

Exploring Alyki: A Deep Dive into the Rich Biodiversity of Wetlands

It is a matter of fact that climate change and human interventions have had significant implications on our planet's environmental stability. The preservation of wetlands is one of the most imperative parts of long-term sustainability for numerous reasons. Namely, they constitute one of the richest ecosystems on the planet, serving as habitats for a wide variety of flora and fauna while also protecting against floods and storms by both reducing flow velocity and stabilizing the soil due to vegetation.⁸

One amazing example is the Aigio Lagoon also known as Alyki. "Alyki is a small wetland but nevertheless remains a huge 'nest' for rare birds and an amazing 'hostess' for visitors", as Mr Papadopoulos, the president of the environmental association of 'Agios Nikolaos' (which is focused around Alyki) said. Alyki (38°15'0"N, 22°6'0"E)⁵, situated just two kilometres east of Aigio on the periphery of a small cape ("Gyftissa")⁴, emerges as a compact yet captivating lagoon in the heart of the Corinthian Gulf. Within its borders, this small oasis encompasses approximately 20 hectares⁵ of diverse ecosystems. Fed by a nearby spring and rainfall, its waters typically maintain a refreshing purity. However, during the summer months, a significant infusion of saltiness occurs as seawater mixes in with the wetland (30.5-50.0 PSU Salinity)⁵. "Alyki's biodiversity does not only make the wetland special for research but is also perfect for leisure due to its closeness to the city", added Mr Papadopoulos.



#1: Alyki Wetland

But why is Aliko so Unique?

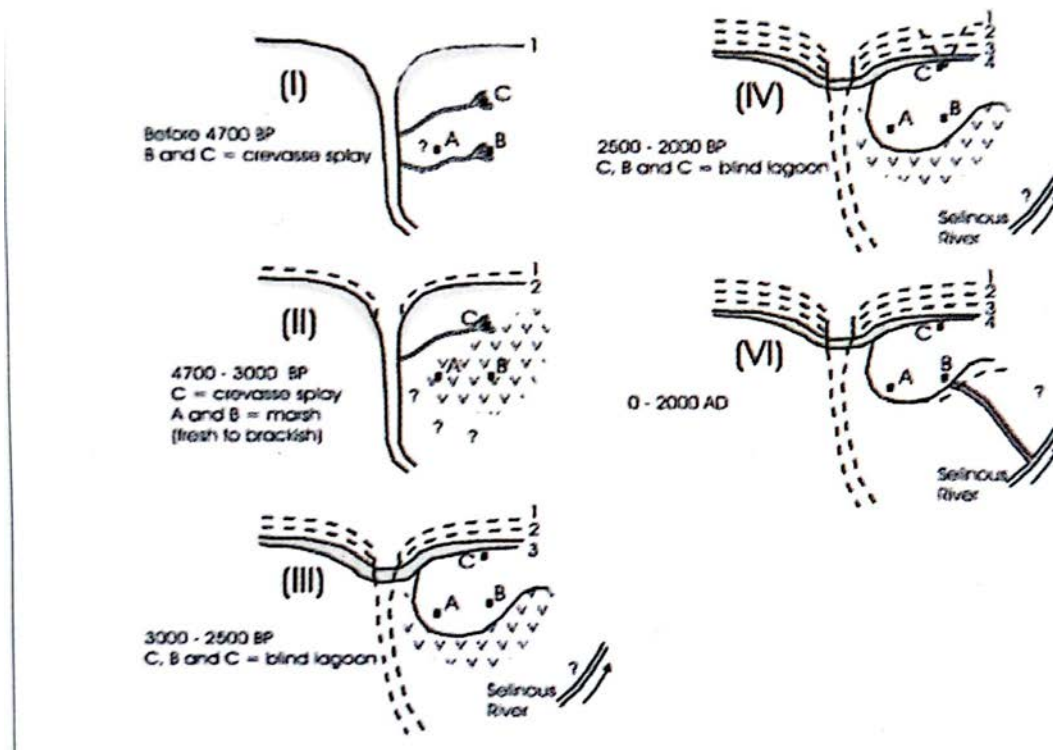
“Alyki is the most significant natural habitat in our area and we are trying our very best to preserve it”, said Mr Kalogeropoulos, mayor of Aigialeia. The lagoon is a crucial habitat for various species, representing one of the few remaining natural sanctuaries while also playing a pivotal role in the migration patterns of numerous bird species, acting as a major stopover point. Additionally, despite its compact size, Alyki boasts a remarkable diversity of wildlife, making it an excellent resource for environmental education and sustainable tourism development for Aigio. “Alyki is one of the only wetlands which is so close to an urban centre. Our goal is to make it greener and more attractive”, added Mr Kalogeropoulos.

