euronatur FOUNDATION

RiverWatch

Outstanding Balkan River landscapes – a basis for wise development decisions

Greece (only northern country part)

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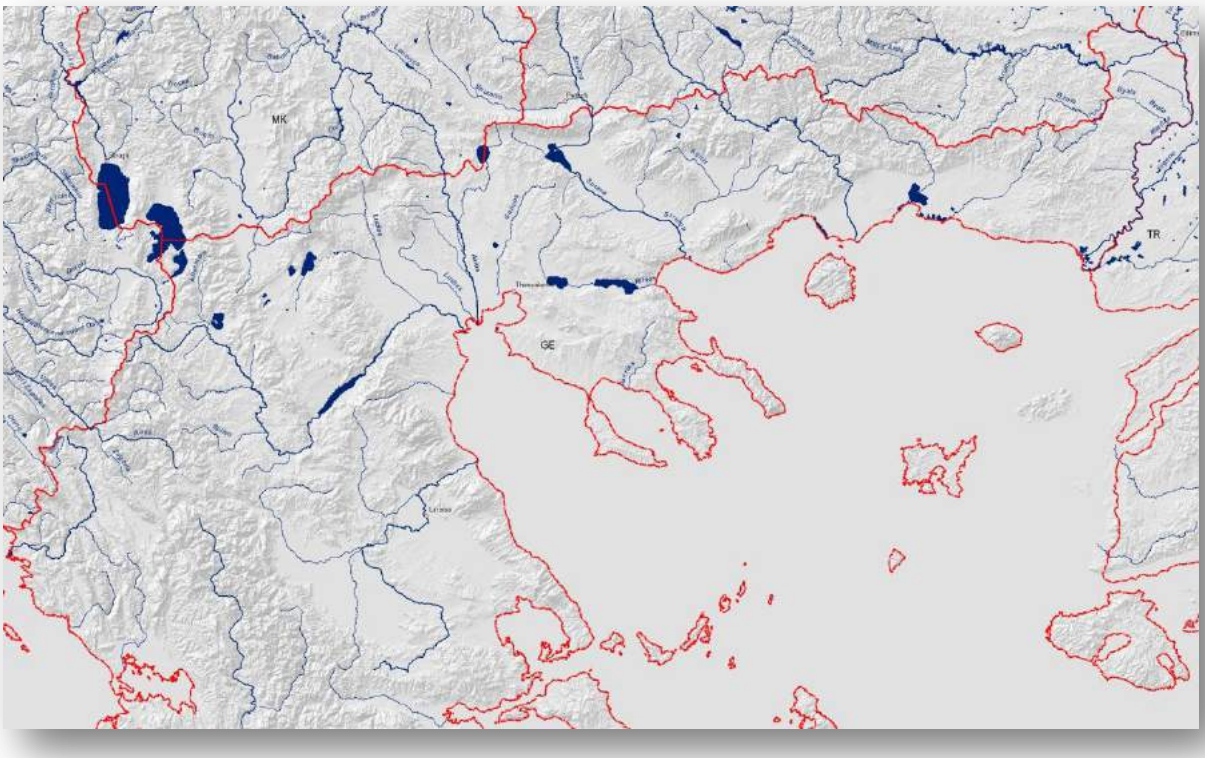

1. Hydromorphological intactness of rivers

There are four classes characterising the different levels of hydromorphological intactness: Class 1 shows in blue colour near-natural conditions). Class 2-3 is characterised by slightly to moderately modified status, indicated in light green. Class 4 for river stretches which are extensively altered are orange and class 5 (red) indicates stretches with severely modifications in particular impoundments. Lakes and rivers outside of the project areas are visualised in dark blue.

