



REPUBLIC OF CYPRUS

Ministry of Agriculture, Rural Development and Environment



WATER DEVELOPMENT
DEPARTMENT

THE IMPORTANCE OF WETLANDS IN CYPRUS

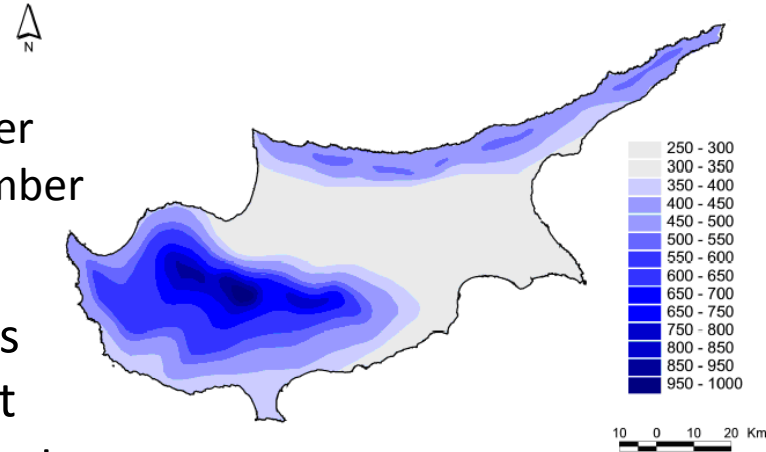
Ecosystem Services and Ecological Assessment

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Cyprus climate

- Intense Mediterranean climate.
- Hot dry summers from mid-May to mid-September and rainy, rather changeable, winters from November to mid-March.
- The average annual total precipitation ranges from **300 mm** in the central plain and the flat southeastern parts to nearly **1,100 mm** at the top of the Troodos massif.
- Statistical analysis of precipitation in Cyprus reveals a drop in the last 30 years.
- The overall average aridity index is 0.295, classifying the entire island as **Semi-arid**.



THE IMPORTANCE OF WETLANDS IN CYPRUS

➤ Water supply

- Water scarcity has been a problem since the old ages in Cyprus.
- The last decades **57 large dams** were constructed in/supplied by rivers (capacity $\approx 332 \times 10^6 \text{ m}^3$)
- Dams and groundwater reserves have been the main sources for the island, of good quality water.



Polemidia Dam
Capacity: 3.4 MCM
Year: 1965



Yermasoyia Dam
Capacity: 13.5 MCM
Year: 1968



Asprokremmos Dam
Capacity: 52.4 MCM
Year: 1982



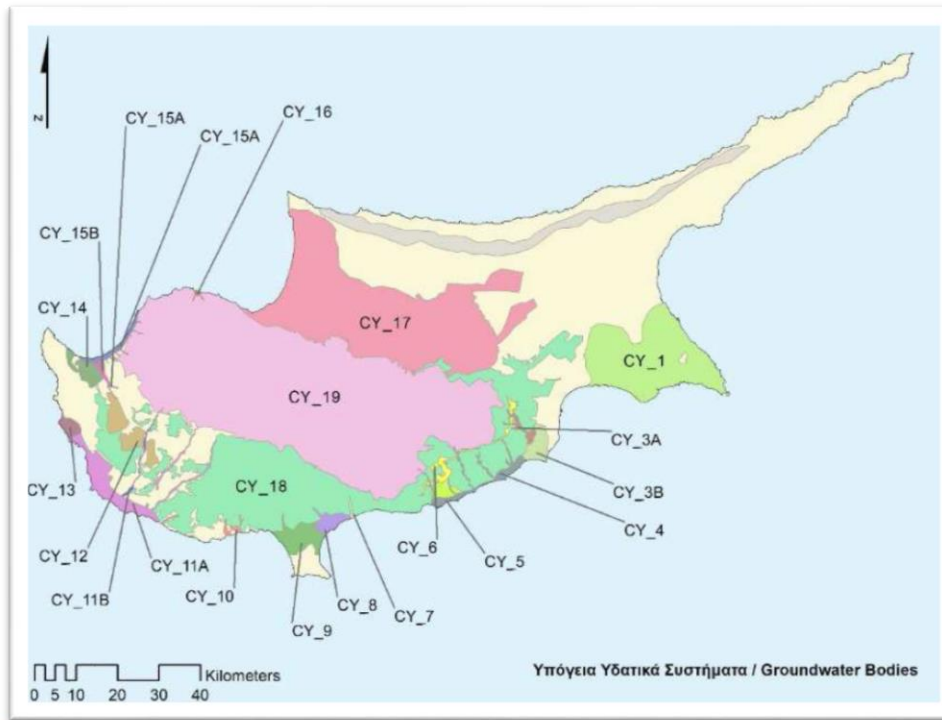
Kouris Dam
Capacity: 115.0 MCM
Year: 1988



