



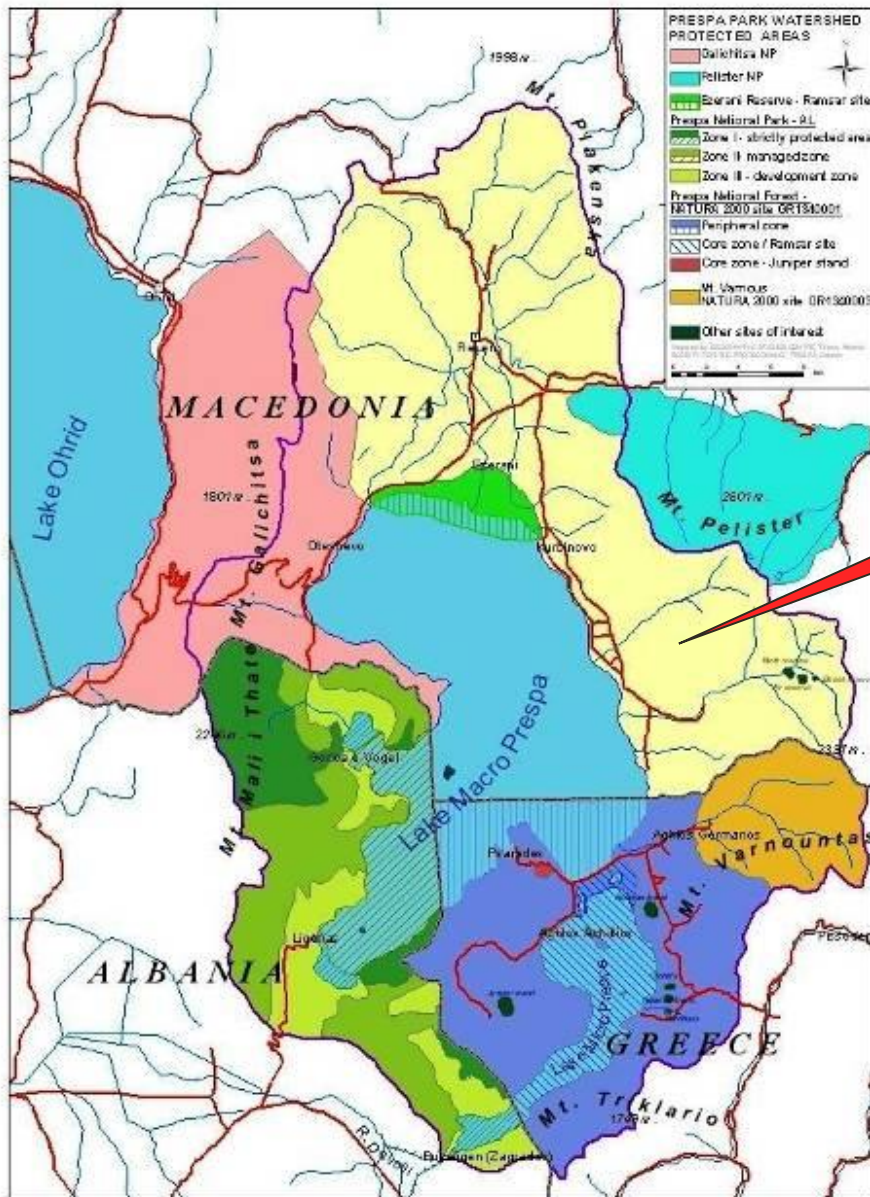
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC