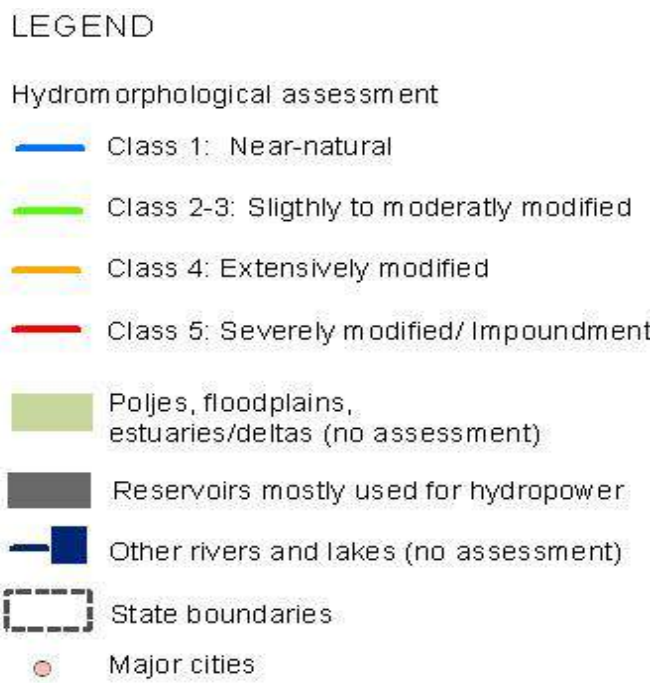

Fig. 1: Legend for the hydromorphological assessment map on next page

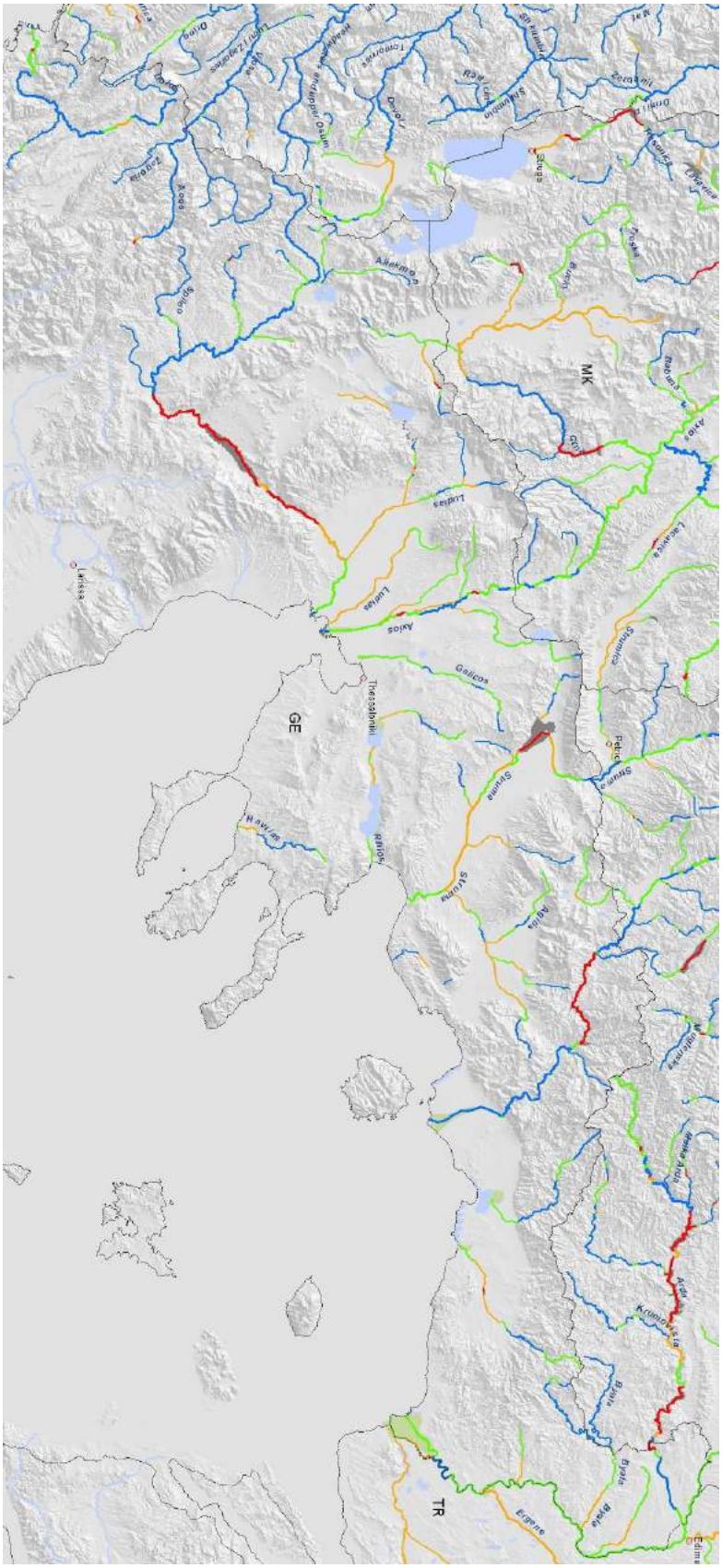

Fig. 2: Hydromorphological assessment for Greece.

The analyzed part of northern Greece is characterized by extremes: All headwaters and rivers close to the Albanian border still provide very high hydromorphological conditions. In addition upper Aliakmon as well as lower Nestos fall in this class, which lead to a very good overall evaluation regarding this part of Greece. Hydropower cascades can be find along lower Aliakmon, upper Nestos as well as middle Struma. Axios and in particular Struma are significantly altered. Regarding estuaries and deltas the hydromorphological conditions are less good as compared with Albania.