THE IMPORTANCE OF WETLANDS IN CYPRUS

➤ Water supply

- Major rivers of the island, comprise/feed important groundwater aquifers within their catchment and in coastal plains.
- Pumped water is used both for household and agriculture use.



THE IMPORTANCE OF WETLANDS IN CYPRUS

➤ Water purification

- Healthy riverine ecosystems are widely known for their high capacity of water purification through biological processes – **Self purification**.
- Self purification is achieved within specific thresholds for each pollutant, which greatly depend on the river's health.
- Good water quality ending up in water reservoirs or the aquifer, is essential in order to provide water at a reasonable cost.

Monitoring Station Code	Monitoring Station Name	BIOLOGICAL QUALITY	CHEMICAL - PHYSICOCHEMICAL QUALITY	OVERALL ECOLOGICAL POTENTIAL
d1-2-4-61	Arminou	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d1-3-9-50	Asprokremmos	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d1-4-3-95	Kannaviou	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d1-6-2-63	Mavrokolympos	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d2-2-6-91	Evretou	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d3-5-1-65	Xyliatos	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d8-7-2-05	Leukara	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d8-7-4-05	Dipotamos	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d8-9-5-60	Kalavassos	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d9-2-5-20	Germasogia	MODERATE	GOOD AND ABOVE	MODERATE
d9-4-3-95	Polemidia	BAD	MODERATE	BAD
d9-6-3-17	Pano Platres	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE
d9-6-9-10	Kouris	GOOD AND ABOVE	GOOD AND ABOVE	GOOD AND ABOVE

THE IMPORTANCE OF WETLANDS IN CYPRUS

➤ Biodiversity

Riverine ecosystems of Cyprus sustain diverse habitats and important species such as the critically endangered European eel *Anguilla anguilla*, the freshwater crab *Potamon potamios* and the Western Caspian Turtle *Mauremys rivulata*

5 habitat types

3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.

3290 Intermittently flowing Mediterranean rivers of the Paspalo-Agrostidion

92A0 Salix alba and Populus alba galleries

92C0 Platanus orientalis orientalis woods

92D0 Southern riparian galleries and thickets (Nerio-Tamaricetea and Securinegion tinctoriae)

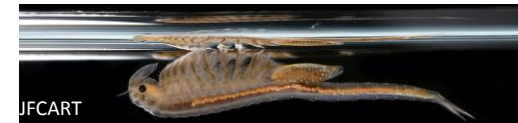
- 107 families of invertebrates
- 3 species of fish
- More than 120 macrophyte species
- More than 350 diatom species
- Support of several other species



➤ Biodiversity

Lacustrine ecosystems of Cyprus are biodiversity hotspots for Cyprus: **Natura 2000 sites**

- 4 Seasonal lakes/wetlands
- High seasonal variation (water volume and salinity)
- High “internal” heterogeneity (brackish to hyperaline)