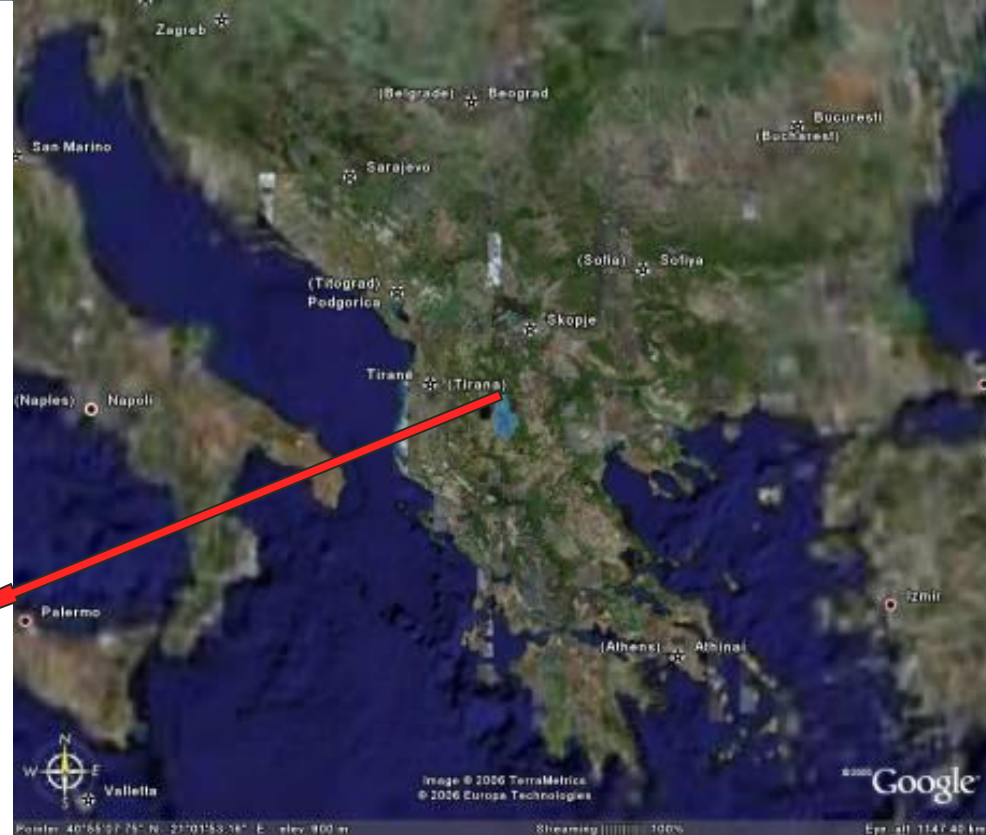


*Empowered lives.
Resilient nations.*

Lake Prespa Restoration Programme – Challenges, Strategy and Achievements



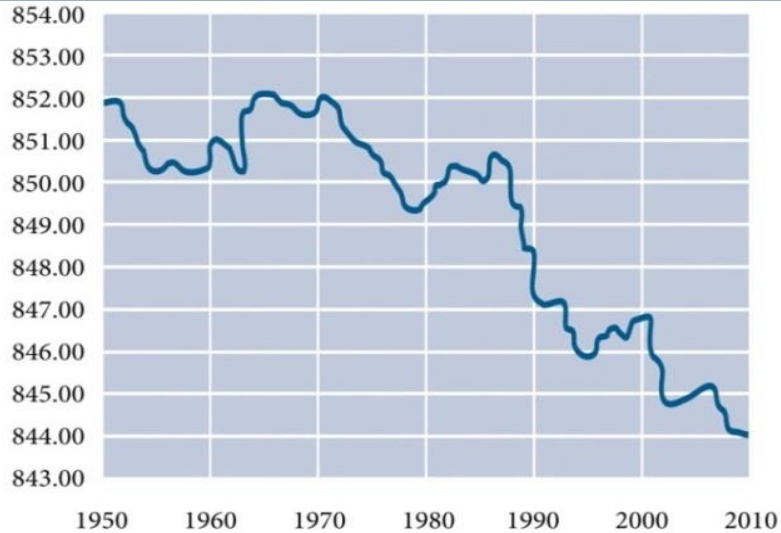
Source: SPP



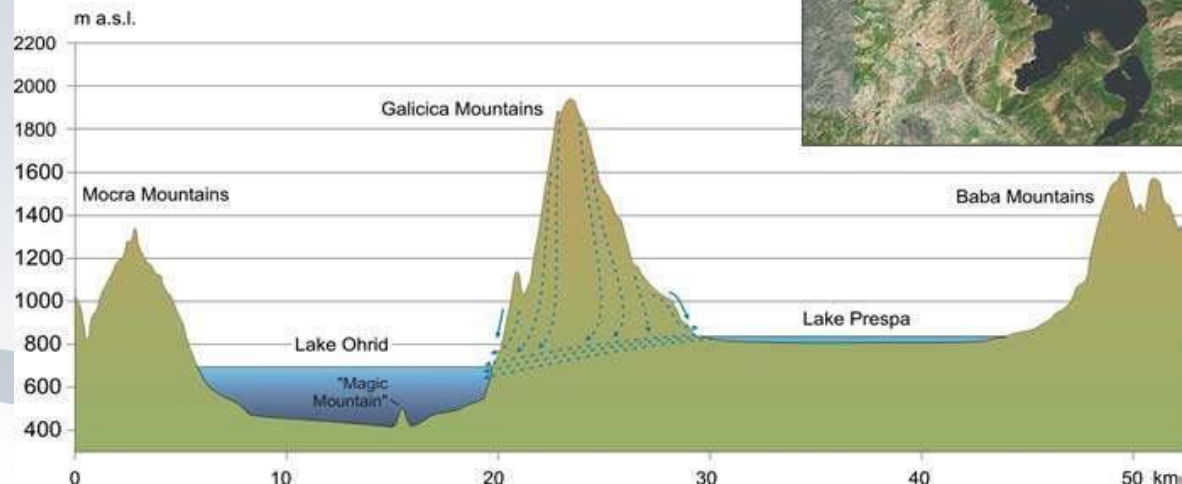
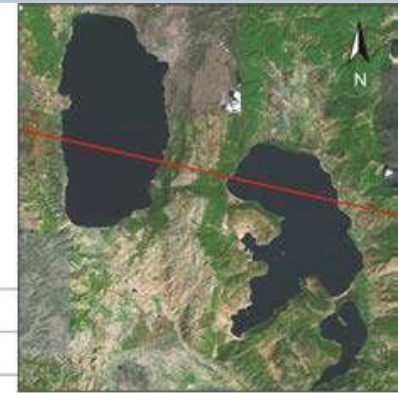
Prespa – an ecosystem of global significance that has been facing with serious environmental challenges over the past decades

- Age, Natural Values and Biodiversity
- Transboundary character
- Local Economy (agriculture, tourism, industry)

Hydrology



- Lake level oscillations – naturally vulnerable ecosystem sensitive to precipitation and human use



