

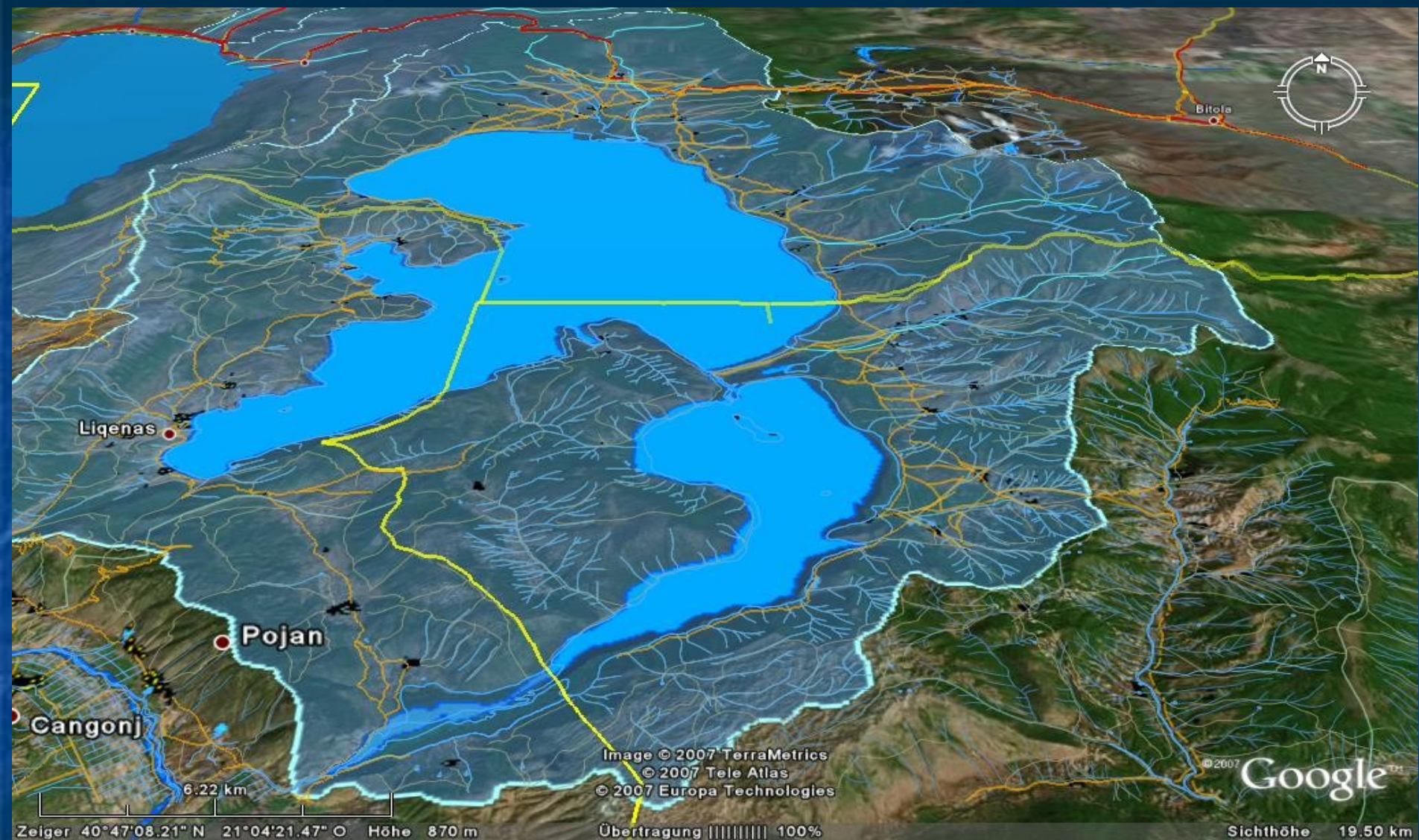
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# **Management of Micro Prespa's lake – environmental impacts and perspectives**

