

# Freshwater habitats in Greece: Crosswalks between the Habitats and Water Framework Directives



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## Introduction

Freshwater habitats are important biodiversity features in eastern Mediterranean region. Greece hosts nine freshwater habitat types of Annex I to Habitats Directive (HD); four standing and five running waters.

Almost all freshwater habitats are also found in inland surface water bodies designated by the Water Framework Directive (WFD).

## Aims of the study

- To present the conservation status of Annex I freshwater habitats and the pressures exerted on them
- To compare the HD conservation degree of two standing water habitat types with the WFD Ecological Quality Ratios based on aquatic macrophytes, in lake Natura 2000 sites
- To identify synergies between the two EU Directives

## Methods

- Data were taken from:
- two National reports according to Article 17 of the Habitats Directive
  - the national Natura 2000 database
  - the HeLM assessment method for aquatic macrophytes

## Results

Table 1. Trends in conservation status of Annex I freshwater habitats.

Habitat code	Habitat name	2007-2012	2013-2018
3130	Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>		
3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.		
3150	Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation		
3170*	Mediterranean temporary ponds		
3240	Alpine rivers and their ligneous vegetation with <i>Salix elaeagnos</i>		
3250	Constantly flowing Mediterranean rivers with <i>Glaucium flavum</i>		
3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation		
3280	Constantly flowing Mediterranean rivers with <i>Paspalo-Agrostidion</i> species and hanging curtains of <i>Salix</i> and <i>Populus alba</i>		
3290	Intermittently flowing Mediterranean rivers of the <i>Paspalo-Agrostidion</i>		

Inadequate Conservation status

Favourable Conservation status

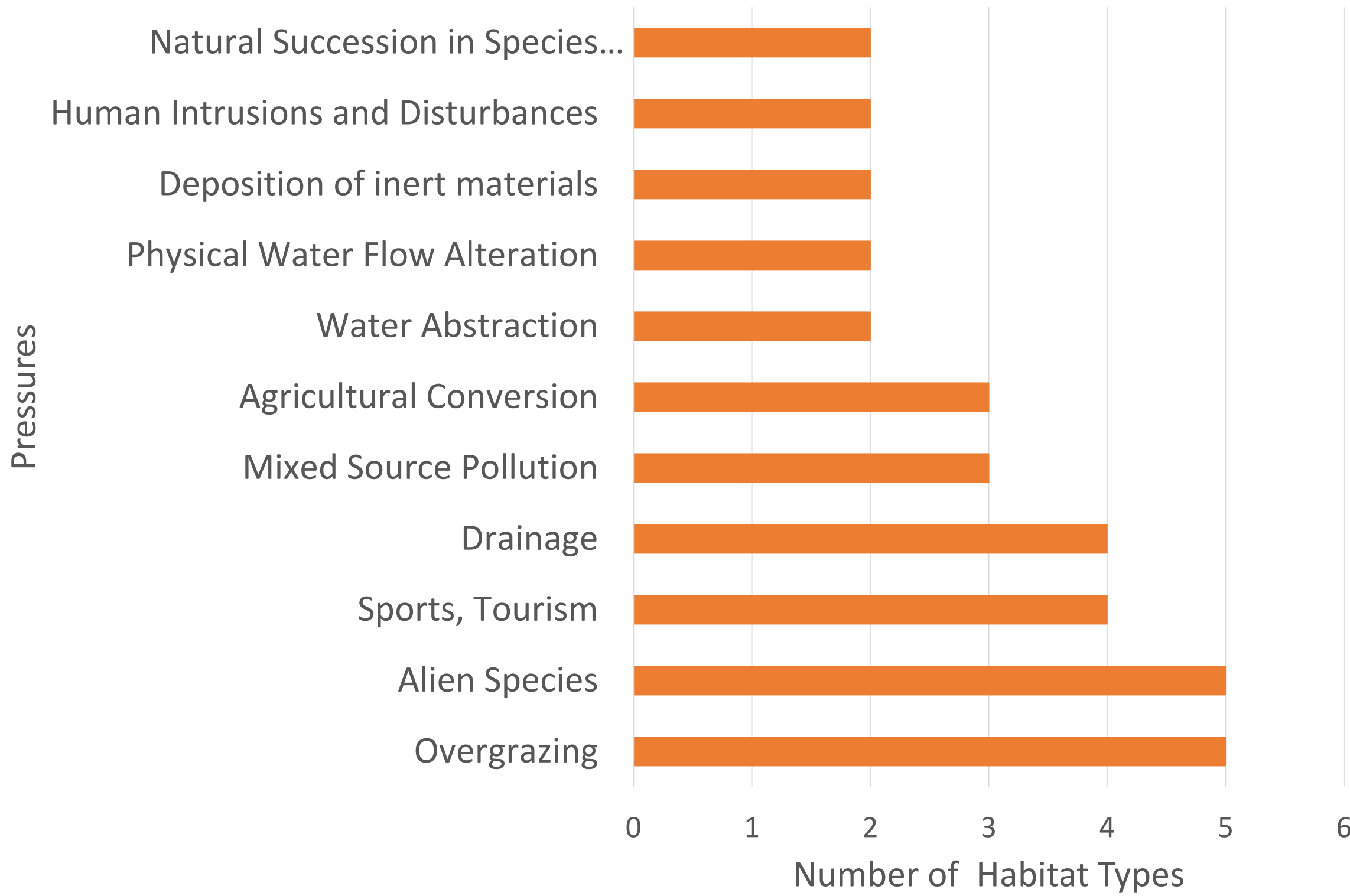


Fig. 1. Pressures that affect freshwater habitats (2013-2018).

Table 2. Comparison between the conservation degree of two habitats and aquatic macrophyte EQRs in lake Natura 2000 sites.

Lake Natura 2000 site	Habitat type	Conservation Degree	Ecological Quality Ratio
GR1320001	3150	A	
GR1340001	3150	A	
GR1340005	3150	A	
GR2130005	3150	B	
GR2410001	3150	B	
GR2410001	3130	B	
GR2310009	3150	B	
GR2310007	3150	B	
GR4340010	3150	B	
GR4340010	3130	B	

## Conclusions

- Six out of nine freshwater habitats are in favourable conservation status. Three have improved and one has declined.
- Most common pressures are overgrazing and spread of alien species, followed by drainage and degradation due to tourism constructions and activities.
- There seems to be poor relation between the assessment of conservation degree of two Annex I habitat types and the WFD EQR of aquatic macrophytes at site level. The two assessment systems vary in the parameters they use. Moreover, the former is qualitative and the latter quantitative. Sampling strategies also vary.
- The comparability / convergence of the two monitoring and assessment systems would favour sound management decision making.

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European Union  
Cohesion Fund



Symposium for European Freshwater Sciences  
Zagreb, June 30 – July 5, 2019



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