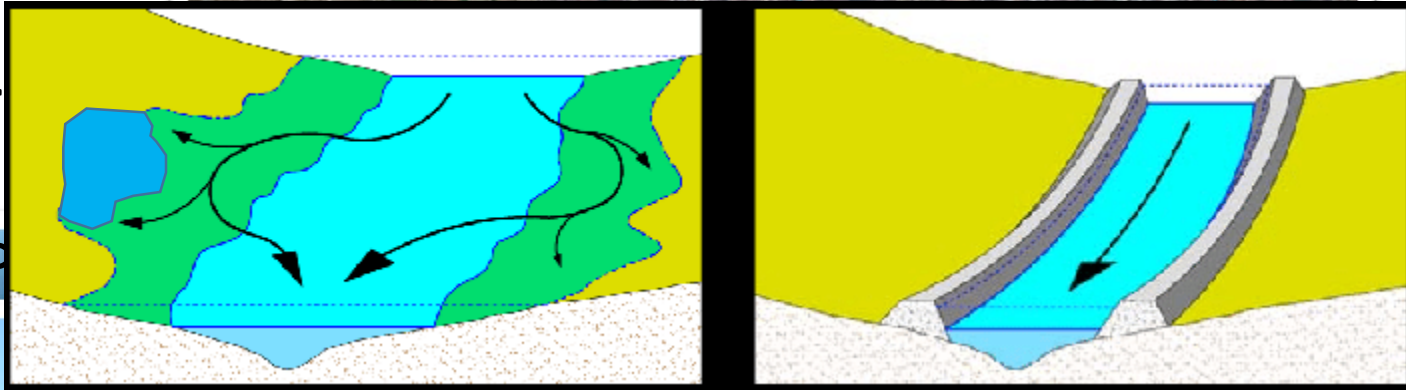


e.g. Akrotiri

- 7 aquatic-related habitat types
- 1 fish species – *A. fasciatus*
- 13 species of aquatic macrophytes
- 308 bird species
- 19 reptile species
- 9 mammal species
- 3 amphibian species
- >12 species of zooplankton incl. *A. salina* and *Ph. spinosa*
- >20 phytoplankton species
- Support of terrestrial biodiversity



- Provision of fertile soils and water
- Flood protection (provided that hydromorphological features are sustained)
- Enr
- Rec
- Provision of food source (aquaculture, traditional fishing)



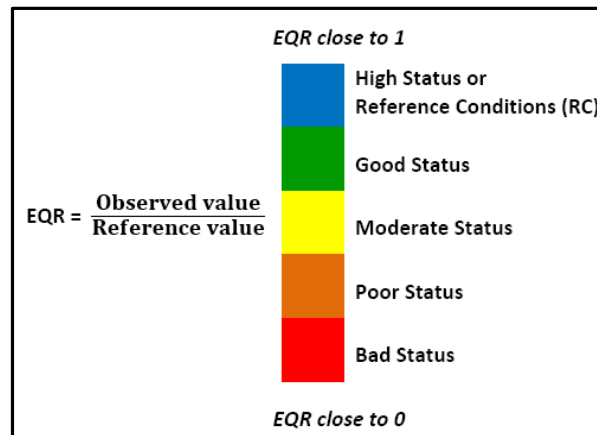
SO, WHAT DO WE DO?

