

Fish population on Belcista wetland - risk assessment, prevention and management

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Belcista wetland (Blue swamps) covers roughly 400 ha and it is largest preserved wetland in R. North Macedonia. It is with attitude of 767 m. and is fed by several spring sources. The expiration of all these sources is formed River Matica.

Many studies were provided to valuation of ecosystem services, sustainable tourism and recreation development in the Belcista wetland.

There are many activities based on segmentation and valorization of factors for the development of several alternative forms of tourism in rural areas. Segmentation is based on the assumption that different types of natural and anthropogenic motifs can attract various types of tourists in the rural area.

ABSTRACT

Belcista wetland, 20 km distance from Ohrid Lake, is a relict remnant of the ancient Desaret Lake, which existed in this area since the Pliocene. The present investigation is a part of a detailed study entitled - „ Ecological status of fish population in Belcista wetland”.

Belcista wetland (Blue swamps) is the largest wetland habitat in R. North Macedonia and it is the habitat to many species of flora and fauna. This region hosts an endemic freshwater species of the Balcan Penninsula, Ohrid minnows (*Pelasgus minutus*), which is threatened by habitat loss.

There are intention of artificial introduction of salmonid fishes in Belcista wetland to develop the recreational fishery and tourism in this area. Introduction and spread of salmonids is a great risk factor to survival the ohrid minnows (*Pelasgus minutus*).

One of the biggest pressures and threats to habitats and species is the modification (the drainage) of the wetland. In the last decades of 20-th century more meliorative works have been carried out, so that the surface of the wetland has to been significantly reduced. Recently, many efforts are being made to prevent the hydrological modification of the wetland.

Perspective on Belcista wetland is his promotion as protected area - Park of nature in the future.

Key words: Belcista wetland, fish population, Ohrid minnows (*Pelasgus minutus*)

During the period of December 2021 to September 2022, in Belcista wetland have been caught total of 176 pieces of fish, which were classified in 3 different species: chub (*Squalius cephalus*), minnow (*Phoxinus lumaireul*) and ohrid minnows (*Pelasgus minutus*). In addition to the small number of species, the fish fauna is also characterized by a small population density.

Wetland - Blue Swamps
Сини Вирој



Ohrid minnows (*Pelasgus minutus*)

There are intention of artificial introduction of salmonid fishes in Belcista wetland to develop the recreativ fishery and tourism in this area. Introduction of salmonids will provokes decreasing on populations of *Phoxinus lumaireul* and *Pelasgus minutus*.

The Belcista wetland is one of biodiversity hotspot, hosting endemic freshwater species *Pelasgus minutus*, which is occurring exclusively here . The genus *Pelasgus* is one of the most ancient genera of the family Leuciscidae. The regions of the oldest colonization by *Pelasgus* are the drainages of the ancient lakes Ohrid and Prespa and the southernmost part of the Peloponnese.

Belcista wetland ecosystem belongs to EMERALD network and already is made an iniciative for proclaim as a protected area and future NATURA 2000 site. For successful protection of Belcista wetland, it is necessary to reconcile biodiversity conservation and economic development. Perspective on Belcista wetland is his promotion as protected area - Park of nature in the future.