



## Present Situation of Environmental Problems in the Protected Basin of Köyceğiz Lagoon and Protection Strategies

The most sensitive regions of Turkey for environmental problems are those known as having important touristic potentials. Touristic investments done in a lot of cities, districts and towns on the shorelines of Mediterranean and Aegean Regions lose their traditional qualities increasingly due to population growth and structuring and these regions are left to the hands of tourism called as an "uncertain" area by the influence of economical motives without having any cultural and social preparation.





## KOYCEGIZ

## LAGOON

## BASIN

Private protection area of Koycegiz Lagoon Basin as a research area has 385 km<sup>2</sup> area. 35 km<sup>2</sup> area of the region is sea, 58 km<sup>2</sup> area is lake, 24 km<sup>2</sup> area is marsh, 118 km<sup>2</sup> area is agricultural area and 150 km<sup>2</sup> area is natural biotope. Protection area Koycegiz Lake includes beach with 4.5 km long on canal connected to the sea and marsh area around this canal.



## Water Supplies Maintaining Koycegiz Lagoon

### Basin

- Water of Koycegiz Lake which is on the west point of Mediterranean Region and within the borders of Koycegiz district is sulphurous and brackish. Surface area of Koycegiz Lake is approximately 55 km<sup>2</sup>. Its drainage area is approximately 1072,7 km<sup>2</sup>. Length of the lake shaped as rectangle is 12 km, its width is averagely 4.5 km and its altitude is 8 m. Average depth is 25 m in Koycegiz Lake but its deepest point is 55 m near Bag island.

## Fauna and Flora Status of Koycegiz Basin

- It is found by systematic researches performed since 1991 that 5 frog species, 5 turtle species, 11 lizard species, 13 snake species and 18 mammal species live within protection area. Thus, it is found that Private Environment Protection Area is quite rich in terms of amphibian, reptile and mammal species. Also, it has an important value as a nesting place for sea turtle *Caretta caretta* increasingly laying out in Mediterranean.
- The finding shows that the area is quite rich in terms of species other than sea turtle. *Caretta caretta*, *Trionyx triunguis* (Nile Turtle), *Lutra lutra* (Otter), *Sus scrofa* (Wild pig) and *Capra aegagrus* (Wild goat) are the most important animals in terms of fauna. 40 fish species, 2 crustase species, 3 Cephalopode species and 1 reptile species were found after catching related with fishery in Koycegiz Lagoon System.





## Social Structure of Koycegiz Lagoon Basin

- Region people whose means of living are mainly agriculture and fishery after 1980 are caused to tend two sectors which are indirect and not requiring labour force by the increase of tourism incomes; these are pension administration and boat transportation.
- Due to increase in the employee count in different business branches, family counts living on agricultural activities reduced. Tourism incomes changed life-style and traditional social relationships within the basin in a short time. While Koycegiz Lagoon Basin stays with its natural structure in winter months, it becomes active in summer months due to the tourism effect. Of course environmental pollution increases because of these activities.