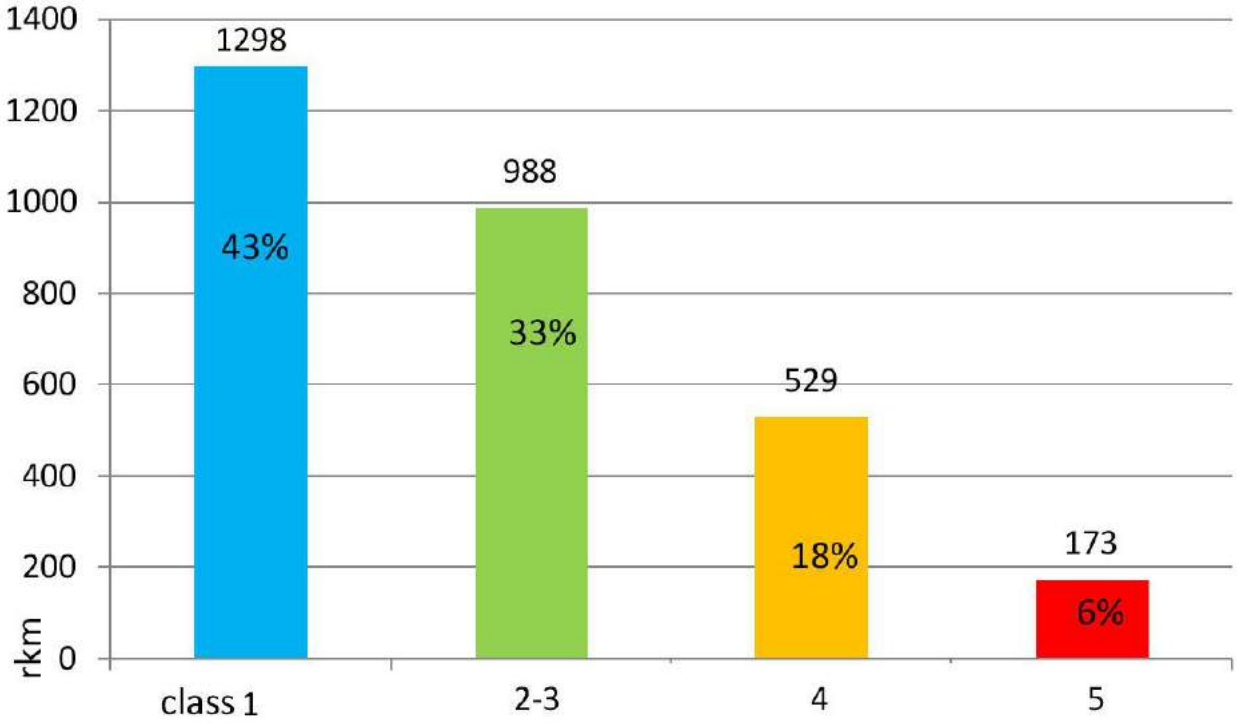

Fig. 3: Hydromorphological assessment in rkm and percentage for GR (remark: as only some northern Greece catchment are covered the results are not representative for entire country).

2. Protected areas, karst poljes, estuaries/deltas and important floodplains

The inventory of protected areas contains in particular Natura2000 for EU Member States (EC 2010) and Croatia (State Institute for Nature protection Croatia 2010), national parks, biosphere reserves, nature reserves, EMERALD network areas (as far as available) and Important Bird Areas as well as Ramsar sites for other countries.

Major important floodplains were used continuously, meaning for the large rivers such as Danube, Drava and Sava they are subdivided in upper, middle and lower parts. In addition the map includes all assessed karst poljes, estuaries/deltas as well as other wetlands.

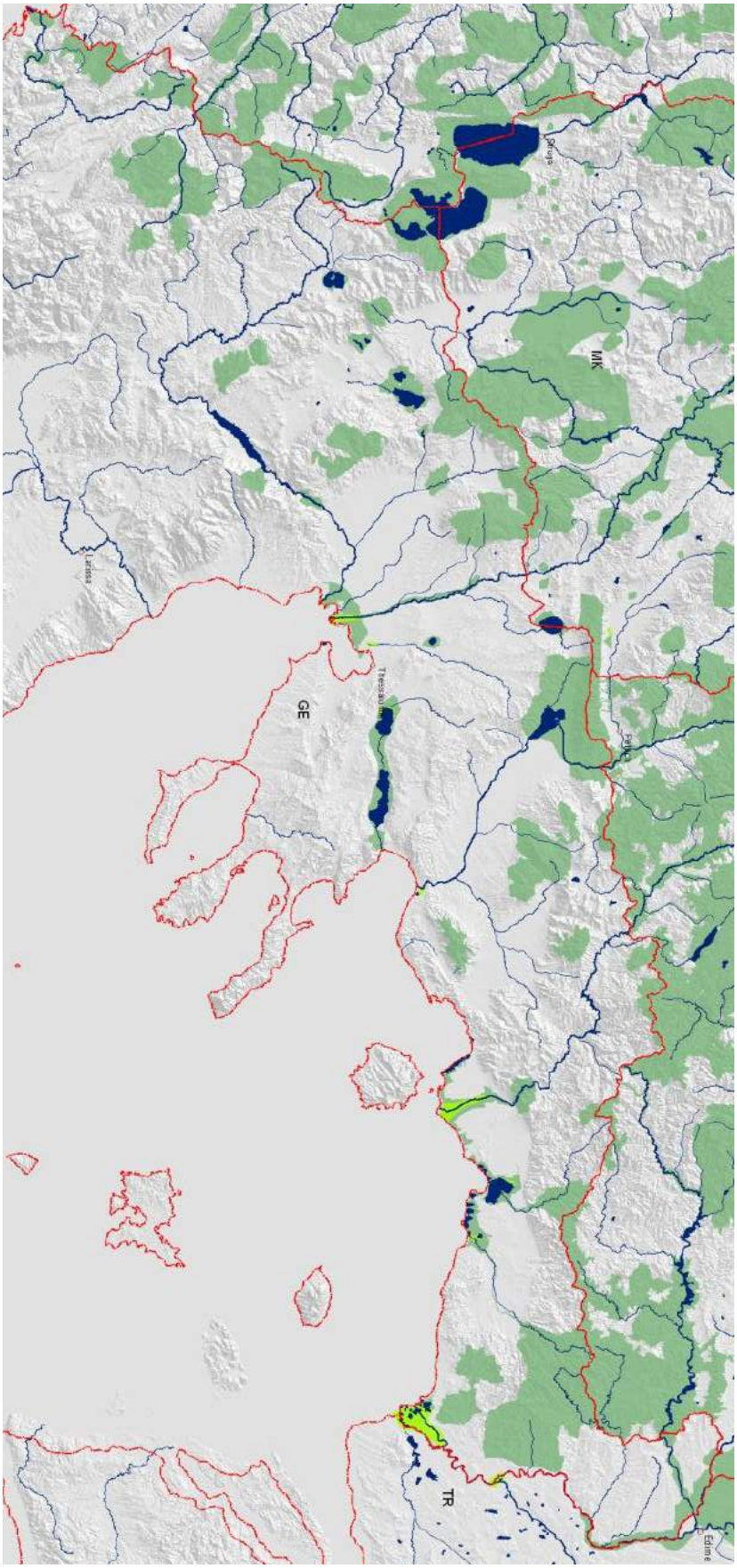

Fig. 4: Protected areas (incl. planned and proposed areas) in dark green (light green are poljes and large floodplain areas)