The History-Geology

Alyki Lagoon formed approximately 5000 years ago during the Holocene period as a result of seismic activity in the Corinthian Gulf’s fault lines and the influence of the Selinountas River and sea actions.

In the 20th century, human interventions significantly impacted Alyki Lagoon both in good and bad ways. An example is the construction of the Rockefeller Canal and two other channels in the 1930s aimed to drain the lake which were later closed returning the lagoon to its original saltwater state. Additionally, the road which was constructed around the lake in 1973, besides its negative effects on the wetland’s well-being, served as a boundary against further land encroachment. Lastly, in 1978 Alyki was designated for the first time as a wildlife refuge and protection efforts transformed it into a protected wetland and bird-watching destination.⁸

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#2: Paleogeographic evolution of Alyki Lagoon during the late Holocene and environmental changes

Problems-Human Activity

Is Alyki in danger due to human activity? “Today Alyki’s ecosystem is mainly affected by climate change. Decreasing water levels in the lagoon and altered conditions impact the wetland, affecting migratory birds’ access to food and habitat. However, the association endeavours to mitigate these effects by protecting the aquatic habitat and maintaining cleanliness”, answered Mr Papadopoulos. It was also stated that human activity such as tourism, agricultural activities (i.e. use of fertilisers, water pollution, etc.) and illegal hunting affect the local ecosystem.

However, human deeds have occasionally proven to be beneficial. “To facilitate Alyki, our association frequently organises voluntary clean-ups and events in collaboration with many organisations (i.e. scouts, schools, cultural associations) aiming to embrace voluntarism and mobilize the local community”, said Mr Papadopoulos. “In fact”, he continues “in recent years the association, with the support of the municipality and European programs, has installed observation points and a telemetric station for monitoring physicochemical parameters of the water”. “We want to make the area widely known, in order to attract more visitors and adduce to everyone its merit”, he says.

The Ecosystem-Protection regime

Alyki Lagoon, designated as a protected wildlife area under the Natura 2000 network (GR2320006) since 1997, encompasses diverse habitats, including *coastal lagoons*, *Mediterranean salt meadows*, and *halophilic scrubs*. These habitats support a remarkable array of flora and fauna. Notably, the lagoon hosts unique plant species like *Ruppia Cirrhosa* and *Lamprothamnium Papulosum*, while its surroundings feature Mediterranean vegetation like *Scirpus maritimus* and *Limonium narbonense*. This biodiversity hotspot is home to 255 bird species, including many listed as endangered by the IUCN Red List, and provides shelter for various mammals, reptiles, amphibians, and fish. The wetland serves as a vital stopover for migratory birds and is protected under the Berne Convention.^{3 4 5}



#3: Flamingos in Alyki Wetland

Alyki throughout the seasons

Alyki undergoes remarkable seasonal transformations. Winter floods attract diverse aquatic birds with February welcoming African migratory species. Spring's landscape changes continuously as birds pause en route northward. In summer a large portion of the wetland dries up and by June returning birds offer prime viewing. In autumn as bird migration persists, the onset of the first autumn rains swiftly refill the wetland and within ten days, the dormant plants spring to life, and a myriad of invertebrates undergo rapid multiplication, revitalising the ecosystem. Thus, the lagoon embarks on its annual cycle of rejuvenation and renewal.⁴

Hope

In summary, Alyki Wetland plays a vital role in the local ecosystem, offering critical habitat for diverse species and hosting significant bird migrations annually. Preserving it will ultimately prove crucial, benefiting both local biodiversity and the community of Aigio as a whole. By recognizing our responsibility as caretakers of the planet, we must prioritise the preservation of such habitats, securing a sustainable future not only for the broader region but potentially for the entire world, by setting an important example for global conservation initiatives.

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