



THE GOULANDRIS NATURAL HISTORY MUSEUM
GREEK BIOTOPE/WETLAND CENTRE

South Aegean

Actions to protect and promote
ecosystems of the Region Notio Aigaio
in the areas of the NATURA 2000 network





Freshwater wetlands

Small freshwater wetlands, seasonal or permanent, fed mainly by rainwater, are scattered in South Aegean islands. Their importance for biodiversity is great; they host a large number of plant and animal species, and they form special habitats.

Especially on islands, where freshwater habitats such as lakes, ponds and marshes are relatively rare, these small wetlands act as "life refuges"; they host species that depend, exclusively or to a large extent, on water. At the same time, they support the agricultural activities of the local residents and provide multiple benefits.

In the South Aegean, despite the adverse climatic conditions prevailing mainly during summer, dozens of small freshwater wetlands are preserved. The Habitats Directive (Directive 92/43/EEC) characterizes some of them as habitat types protected at European level. Three such types of freshwater habitats are recorded in the islands of the South Aegean:

3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. Lakes and pools with very clear waters, poor in nutrients and very rich in carbonate ions. The bottom of these unpolluted water bodies is covered with Charophyte algae submerged carpets.

3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation. Lakes and ponds with mostly grey to blue-green waters, more or less turbid, particularly rich in nutrient ions. This type of habitat mainly includes aquatic plants, floating and/or submerged in water.

3170* Mediterranean temporary ponds. Very shallow seasonal ponds that retain water in winter or even spring. Because of the periodic switching

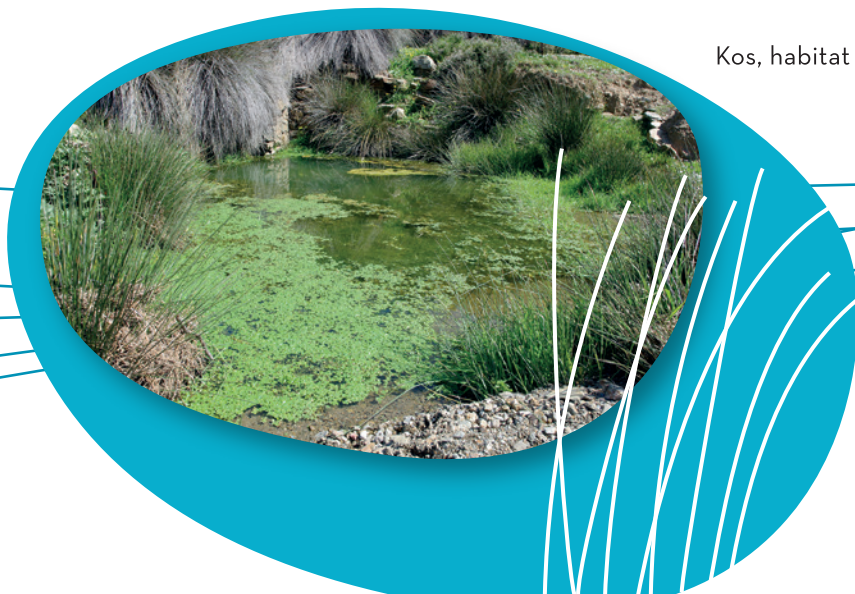
between water inundation and complete drying out, they host characteristic plants and animals adapted to this alternation. The flora is characterized by the dominance of Mediterranean therophytes and geophytes, but also by the presence of aquatic plants in places that retain water for a longer time. This type of habitat has been designated as a "priority" and its protection is imperative.

The three types of freshwater habitats recorded in the South Aegean are protected by the Habitats Directive. They are threatened at European level due to their limited distribution and the pressures they face, both anthropogenic and natural, the main ones being land use change and climatic conditions. Although they are considered as "biodiversity oases", in Greece, their importance is not widely known and their insufficient protection and unsustainable use have brought about their continued degradation.



↑ Kos, Agios Fokas Refuge, habitat type 3140

Kos, habitat type 3150



Karpathos, Kali Limni, habitat type 3170*





↑ Nisyros, Agios Stefanos crater

Kos, Avdelolimni →



The project

The project "Actions to protect and promote ecosystems of the Region Notio Aigaio in the areas of the NATURA 2000 network", contributes to:

- Improvement of knowledge on the three freshwater habitats with standing waters protected by the Habitats Directive in the Region of Notio Aigaio: 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp., 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation, 3170* Mediterranean temporary ponds.
- Strengthening the conservation of these specific habitat types, by drafting an action plan for their protection, rehabilitation and restoration in the areas of the Natura 2000 Network in the Region Notio Aigaio.
- Highlighting and promoting the importance and benefits resulting from the conservation and restoration of small wetlands for nature and humans, as well as promoting the significance of the Natura 2000 Network, to which they belong.