3. Conservation value of rivers

The conservation value is assessed in three levels: Very high conservation value (in blue), high conservation value (in dark green) and low conservation value (in light green). Karst poljes, major floodplains as well as deltas and estuaries with very high conservation value are visualized in dark blue-green and high conservation value in light green and low in light turquoise. Karst poljes and deltas are from particular interest for nature protection, therefore nearly all fall in the first two conservation classes.

	Hydro-morphological assessment class	**Conservation value** (assessment as result of overlay of hydromorphological assessment + protected areas + floodplains)
Class 1	Near-natural	**Very high**
Class 2-3	Slightly to moderately modified	**High** (river stretches crossing important floodplains/poljes/estuaries/deltas **or** overlapping with protected areas **or** both belonging to the "Very high" conservation value stretches)
Class 4	Extensively modified	**Low, but important for longitudinal continuum** (river stretches crossing important floodplains/poljes/estuaries/deltas **or** overlapping with protected areas **or** both belonging to the "High" conservation value stretches)
Class 5 Impoundments	Severely modified	**Not assessed**

Fig. 5: Definition of conservation value

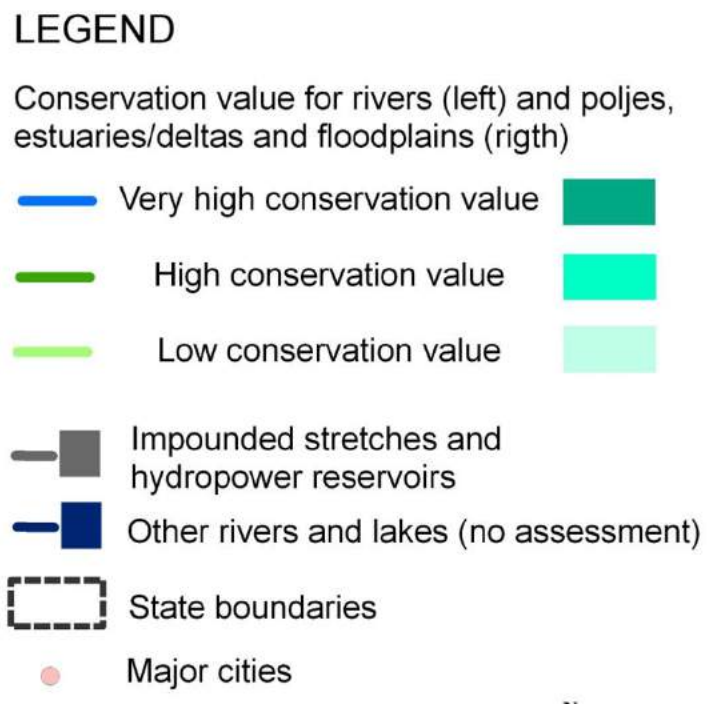

Fig. 6: Legend for the map on conservation value on next page

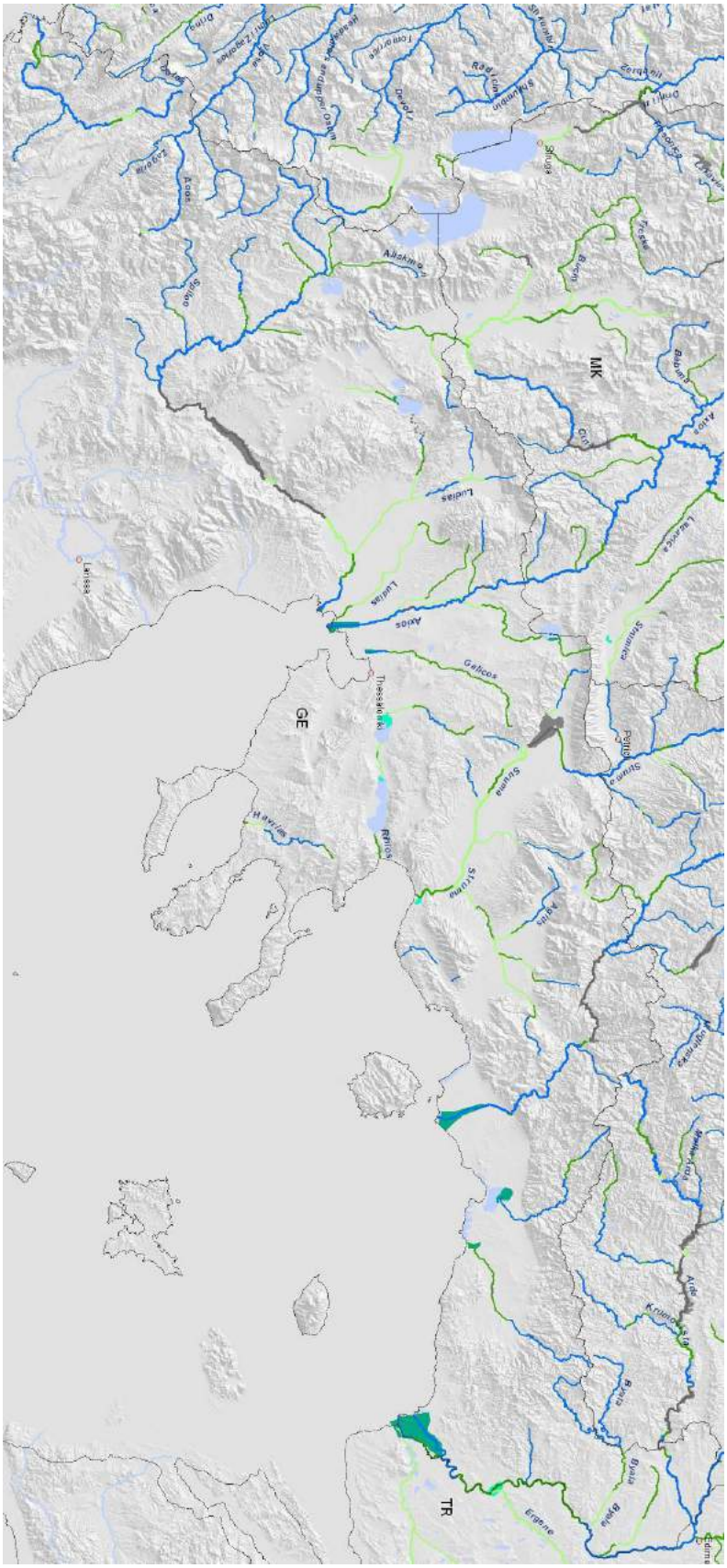

Fig. 7: Conservation value for GR.

The assessment for the northern part of Greece is remarkable for an EU country, still a great number of rivers provide very high conservation values.

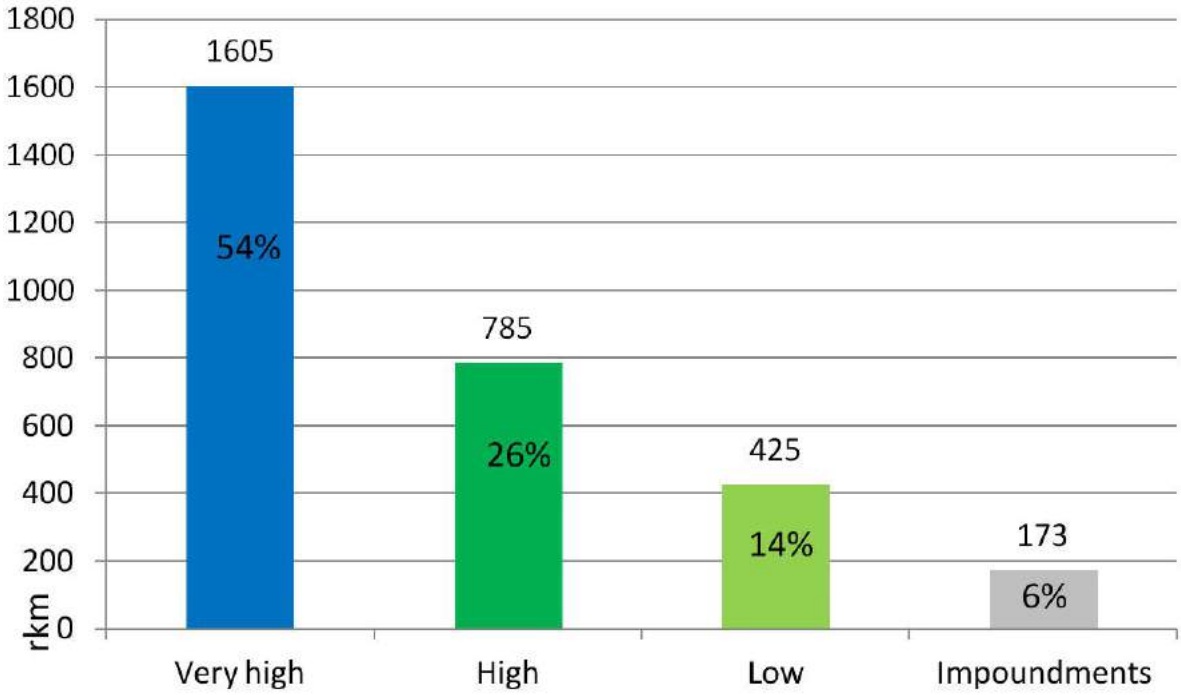

Fig. 8: Conservation value in rkm for GR (remark: as only some northern Greece catchments are covered the results are not representative for entire country).

4. Hydropower plants

Hydropower plants were recorded firstly along the “status type” into “existing/operating”, “under implementation” and “planned”. Further dams are classified in three size classes: 1-10 MW, 10-50 MW, and > 50 MW.