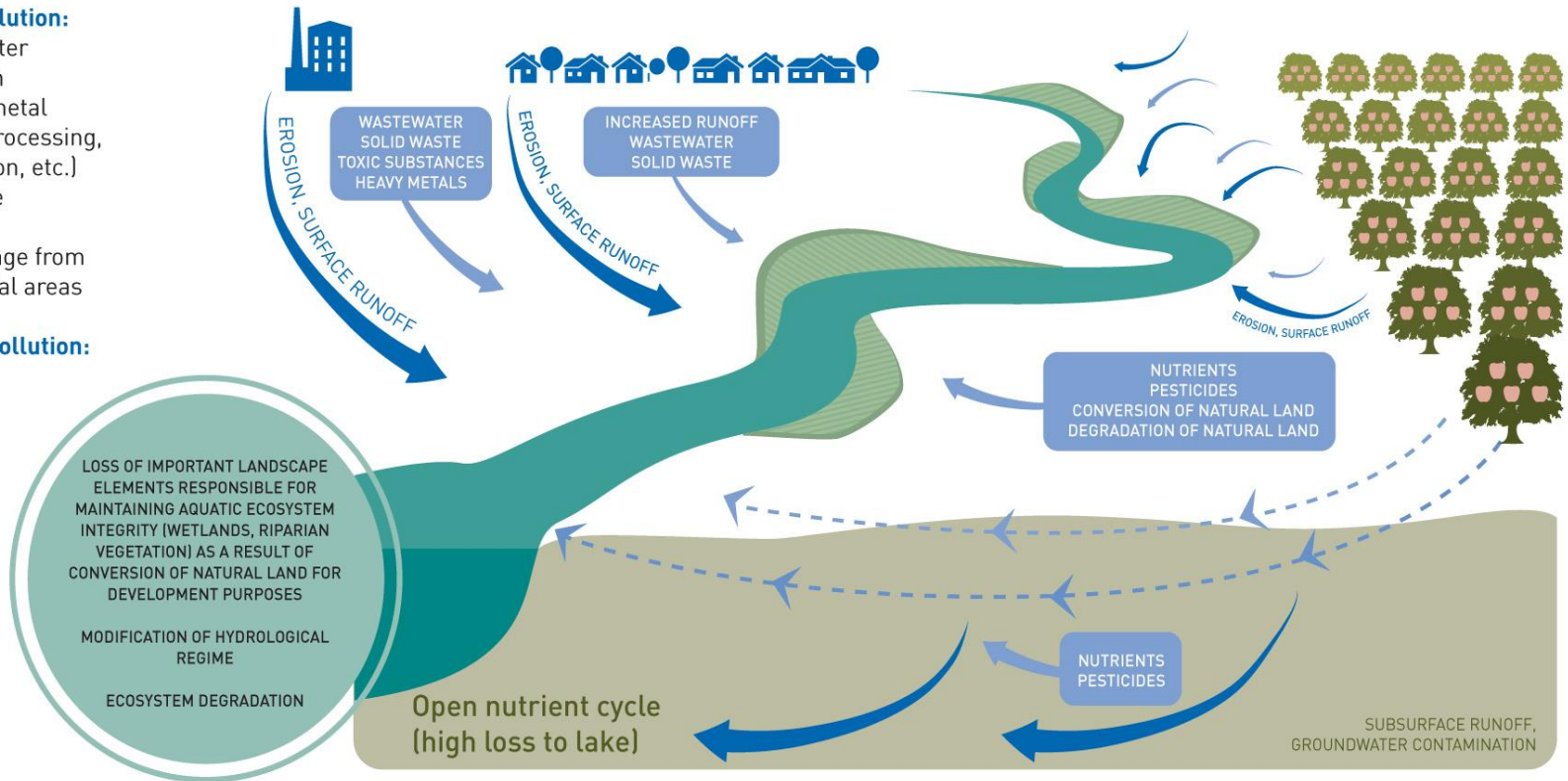
Summary of Pressures

Point sources of pollution:

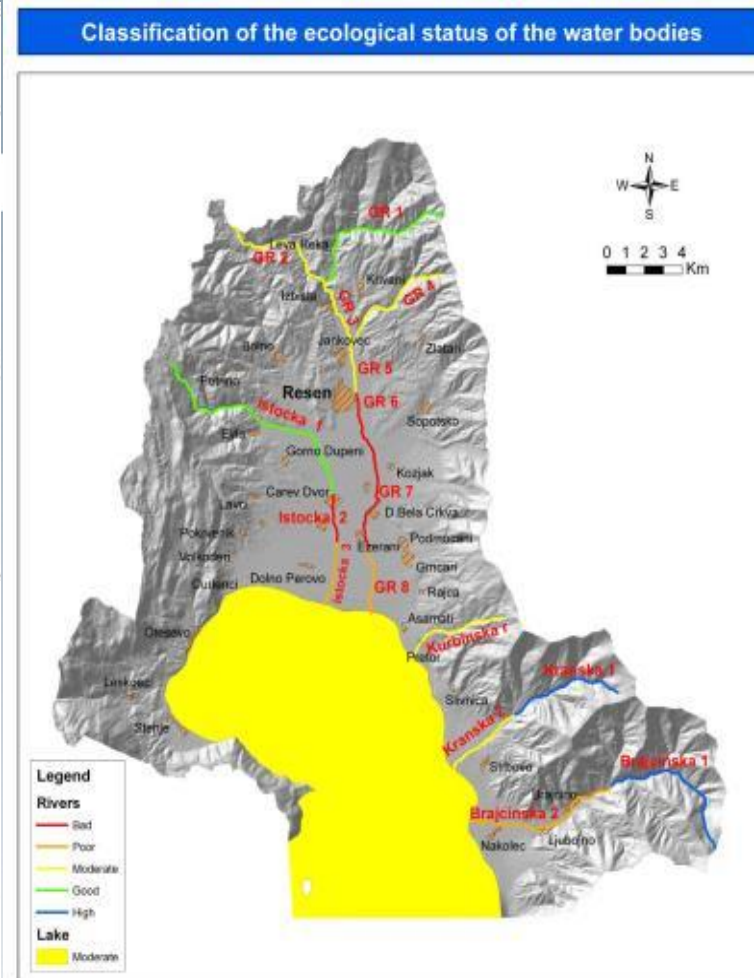
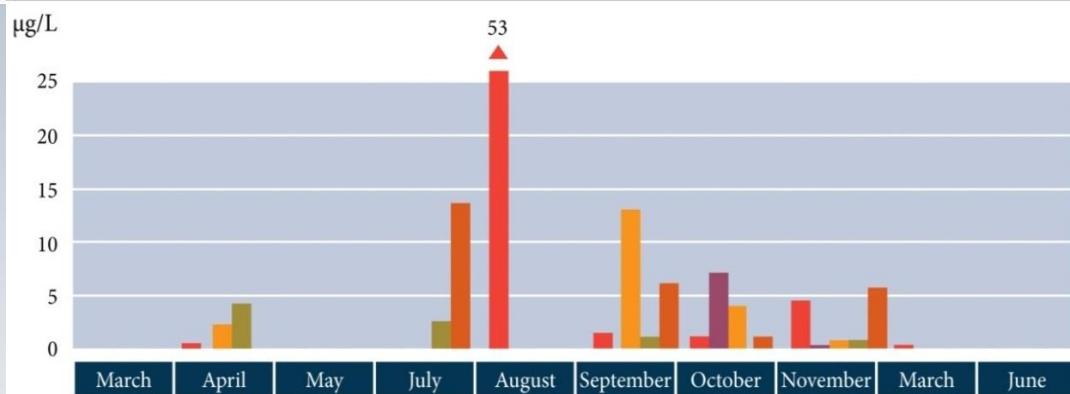
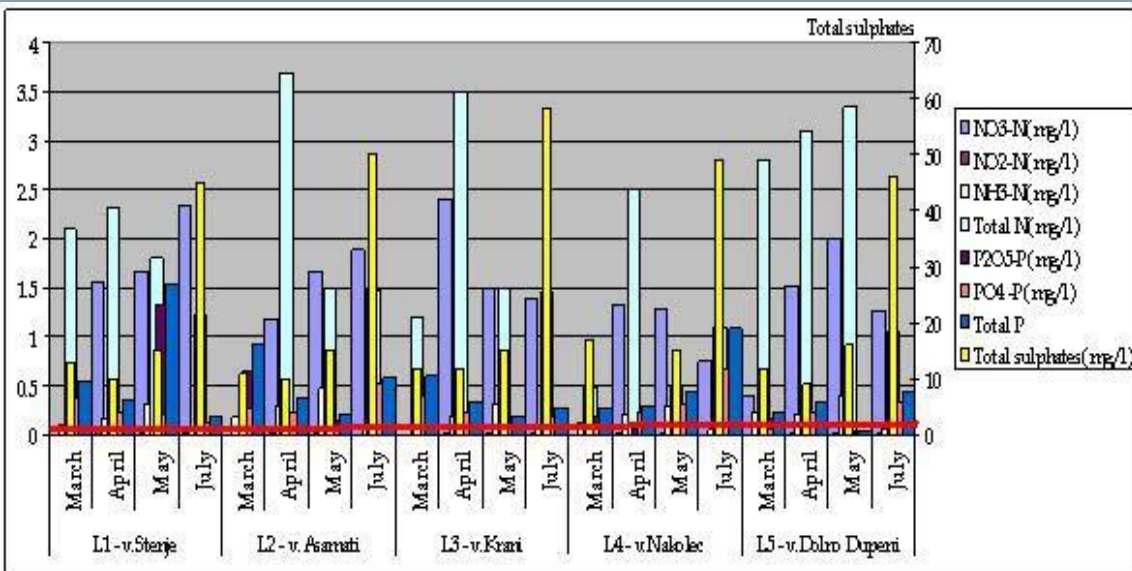
- domestic wastewater
- industrial pollution (poultry farming, metal processing, food processing, ceramics production, etc.)
- Illegal solid- waste landfills
- Stormwater drainage from urban and industrial areas