WATER FRAMEWORK DIRECTIVE (WFD) 2000/60/EC

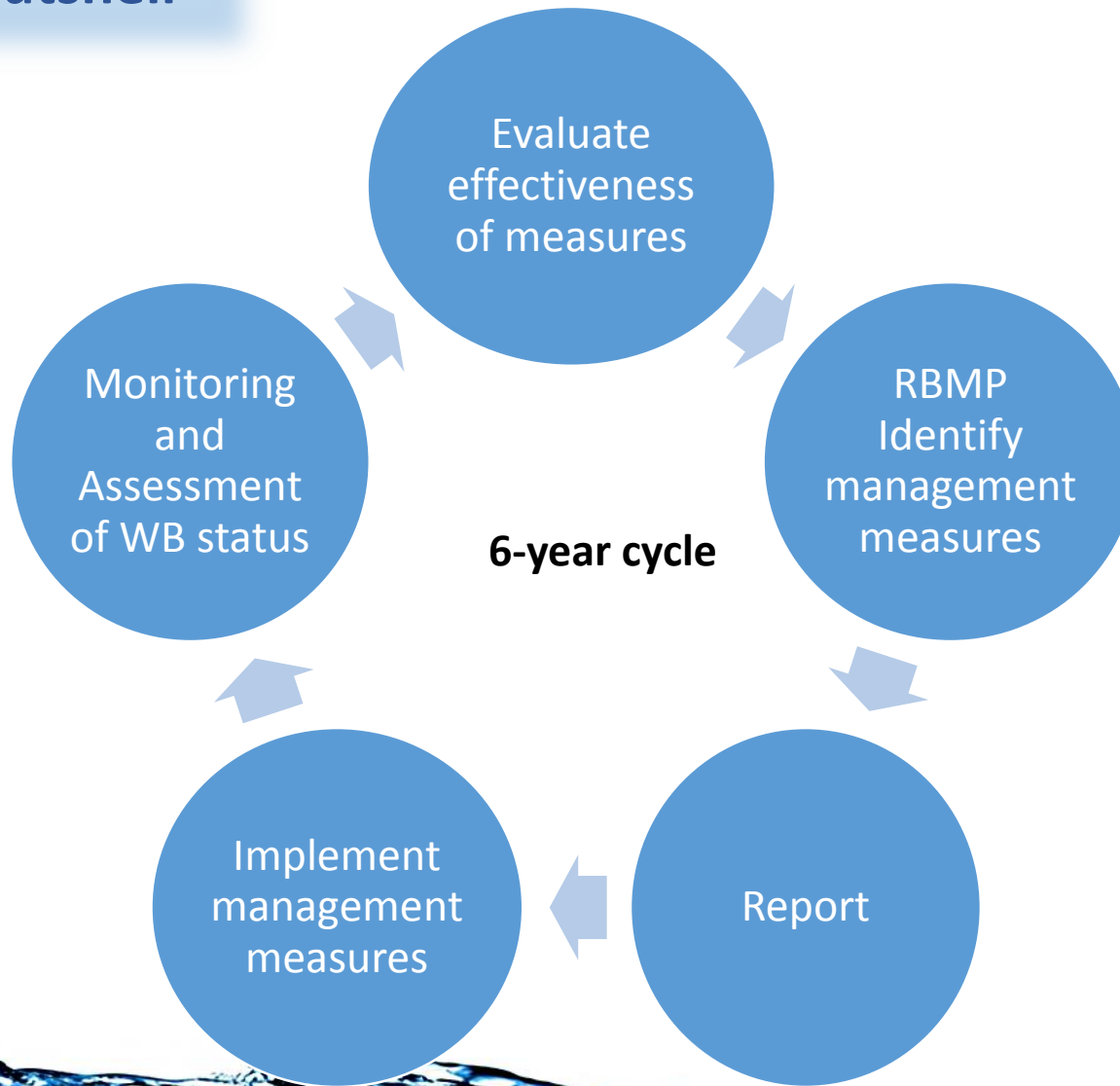
“Achieve **GOOD STATUS** for all waters (including inland surface waters, transitional and coastal waters and groundwater) ~~by 2015~~ by **2027**”

Monitoring of:

- **Biological** Quality Elements (BQE's)
- **Hydromorphological** Quality Elements supporting the biological elements
- **Chemical** and **Physicochemical** Quality Elements supporting the biological elements