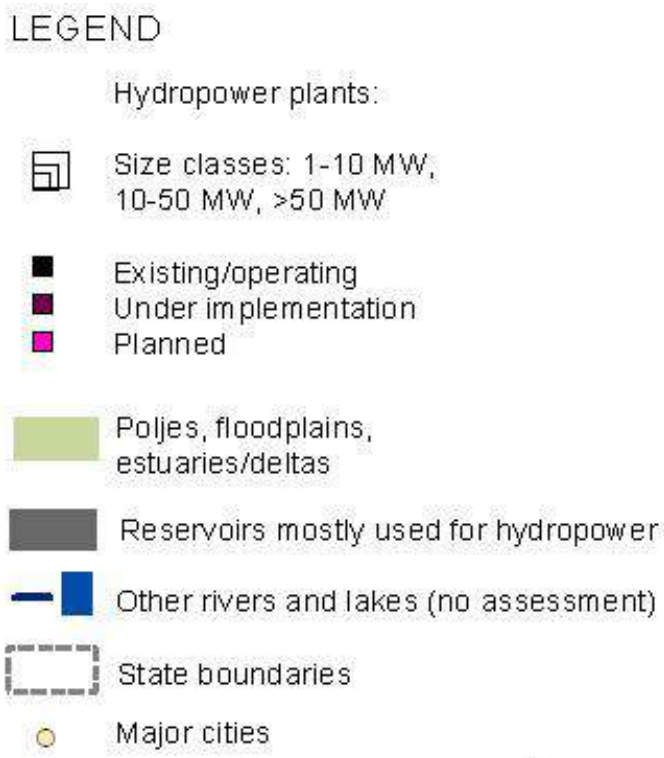

Fig. 9: Legend for the dam map on next page

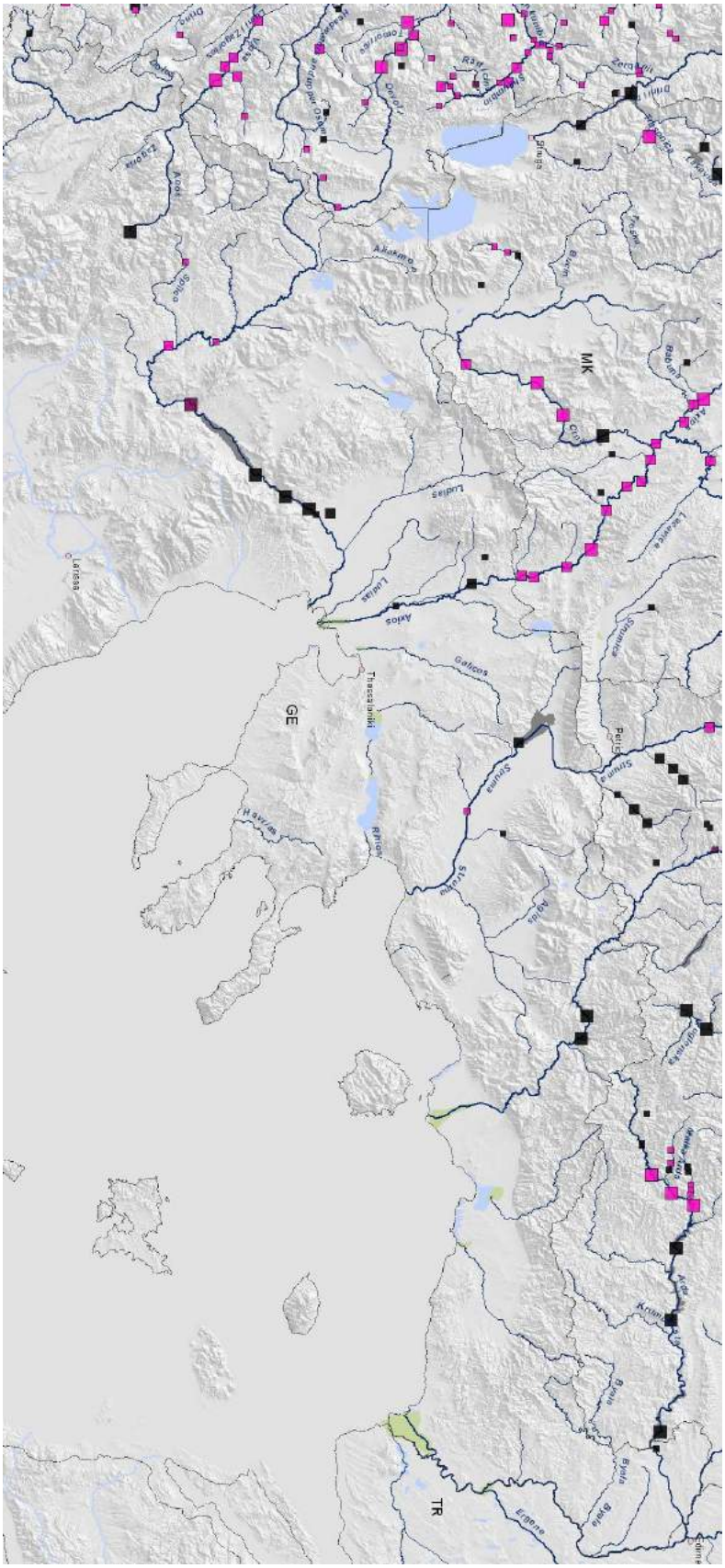

Fig. 10: Hydropower plants for GR.

The dams along lower Aliatmon and Nestos are the biggest in the country.