Diffuse sources of pollution:

- fertilizers
- pesticides
- organic waste



Status Indicators



Eutrophication: one of the key challenges of the lake ecosystem

- Caused by the nutrient and organic inputs originating from agricultural runoff, watershed's erosion processes, wastewaters and solid waste.

What are we doing about it?

- An integrated approach to restoring Lake Prespa -

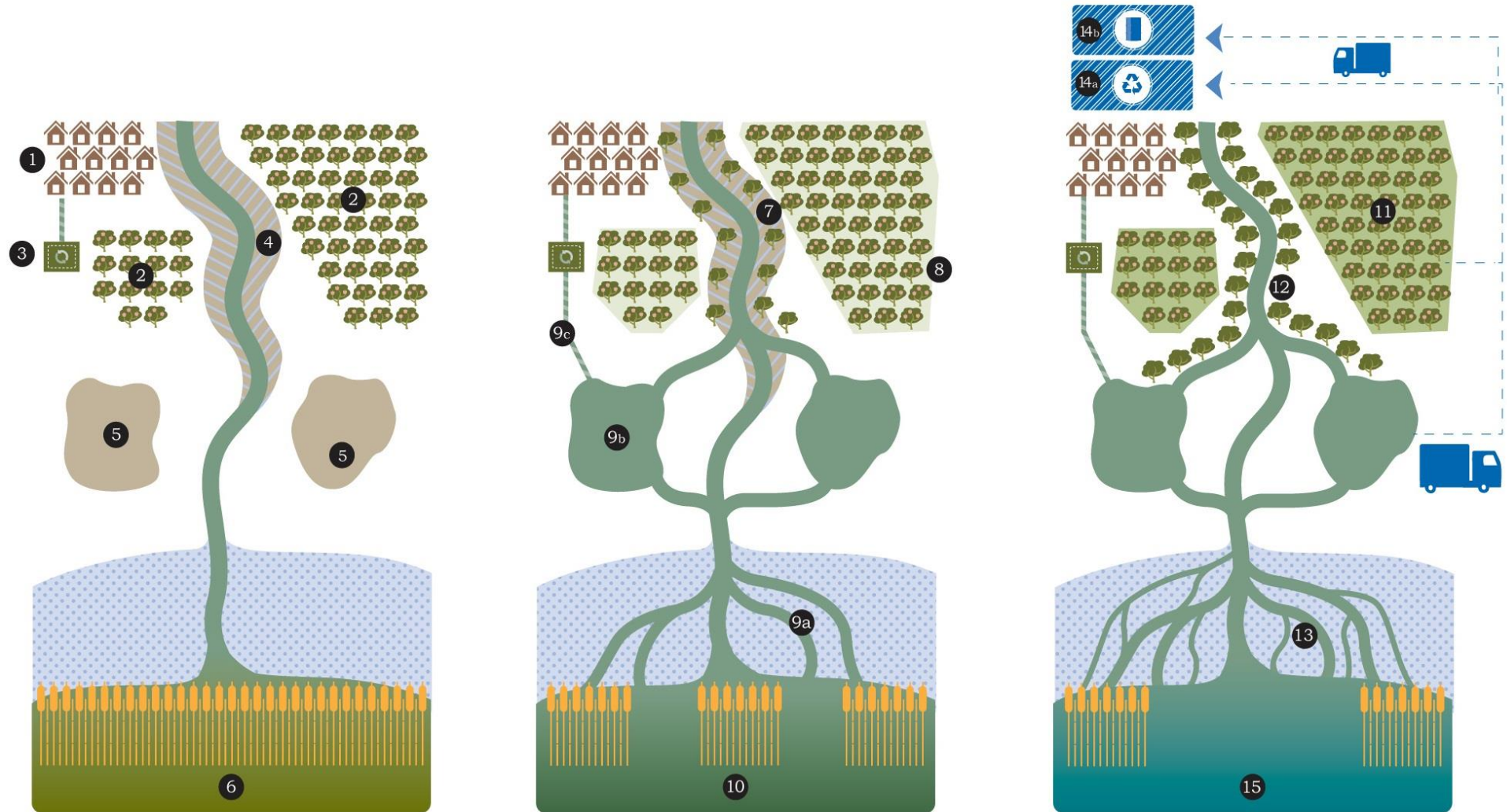
Since 2004:

- Transboundary and national strategies, plans and programs prepared
- Variety of projects in the areas of agriculture, forestry, fisheries, wastewater and waste management, river restoration, industrial pollution implemented
- Community action mobilized, productive partnerships and networks established
- Considerable results in reducing the pressures from different sources achieved

Capital investment stage

- **2012: an SDC funded comprehensive watershed-scale restoration programme with a broad set of objectives that include developing scientific datasets for decision-making, prototyping new management and restoration strategies, strengthening capacities for IWRM and sharing lessons learned**
- **Based on social and scientific datasets and ideas generated by stakeholders**