WFD in a nutshell

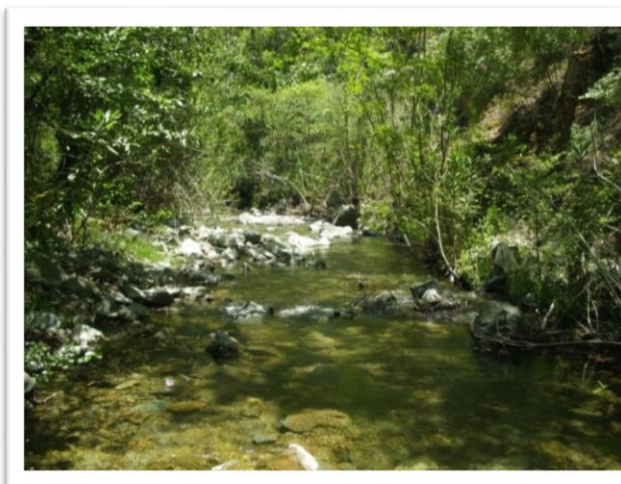


A total of 60 major streams divided in 221 WB

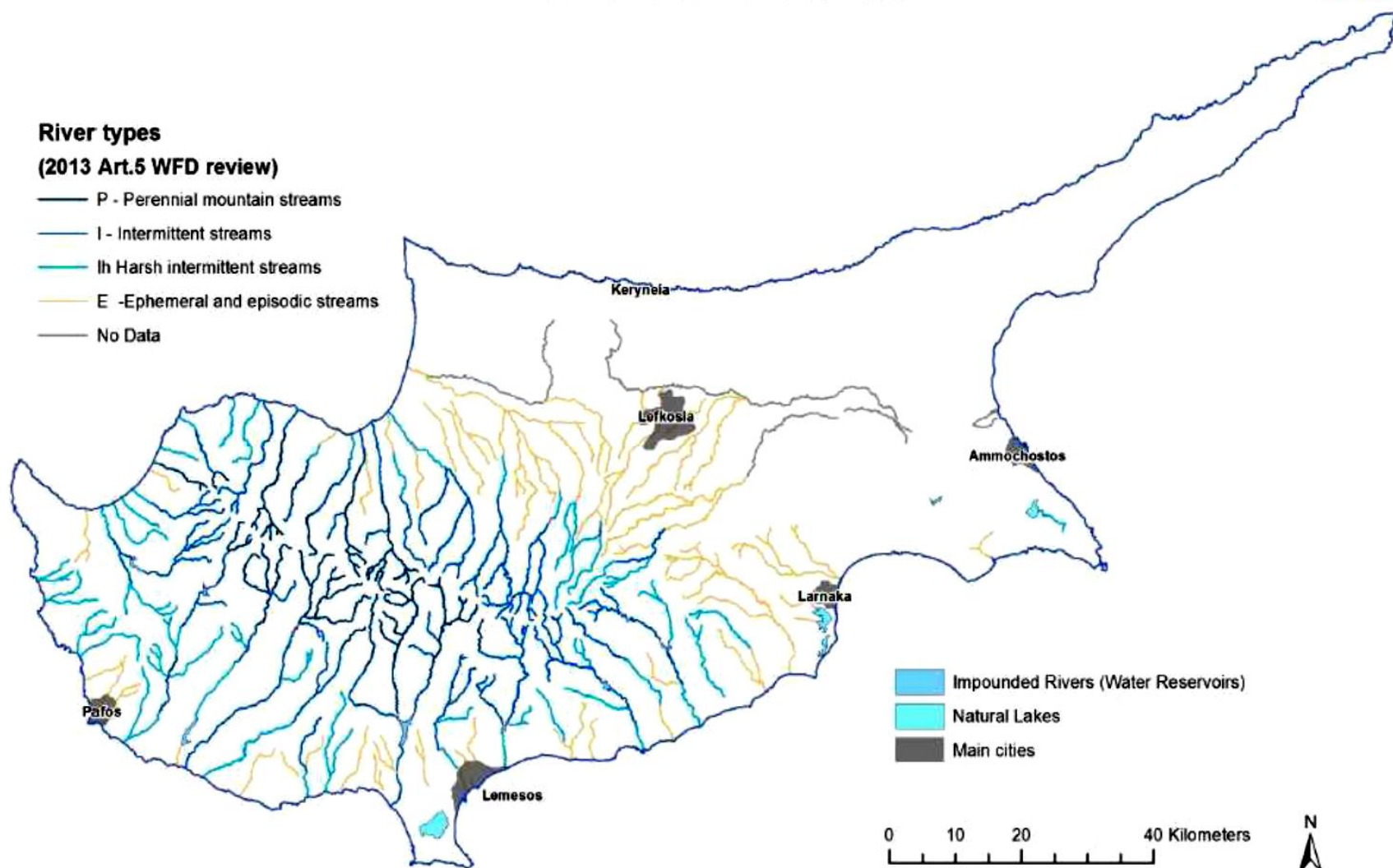
Total length: 2623,1 km