Kos, Avdelolimni

The actions

SCIENTIFIC DOCUMENTATION

Identification, delineation and mapping of habitat types with standing freshwater, description of the composition of their vegetation, their structure and functions, assessment of their conservation degree, recognition of the pressures they face.

PROTECTION & CONSERVATION

Preparation of an action plan for the conservation, rehabilitation and restoration of habitat types and informing stakeholders.

PROMOTION & HIGHLIGHTING

Implementation of targeted actions to highlight the value and importance of island wetlands and the areas of the Natura 2000 Network.

COMMUNICATION & DISSEMINATION OF RESULTS

Creation of informative material and presentation on the internet, social media, mass media, as well as at meetings.



← *Crassula vaillanti*,
habitat type 3170*, Milos

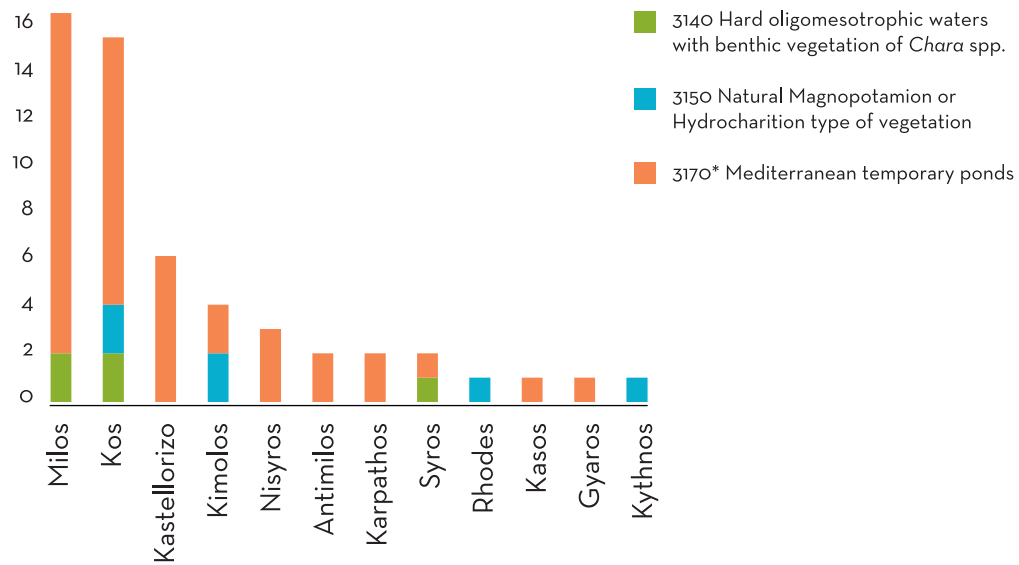
Antimilos, habitat type 3170* →

The results

The small freshwater wetlands with standing water, recorded on the islands of the South Aegean, show a high degree of diversity in terms of their morphological, chemical and ecological features.

The three habitat types with codes: 3140, 3150 and 3170*, were identified, recorded and studied in 54 locations, on 12 islands of the South Aegean.

South Aegean islands where the three habitat types have been recorded (EKBY, 2022)



Mediterranean temporary ponds (3170*) are the most frequent of the three habitats in the South Aegean. These are often natural wetlands with a high diversity of plant species, but in several cases, humans have artificially modified their abiotic characteristics. Habitat types 3140 and 3150 are mainly formed in depressions created by human activity, such as mining sites. Over time and under favorable conditions, they are likely to acquire wetland characteristics and host typical plant species to each habitat type.

Most wetlands in the South Aegean islands are altered by the long-term use of water mainly in cultivations and grazing. Excavation, embankment, road openings and water abstraction, bring about further degradation. In places with tourist development, these risks are increased, while grazing also exerts additional pressure.

Eighty percent of the small freshwater wetlands (43 out of 54) are included within the 12 areas of the Natura 2000 Network in the South Aegean islands. Protecting them and improving their conservation status are important for maintaining biodiversity and enhancing the services that island wetlands provide to people.



← *Potamogeton nodosus*, Antimilos



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INFORMATION

GNHM-EKBY, 14th km Thessaloniki - Mihaniona, 57001 Thermi, Greece, Tel. +30 2310 473320

E-mail: ekby@ekby.gr, www.ekby.gr

FB: <https://www.facebook.com/NotioAigaioNATURA2000>

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TEXTS: Elpida Karadimou, Vassiliki Tsiaoussi

EDITING: Maria Katsakiori, Katerina Boli

PHOTOS: Thodoros Tagdalidis, Dimitris Zervas, Elpida Karadimou

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