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# Introduction

- Prespa Region: located in the intersection of the borders of Albania, Greece and FYROM.
- Main important water bodies: Micro Prespa and Macro Prespa.
  - 850 m above the sea level;
  - current joint surface 313 km<sup>2</sup>;
  - 5,227 inhabitants in dwellings with a distance of 3-5 km between them;
- The Albanian part of the Micro Prespa:
  - 8.5% of the lake overall surface;
  - 5 km long and up to 3.7 km wide;
  - belongs to the Bilisht and Proger commune of Devoll district;
  - 3 closest villages: Shyec, Zagradec, Tren;
  - only 20 persons/km<sup>2</sup>;



Built up area around Micro Prespa Lake

# ***Nature environment and human impacts***

- The livelihood of the villages around the lake is strongly depended on the wellbeing of the lake as a source of drinking and cleaning water, fishing, irrigation, feeding etc.
- During socialist times: intervention to bring Devoll water into the Micro Prespa Lake in wintertime and construction of Ventroku Canal to take water from the lake to irrigate the Korca Field in summertime.
- Increasing of solid depositions at the bottom of the lake (1.2 million m<sup>3</sup> in the last 25 years), reduction of water level, decreasing of transparency and damaging of the fish spawning grounds.
- Transformation of a part of the lake into marshland.



- High biodiversity of Prespa basin:
  - 50 animal species and 19 plant species that are endemic to the Prespa watershed.
  - 266 species of birds in the Prespa basin (91 of them migratory species).
  - endemic species of mollusks, arthropods, fishes, insects etc.



*Treni cave*

- Carstic cave
- Scientific, archaeological, esthetic and tourist values.
- Geo-monument