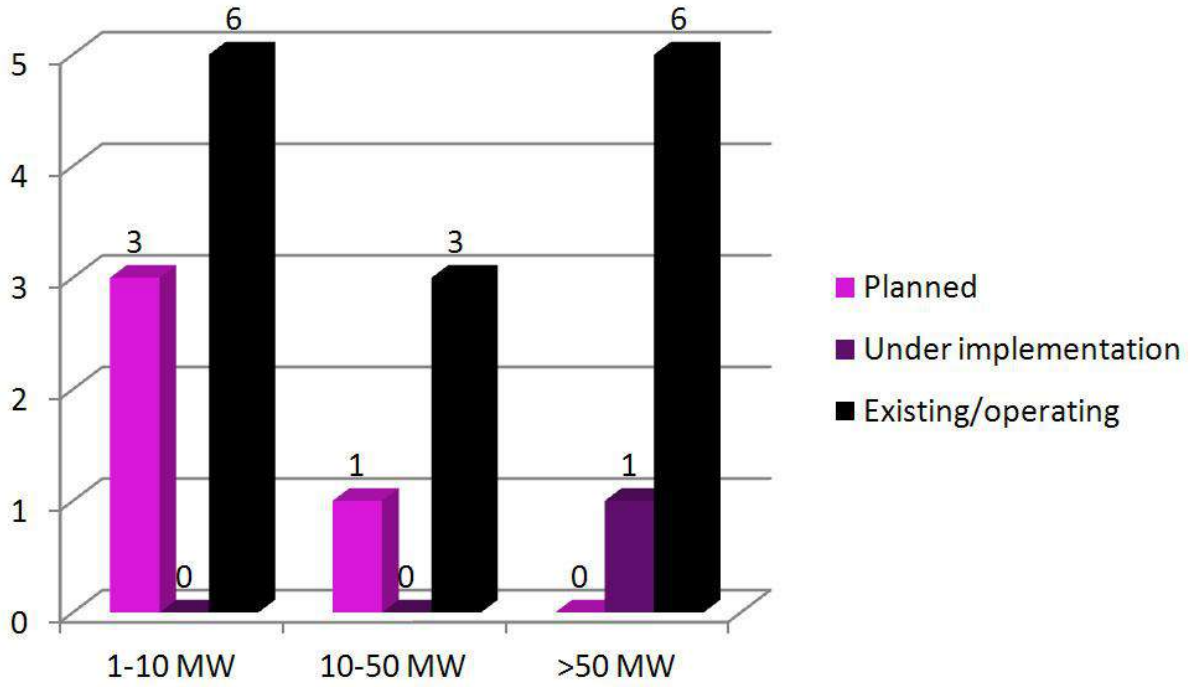

Fig. 11: Distribution of hydropower plants for GR.

5. Affected river stretches with conservation value by hydropower

This chapter combines the information of the "Conservation Value" with the planned hydropower plants.