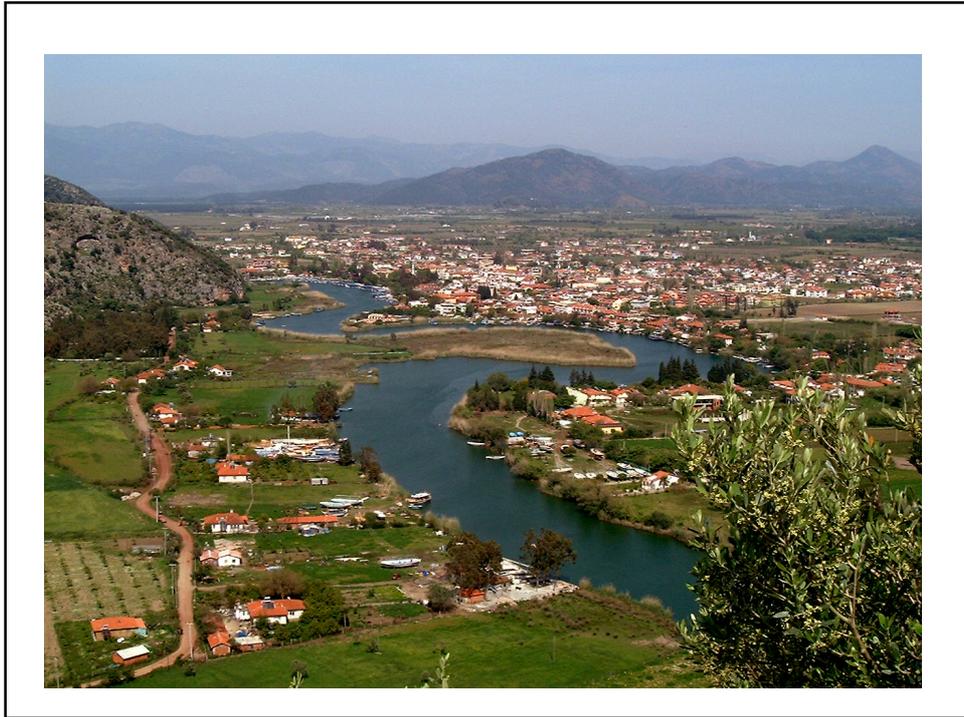
**ENVIRONMENTAL PROBLEMS IN KOYCEGIZ  
LAGOON BASIN AND SUGGESTIONS FOR SOLUTION**

- As mentioned above, Koycegiz Lagoon Basin is a sensitive ecosystem with its historical position, its fauna and flora, and suggestions for solving environmental problems faced today are given below:

- There are many pesticides in the region due to intensive cultivation. All livings within lagoon system are effected from them.
- Pesticides given to culture plants are accumulated in the soil and they reach to canals and sea by watering canals and rains. Usage of pesticides should be under control of district agriculture management. Concreting watering canals and providing control should be performed in order to solve water shortage in summer months and pesticides, artificial fertilizers etc. carried by existing canals should be prevented to return as drainage water by solving drainage problem.



- Dalyan and Koycegiz waste water purification facilities and effects of solid waste storing over Koycegiz Lagoon Basin (over water and ground) should be evaluated by monitoring studies and required measures should be taken in time.
- In addition, monthly analyses should be done by evaluating physical, chemical and biological parameters by founding a full equipped laboratory for controlling changes that may appear in Koycegiz Lagoon Basin and records of these analyses should be kept. It is very important for future of Koycegiz Dalyan fishery.



Low education levels of rural area in the region is an important factor for not protecting land and water resources. This situation caused negatively land and water resources and also health of humankind is affected negatively due to consumption of infected products.



- Fishes having economical importance caught in fish traps should be evaluated in terms of their lengths and weights. Because species produced in fish trap areas should lay eggs at least 1-2 times and their fingerlings should grow up. Gray mullets migrate to lagoons for being get fed and migrate to seas to reproduce.

- Serious measures should be taken for keeping canals clean. Intensive boat traffic should be reduced. Protecting shallow canal bottom by limiting boat count which is averagely 850 is very important in terms of not damaging reeds and water plants beside the canal. Making yachters conscious of new technical developments by informing them in winter months can be positive activity.



- Encountering the dates of migrations of fishes and tourist flow period in between 15th June and 15th August affects negatively ecosystem. Because boats go to the sea by passing from Dalyan canal. Noise of boat motors affects fish migrations, damages other organisms within the water and causes important environment pollution for reeds. Environmental destruction is obvious when it is considered that the region is the living area of many species taken under protection by Bern and Barcelona Conventions.

- Founding auxiliary units such as museum and arboretum is also important in terms of exhibiting natural wealth of the region. Ecological tours with guides can be arranged in order to introduce natural structure of the region to visitors. Thus an international introduction and the protection of natural structure can be provided.

- Structuring near Koycegiz Lagoon Basin should be paid attention not to damage environment characteristics and development plans should be applied by strict audits of municipalities and Private Environment Protection Association in Koycegiz District.
- However, people within regions should be informed by group and mass communications, seminars, conferences, courses for fishery and boats, and by local radio and television programmes.

**THANK YOU FOR  
YOUR ATTENTION**