TYOLOGY

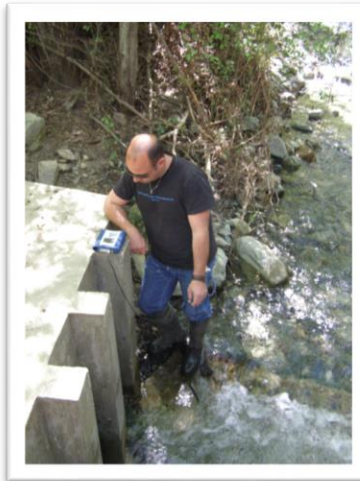
- 368,8 km - 14% Perennial WB
- 701,2 km - 27% Intermittent WB
- 567,2 km - 22% Harsh Intermittent WB
- 825,5 km - 31% Ephemeral WB
- 160,2 km - 6% No data



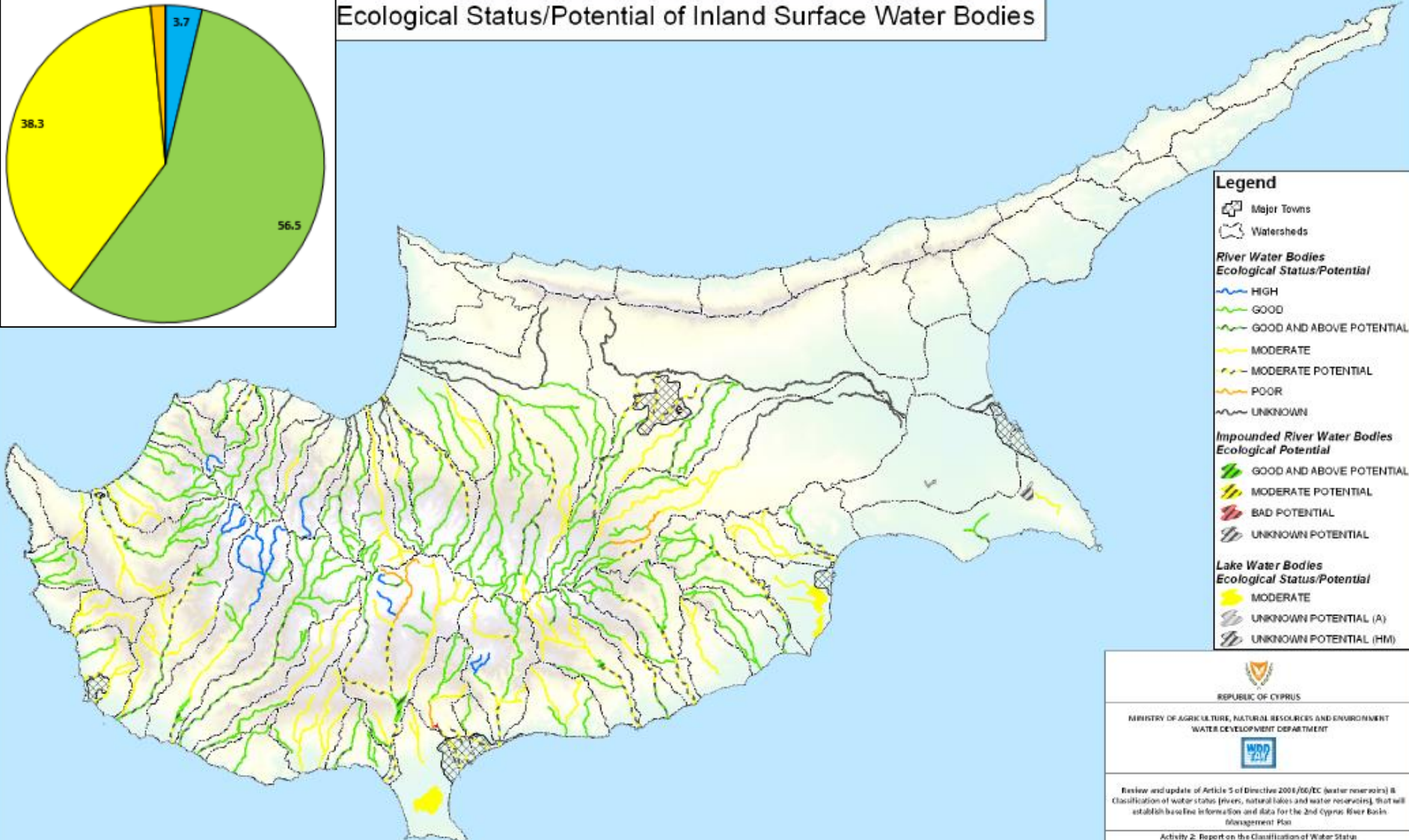
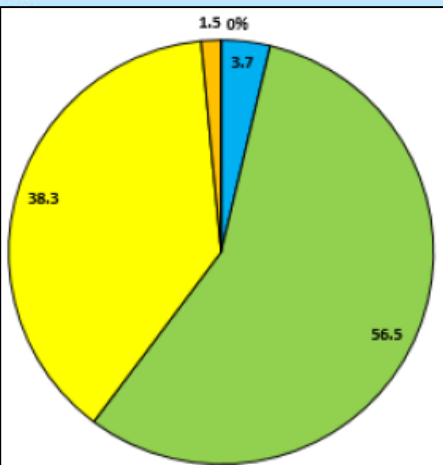
Revised WFD river network and stream types



