign for dolphin protection and conservation was significant, it being the most important factor for stirring the decision-makers to take the most appropriate measures.

Regrettably, one of the actions - the visiting center for dolphins - did not be achieved, especially due to the financial difficulties which one of the partners was confronted.

Concluding:

- The activities for protection and conservation of the dolphins from the Romanian littoral did not begin once with this project, and will not finish once with the ending of this Project, it having the role to support some of the Romanian activities provided for achievement of the obligations assumed through the ratification of ACCOBAMS and other agreements and conventions.
- With a single exception (Action E.2), the results of project were in conformity with our expectation and provisions of the Project. The objectives and actions were entirely fulfilled, in conformity with the time planning annexed to the Project: a/field-guide on work methodology; b/ yearly survey plan; c/ voluntary network for dolphin survey; d/training on field work methodology; e/marine mammal data base; f/studies on adverse impacts of economic activities on dolphins and the assessment of current biological and ecological status of Romanian coastal ecosystems; g/National action Plan for dolphin conservation; h/Management Plan for the Reserve Vama Veche – 2 Mai; i/ annual monitoring reports; j/ events and promotion products; k/ mass media promotion; l/public exhibition and web page.
- The Project has already proved its importance and efficiency: the dolphin incidental catches decreased; the degree of public also stakeholders awareness and implication increased; the Romanian Action Plan is used as reference material for other coastal countries; the Data Base is operating and changes data with MEDACES (Mediterranean Data Base); the data on by-catches and



strandings are already used by ACCOBAMS in its activity planning (preparation of a guide for utilization of acoustic devices for dolphin protection, proposition of a project about utilization of acoustic devices in ACCOBAMS area for minimization of by-catches).

- The Project roused a great interest in mass media, which disseminated the information about the Project's objectives, increasing the public awareness, and inducing a real solidarity of local people for implementing the actions foreseen (i.e. informing the project team about the presence of dolphins, incidental captures, embarkation of the team members on the ships, etc.).

- The products and experience obtained in this Project (Action Plan, Management Plan, monitoring system, and methodology in public awareness, etc.) should benefit both the Black Sea coastal countries and also the ACCOBAMS countries.

- We hope our experience can further benefit the Authority of Vama Veche - 2 Mai Reserve, declared also as area for dolphin protection.

- The threats to the conservation status of dolphins are originated especially in anthropogenic activities. The decision-makers have to re-direct these activities in such a manner so that they could be further developed without exceptional financial support, and in the same time to support the conservation status of the dolphins.

- Comparatively with the past years, due to the mass media attitude, the number of incidental dolphin catches and stranding seem to diminish.

- As a achievement of the Project, NIMRD requested and obtained the custody of the area considered as suitable for dolphins conservation (Vama Veche - 2 Mai Marine Reserve); also, NIMRD made the necessary approaches for a trans-boundary extension of this area, both toward offshore and southward, in collaboration with Bulgaria.

- The occurrence more and more frequent of dolphins near the piers or fishing gears make the fishermen to pay visit the dolphins in their natural environment with their families especially children.



- Presently, some phrases as "so many dolphins we never saw" or "the sea seems to seethe of dolphins" are usually used by coastal peoples.

- In order to further avoid the difficulties sometimes insurmountable, when a project is prepared, it will be taken into consideration that the theoretical ideas must be implemented in practice by a realistic planning of activities.

- For a new Project, there are necessary:
 - an extremely realistic attitude when an action is proposed;

- the spatio-temporal development of an action must be very deeply documented, taking into consideration all the factors that can influence it;

- the material and human necessities must be very carefully evaluated and dimensioned;

- the carefully choose of the partners and personnel involved in the project achievement.