The concept

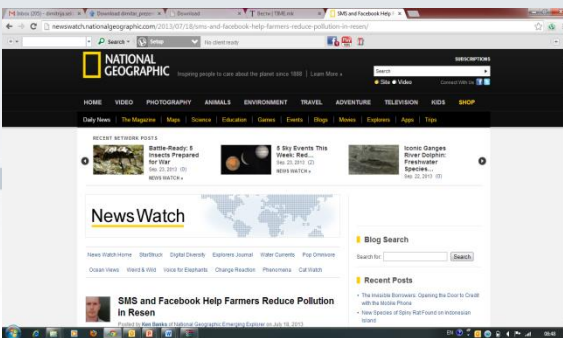


Reducing nutrient and pollutant loads to Lake Prespa by introducing **better resource management practices** and **restoring ecosystem functions**

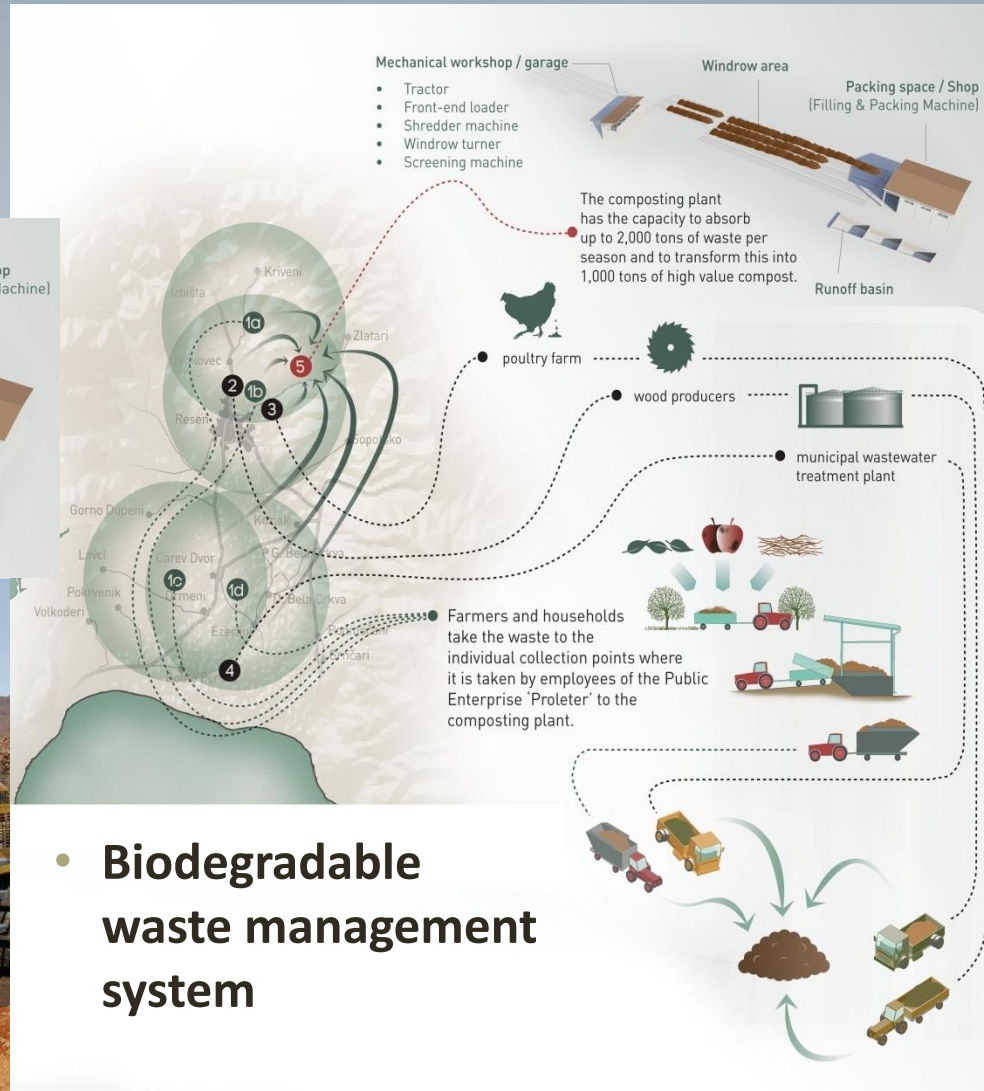
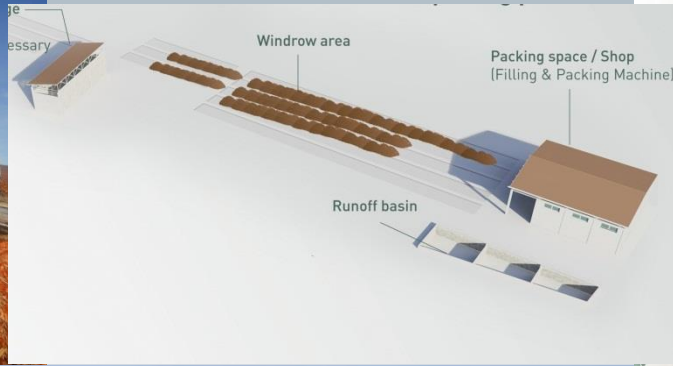
Reducing pressures from agricultural land

Agro-ecological practices in apple farming

- Fertilizers application management
- Irrigation practices management
- Pesticides control
- Erosion control