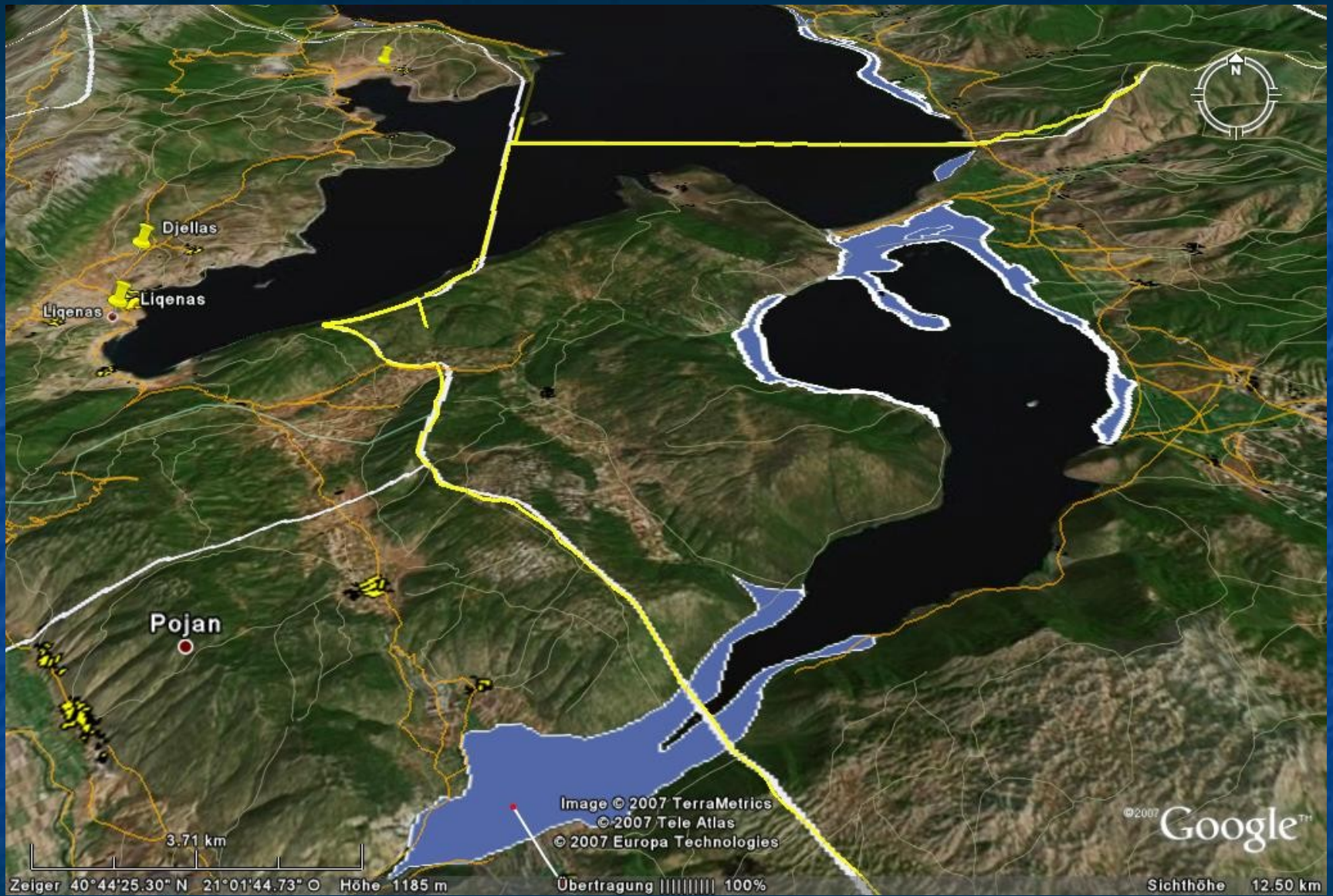
*Rocky mummies of Tren*

- Lime rocks carved by carst
- Scientific, didactic, esthetic and tourist values.
- Geo-monument

# Wetland or wasteland?

- Micro Prespa Lake: evidence of eutrication process since three decades, although the limited monitoring.
- Following the definition of wetlands by the Ramsar Convention: *"Areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed 6 m"*, due to a process of degradation the Albanian part of Micro Prespa Lake is becoming a lacustrine wetland (area of permanent water with little flow).  
*Current depth in the Albanian part: up to only 2 m.*



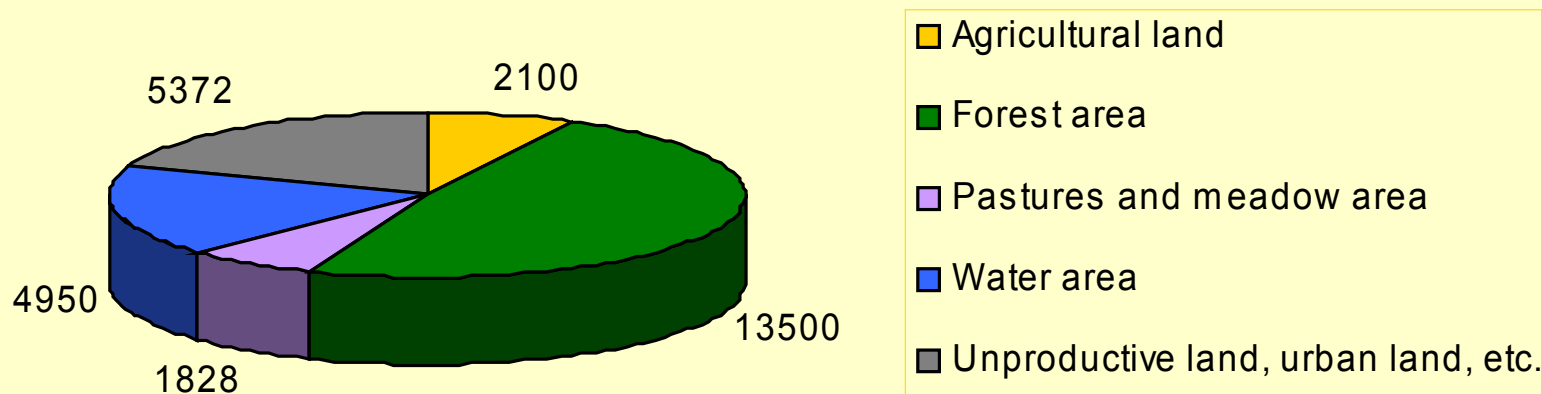


Marsh area at Micro Prespa Lake

- 1999: Prespa region was given the status of National Park (27,750 ha).
- 2000: signing of "Declaration on the creation of the Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes and their surroundings" by the Prime Ministers of Albania, Greece and FYROM.
- 2002: signing of a Memorandum of Understanding and Cooperation in the field of environmental protection between the Ministry for the Environment, Physical Planning and Public Works of the Hellenic Republic and the Ministry of Environment of the Republic of Albania.