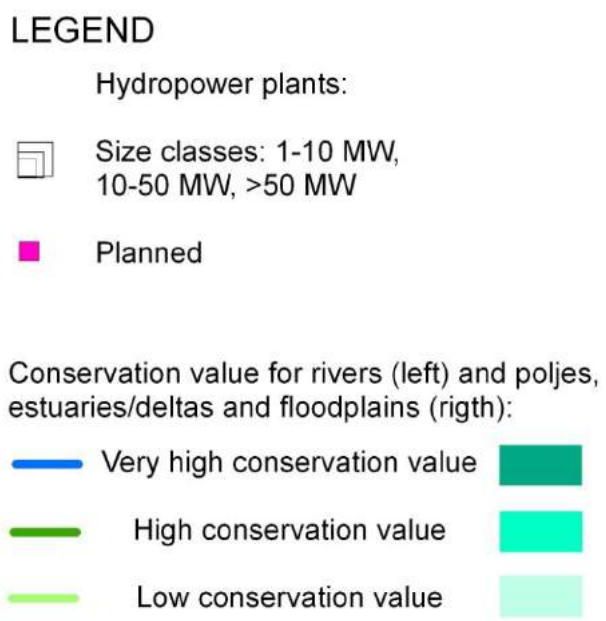

Fig. 12: Legend for the "conflict map" on next page

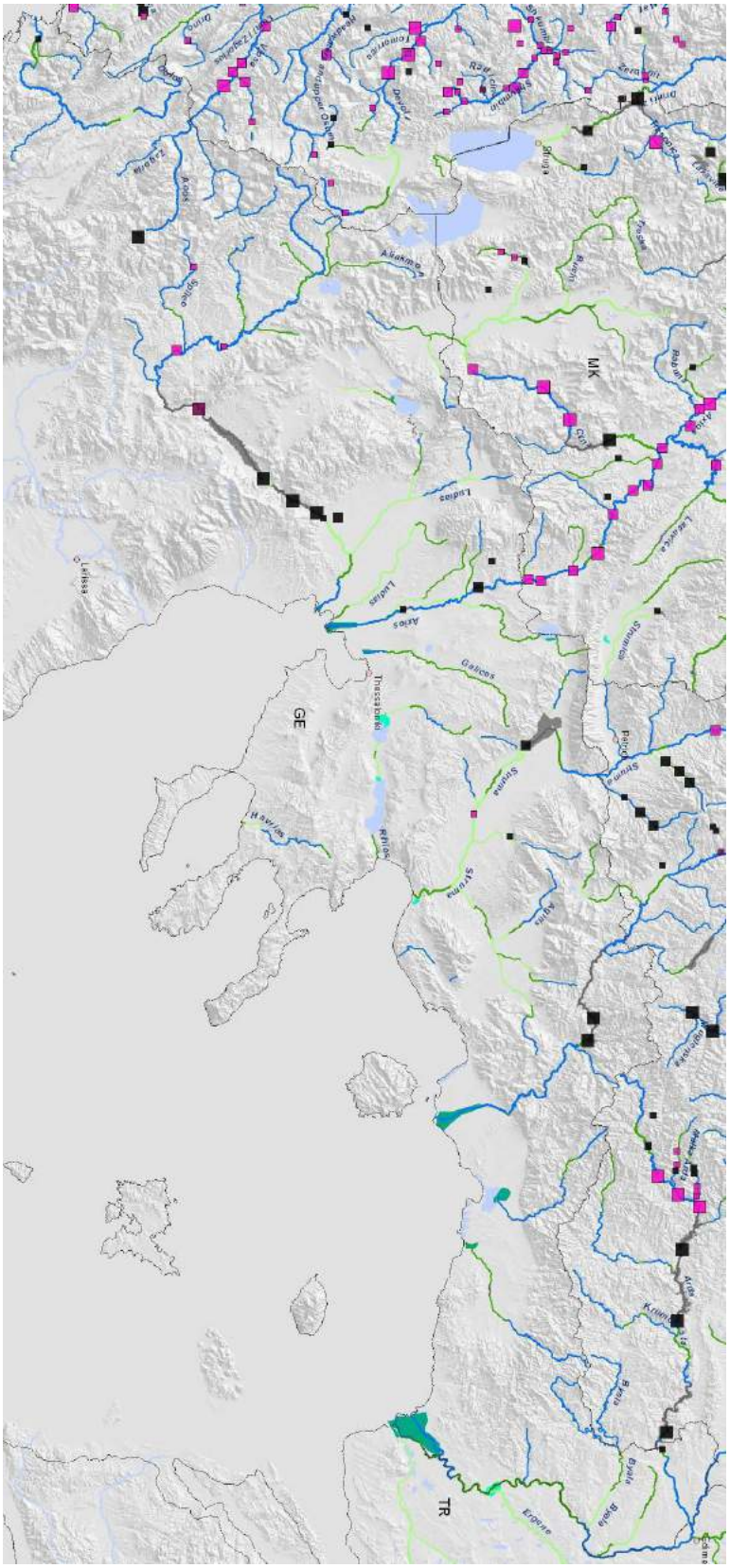

Fig. 13: Affected very high and high conservation stretches by planned hydropower plants for GR.

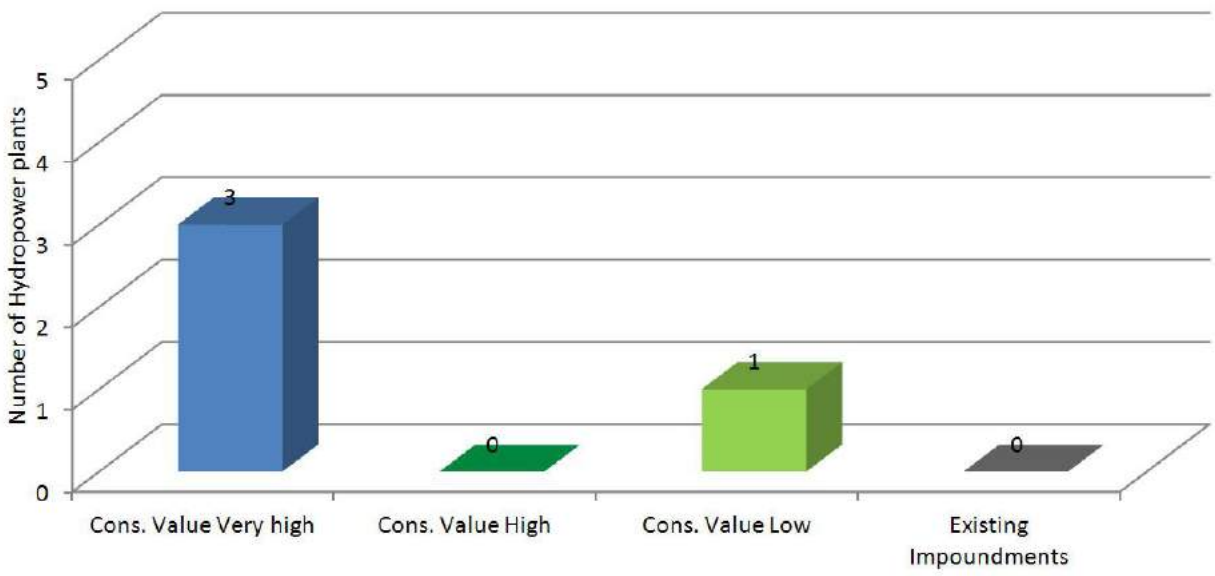

Figure 14: Number of planned hydropower plants that would affect very high, high and low conservation stretches for GR.

The lower Aliakmon river is already impounded on more than 60 rkm. The Ilarion dam with 160 MW installed power and a dam crest of 125 m will prolong the chain impounding the "Red gorge „and touching a cultural heritage site with a small monastery for some additional 25 rkm.

Ilarion dam construction under finalisation (Google panoramio, by user Billys).

Cultural landscape with abandoned monastery before (Google panoramio, by user gmmk).

6. List of planned Hydropower dams

ID_HP	Rivers Poljes	Name Location HPP	Installed MW	Affected River Jewels
GR_HP_979	Aliakmon	Taxiarchis	1-10	GR_RJ_575
GR_HP_980	Venetikos	Alatopetra	1-10	GR_RJ_577
GR_HP_984	Strymonas	Peponia	1-10	
GR_HP_986	Aliakmon	Felli	10-50	GR_RJ_575

Pictures cover: Left: Sortis Hartzavalos on Google Panoramio (Arda River), Right: Loukas Kalogirou on Google Panoramio (Nestos)

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