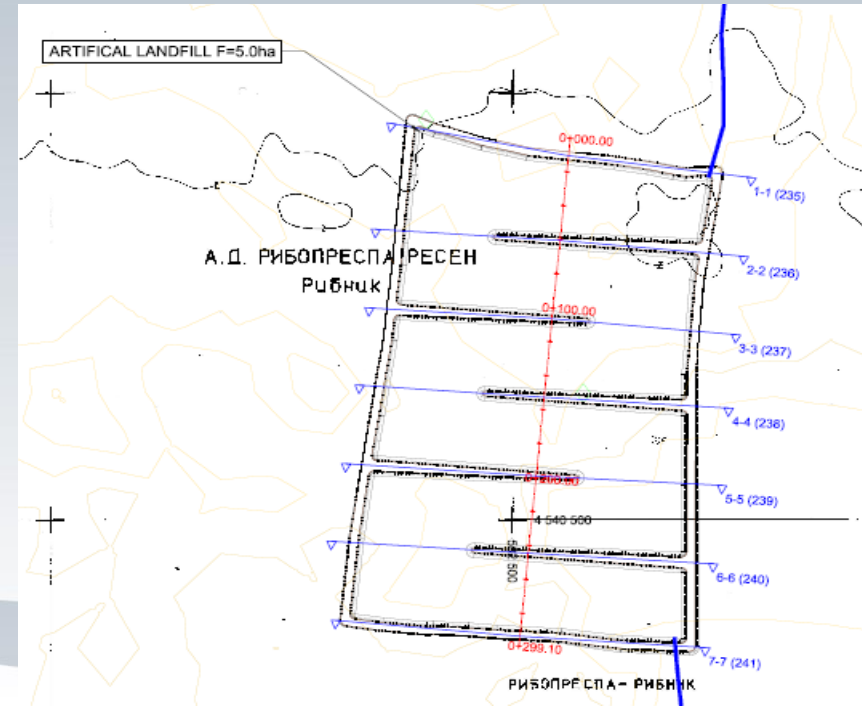
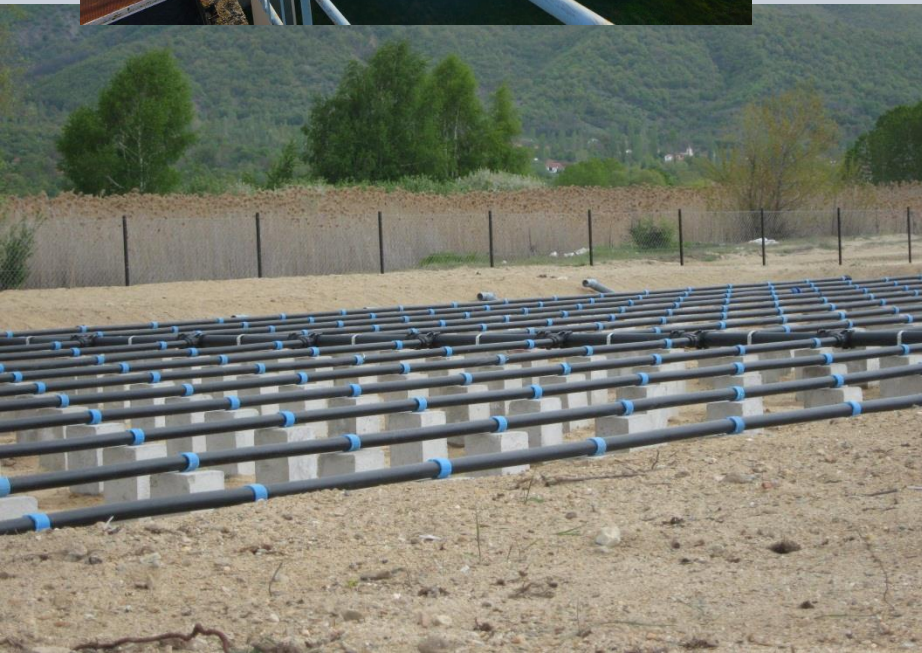
Waste Management



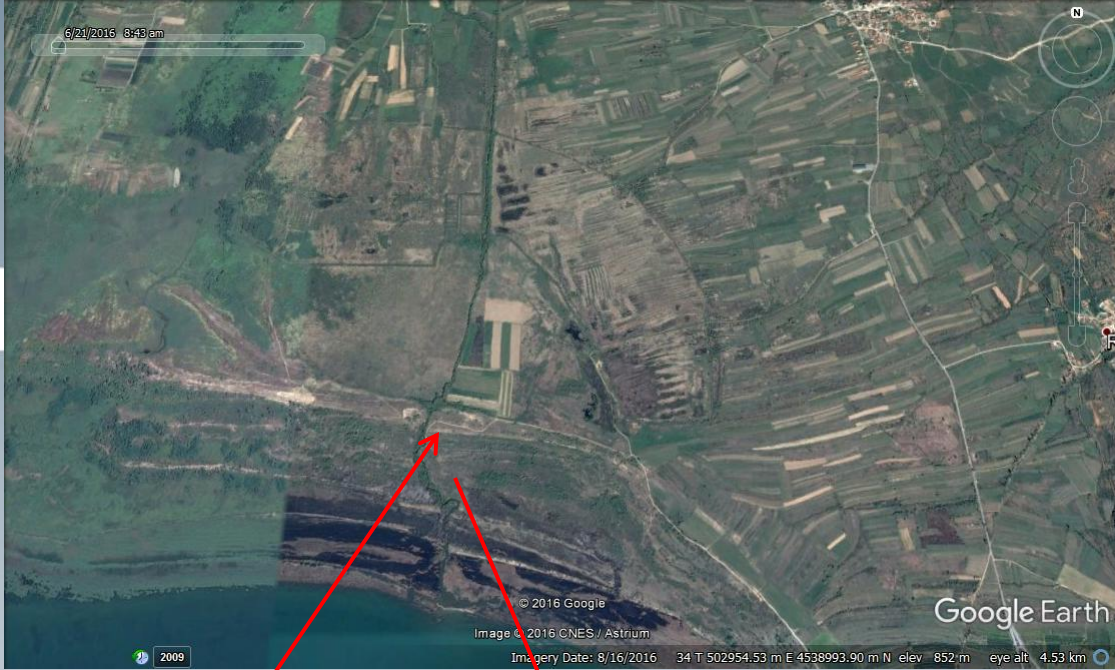
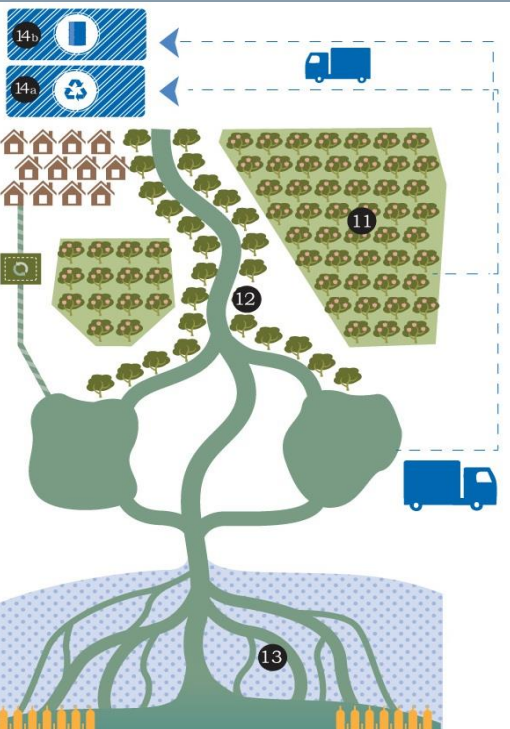
Wastewater Management



- Decentralized wastewater treatment in rural communities
- Improving sewerage coverage
- Upgrading existing treatment
- New technical documentation