Monitoring network of 81 station all over the island



Ecological Status/Potential of Inland Surface Water Bodies



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WATER DEVELOPMENT DEPARTMENT



Review and update of Article 5 of Directive 2000/60/EC (water reservoirs) & Classification of water status (rivers, natural lakes and water reservoirs), that will establish baseline information and data for the 2nd Cyprus River Basin Management Plan

Activity 2: Report on the Classification of Water Status
(Rivers, Natural Lakes, Water Reservoirs)

April 2016

Project Contractor:

I.A.CO Ltd

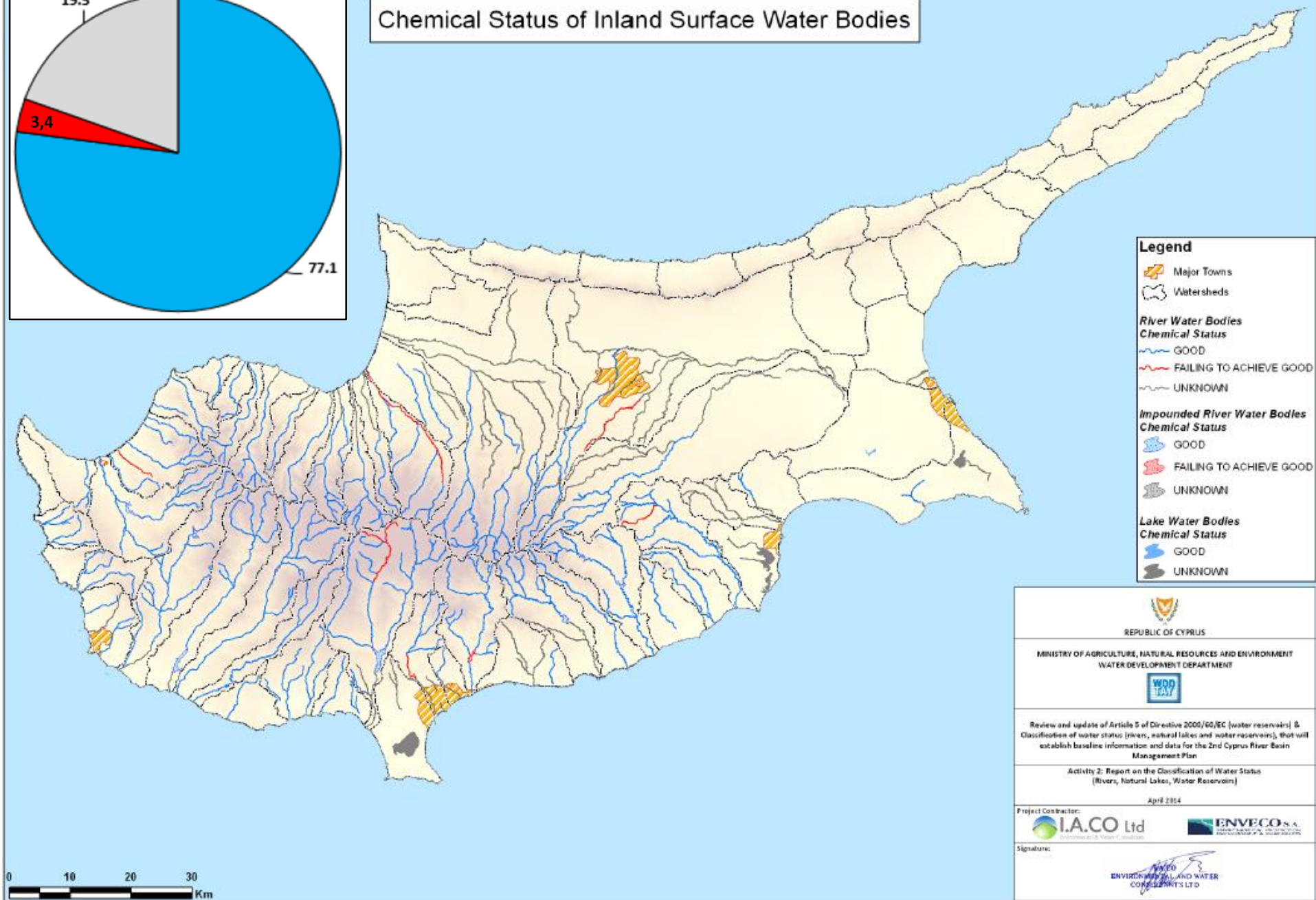
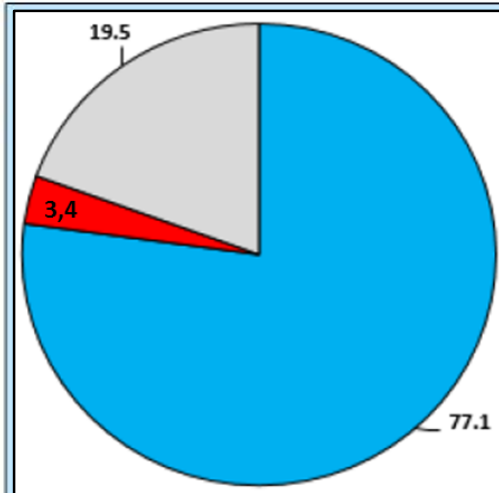
ENVECO S.A.

Signature:

ENVIRONMENTAL AND WATER CONSULTANTS LTD



Chemical Status of Inland Surface Water Bodies



Legend

- Major Towns
- Watersheds

River Water Bodies Chemical Status

- GOOD
- FAILING TO ACHIEVE GOOD
- UNKNOWN

Impounded River Water Bodies Chemical Status

- GOOD
- FAILING TO ACHIEVE GOOD
- UNKNOWN

Lake Water Bodies Chemical Status

- GOOD
- UNKNOWN



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April 2014

Project Contractor:



Signature:

ENVIRONMENTAL AND WATER
CONSULTANTS LTD



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WATER DEVELOPMENT
DEPARTMENT

Thank you



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