- Law no.8906, dt. 6.6.2002 "On the protected areas" describes the National Park as *"Wide territories no less than 1000 hectares, having unique national and international values, a major part of which are natural ecosystems, little affected by human activity, where plants, animals and natural physical environment are of a special educational and scientific importance"*.
- Within the national park the following activities are prohibited:
  - intensive land use causing fundamental or irreversible changes to biodiversity, ecosystems and land cover;
  - disposal of outside wastes in the territory of the national park;
  - construction of roads, motor-ways, railways, urban areas, lines of high voltage;
  - circulation of transport means out of the approved roads;
  - mining of minerals, stones, peat;
  - mass sports and tourism activity outside the approved places etc.

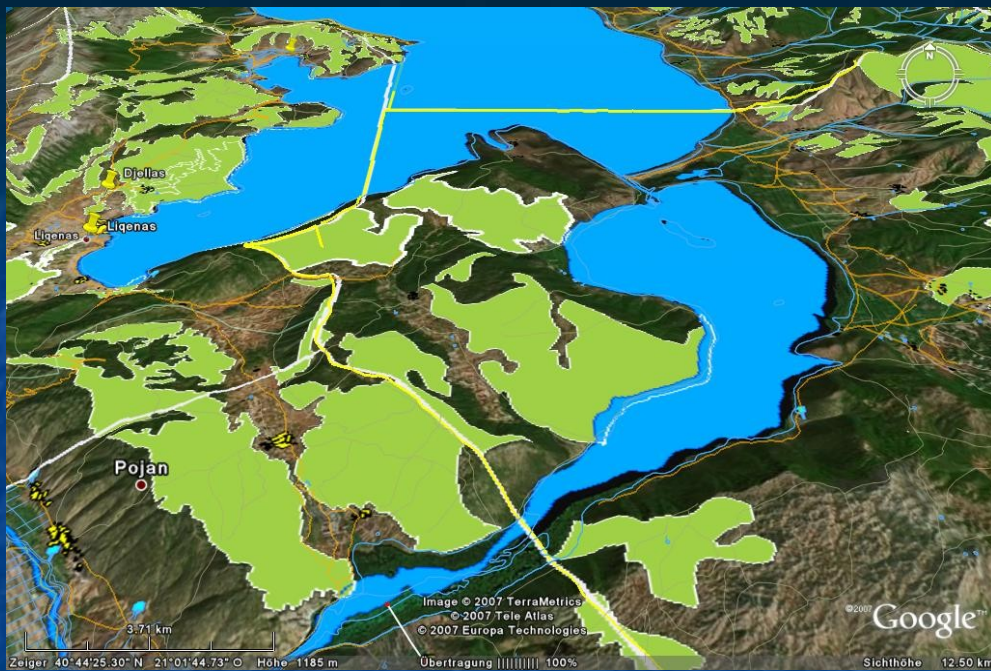
## Land categories in Prespa National Park (in ha)



The Prespa National Park is composed by :

- protected zone I (strictly protected area),
- protected zone II (managed zone),
- protected zone III (development zone) that includes the inhabited and agricultural areas of the Park and infrastructure.

## Forest cover at Micro Prespa Lake



## Agricultural land at Micro Prespa Lake



- The law no. 9103, dt. 10.7.2003 "On the protection of transboundary lakes" calls for the development and implementation of management plans, including all water based activities:
  - fishery, forestry, agriculture, tourism, communication and industry;
  - local plans for rehabilitation;
  - special monitoring programs.
  
- The following actions are prohibited in the transboundary lakes and in their watersheds:
  - dumping, disposal or processing of any kind of waste;
  - landscape affecting activities;
  - lake water use without permitting;
  - uncontrolled cutting of trees and forests;
  - inappropriate utilization and burning of pastures;
  - illegal fishing, hunting, collection of medicinal, tanipherous and ether-oil plants, of snails, frogs, tortoises, and reptiles etc.