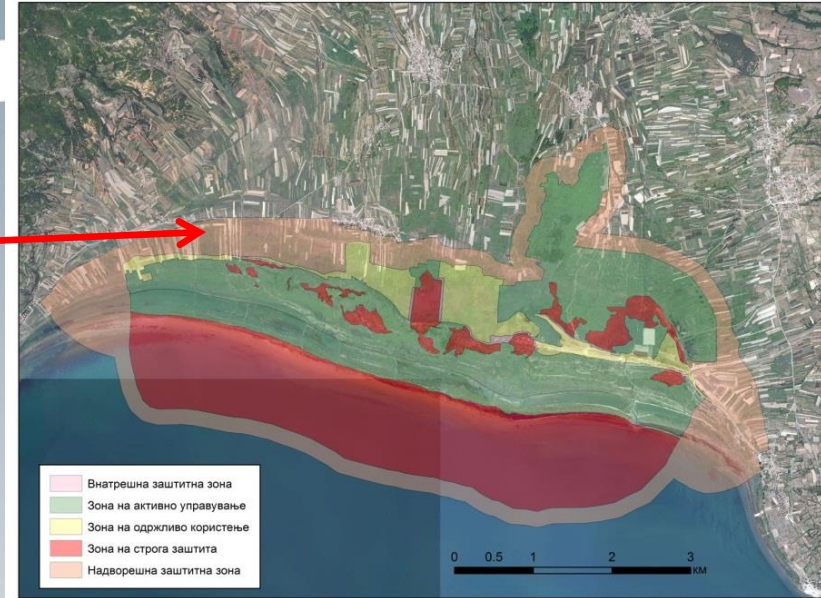
Wetland restoration



Protected Areas Management



Зонирање на Парк на Природа Езерани



Transforming Theory into Practice: Elements of Success

- **Long-term financial commitment by donors** (SDC, GEF, UNDP): the project / programme perspective
- Building on **existing initiatives** reinforces commitment and support by stakeholders & donors
- **Local presence** of the IWRM implementation team: **coordination role**
- Focus on **real challenges** facing the environment and people
- Promote **transparency & participation** in identifying challenges and implementing solutions
- **Innovation & results orientation**
- **Sustainability considerations** (affordability aspects, generating revenues)

Transforming Theory into Practice: Elements of Success

- **Management capacities for IWRM: Towards Water Governance**
 - New Municipal Sector on Environment
 - Cross-sectoral participatory mechanisms: Watershed Management Council
 - Full transfer of implementation responsibility: from UNDP to authorities

Sector on Environment

**Natural Resources
Management Unit (water,
soil, nature)**

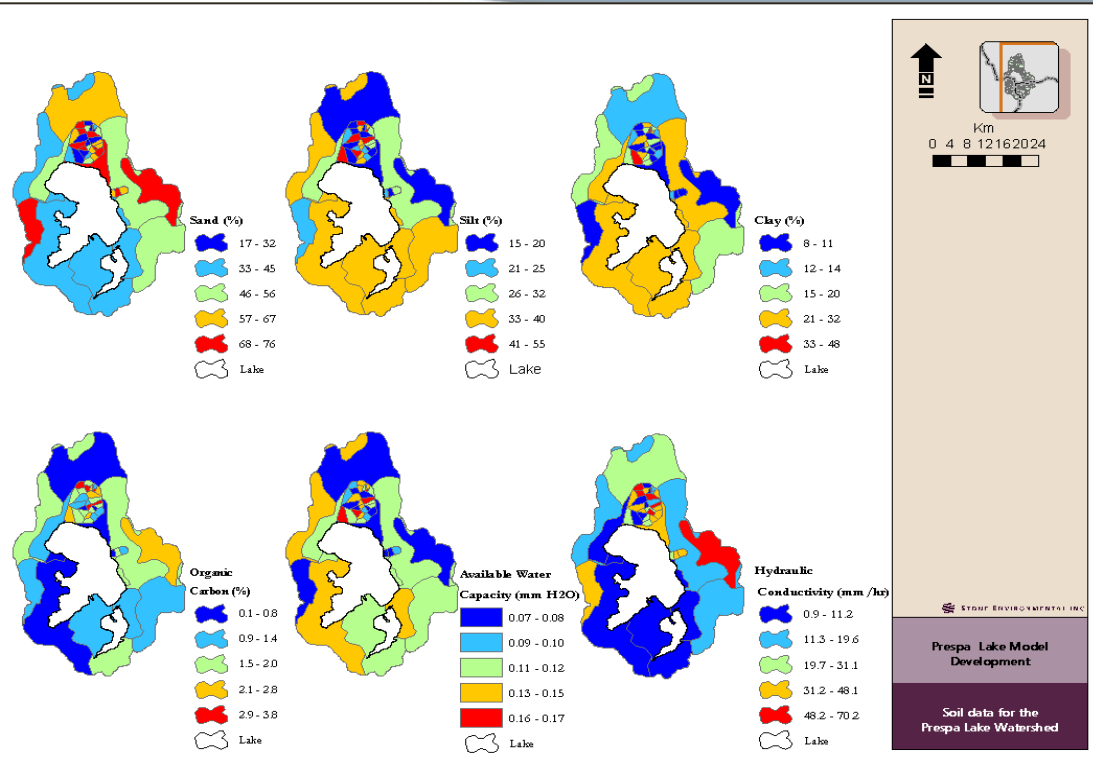
**Environmental
Management Unit
(industrial pollution &
waste management)**

Inspection

**Environmental
inspectors, communal
inspectors**

- IWRM team (integration in permanent structures)
- Monitoring Station
- Management body for protected areas

Transforming Theory into Practice: Elements of Success



Adaptive management aspects

- Lake/Watershed Monitoring
- Eutrophication model



Transforming Theory into Practice: Elements of Success

Sustainable financing of IWRM: Beneficiaries' perspective

- Multiplying financing by creating **legal & regulatory enabling environment** (watershed, fisheries, waste management plans, programmes, strategies...)
- **Environmental permitting** (driving private investments)
- **Prototyping** solutions with **replication & scaling-up potential**
- **Economic valuation** of ecosystem services: **justifying public expenditures**



Transforming Theory into Practice: Elements of Success

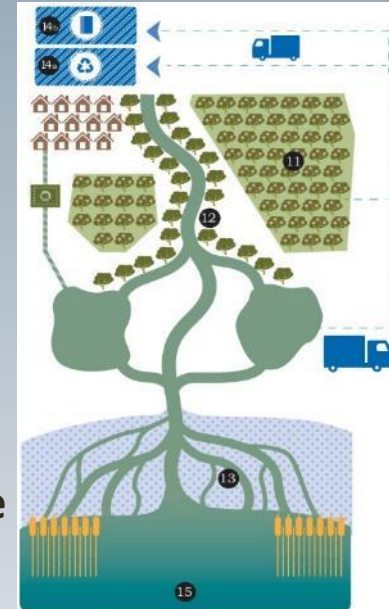
Alternative revenue generation activities

Energy efficiency projects: redirecting savings into IWRM



Biomass production: turning threats into opportunities

Biodegradable waste management

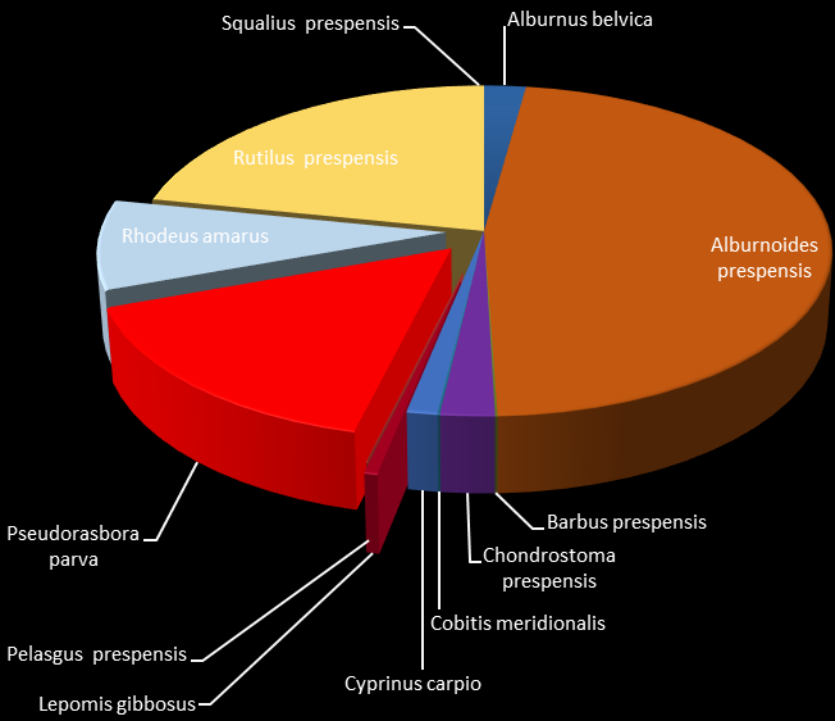


Prespa – A Success Story

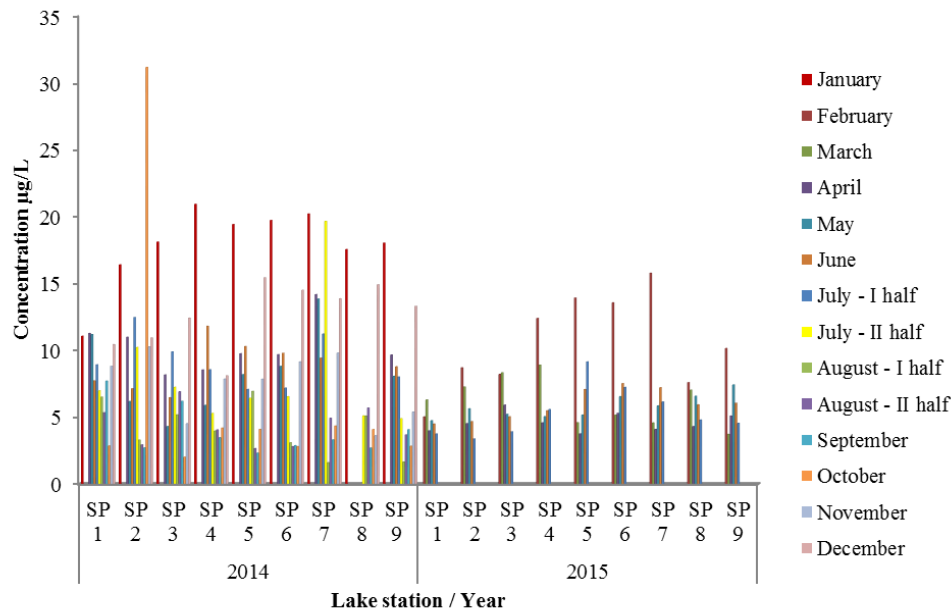
- Transforming **centralized water management** into decentralized system of **governance**
- Significant **reduction in pressures / loadings** of nutrients and pollutants
- Measurable **improvement of ecological status** of the Lake and its tributaries
- **Benefits for local communities** and **key sectors** (tourism, agriculture, fisheries, health protection, water supply)
- Building **capacities for long-term IWRM**
- **Sustainable financing...**

Monitoring results

Fish assemblage per species at F3 - Konjsko, 2015

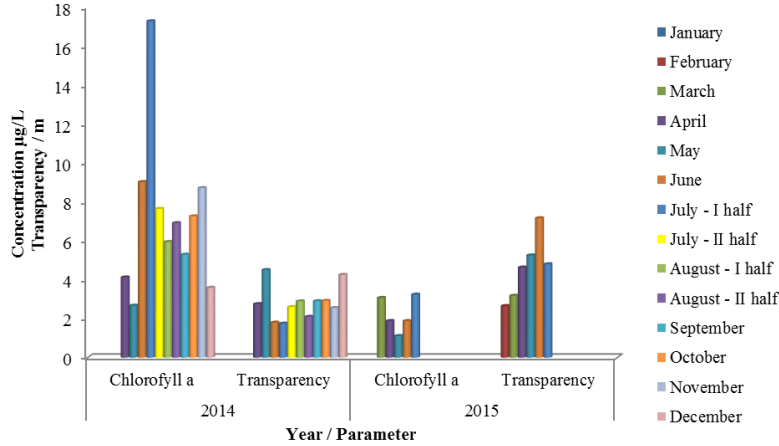


Phosphates surface concentration, 2014-2015



Reduction of concentrations of nutrients and pollutants in the Lake

Surface concentration of chlorophyll a vs transparency, SP1, 2014-2015



Re-colonization of the Lake by native fish species



Improved transparency
Dissolved oxygen

THANK YOU