- The economic assessment through integration of ecological and economic approaches is an attempt to assign quantitative values to the goods and services provided by environmental resources.
- The valuation needs to be directed towards some policy issues, from simply raising awareness of the importance of the wetlands to choices among alternatives to meet some stated policy goal with protecting wetlands.

**Table of Total Economic Value**

USE VALUES			NON-USE VALUES
Direct use value	Indirect use value	Option and quasi-option value	Existence value
Fish •Crabs •Eels •Alburnus alburnus prespensis), •carp (Cyprinus carpio), •nose (Chondrostoma prespensis) •Leuciscus cephalus prespensis. •Mollusks	Nutrient retention Storm protection Groundwater recharge External ecosystem support Micro-climatic stabilization	Potential future uses (as per direct and indirect uses) Future values of information	Biodiversity •Aquatic microflora (lichens, ferns, etc.) •Barbus prerpemis (annex II and V of Dir. 92/43/EEC) •Alburnoides bipunctatus prespensis (annex II, as above) •Calcaburnus belvica •Paraphoxinus epiroticus (annex II, as above, endemic of the Balkans) •Rutilus prespensis (annex II, as above) •Lutra lutra (under protection) •Pheasant •Boar •Wild dove • <i>Pelecanus crispu - disappeared</i> •Grouse •Ouzel •Nightingale •Woodpecker •Turtle dove •Hawk •Stork •Swallow •Wild geoses •Wild ducks •Otters •Bear •Wolf •Fox •Marten •Gazelle •Land reptiles (lizard, green adder, viper) •Deer •Plant resources (Papaver rhoeas, Orchis mascula, Malva sucvestris, Juniperus drycedrus, Hypericum perforatum, Crataegus monogyna, Chamomolla recutita, Betula pendula etc.) •2000-2500 kind of bats (Miniopterus scheibersi – endangered species.



**Table of Total Economic Value**

USE VALUES			NON-USE VALUES
Direct use value	Indirect use value	Option and quasi-option value	Existence value
Agriculture <ul style="list-style-type: none"> <li>•Fruits</li> <li>•Vegetable</li> <li>•Wheat</li> <li>•Livestock</li> <li>•Bee growing</li> <li>•Viticulture</li> <li>•Fruits</li> </ul>			Culture, heritage <ul style="list-style-type: none"> <li>•Treni cave</li> <li>•The rocky mummies</li> </ul>
Forests <ul style="list-style-type: none"> <li>•Different kinds of pines</li> <li>•Juniper</li> <li>•Chestnut</li> <li>•Acacia</li> <li>•Bushes</li> <li>•Oak trees (Quercus petrea, Quercus cerris, Quercus pubesceus, etc.)</li> <li>•Medicinal herbs</li> <li>•Forest fruits</li> </ul>			Bequest values
Fuel wood Recreation <ul style="list-style-type: none"> <li>•Walking</li> <li>•Alpinism</li> <li>•Aquatic sports</li> <li>•Tourism</li> <li>•Landscape</li> </ul>			
Transport			
Wildlife harvesting			

- The estimation of the above values is difficult and only approximate. Nevertheless, this helps in the process of decision-making and rising the awareness on that environmental goods are finite and have their own shadow price.

## Main results of meetings and questionnaires

- The local communities highly appreciate the lake's valuable functions: groundwater recharge, retention of pollutants, its products: fish, fuel wood, tourist attractions, and attributes: biodiversity, aesthetic beauty, cultural heritage and archaeology.
- They are aware of the actual problems of the lake and its surroundings and regret their transformation.
- The Willingness to Pay for the lake and its wetlands:  
an average of 100 ALL/person/month (1USD/person/month) = about 1,710,000 ALL/year (17,100 USD/year).

- However approximate the figure may be, it gives an indication of the value of the Micro Prespa wetland for the livelihood of the local communities and broader.
- It emphasizes the need for *serious and sustainable interventions* for improving the health of the wetland and the sustainable management of the related eco-region.
- Therefore, the need for *sustainable fund-raising and strict implementation of the national and international legal obligations* must be considered as an urgent issue.











**Thank you  
for your attention!**