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## ECOLOGICAL NOTES

### SZCZECIN LAGOON – A single or multiple biotopes?

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The area of the Polish part of the Szczecin Lagoon (Fig. 1) can be divided into several basins taking into account the differences in hydrological regime, bottom morphology, bottom sediments and salinity which vary distinctly as regards the natural environment (Majewski 1980). The main basins to be mentioned here are: Roztoka Odrzańska, geographically an integral part of the Szczecin Lagoon though from the hydrological point of view - a prolongation of Domiąża (Poleszczuk 1996), the Lake Wicko in the northern part of the Lagoon and the Lake Nowowarpieńskie in the western part of the Lagoon.

The central part of the Szczecin Lagoon, with depth exceeding 4 m and a muddy bottom, as well as the shallows surrounding this part: Wyskok Nowowarpieński, Rapziner Hacken, Mielizna Osiecka, Wyskok Krzecki, Mielizna Wolińska, Mielizna Pomorska and Mielizna Kopicka can be also distinguished as potentially specific, individual ecosystems. The list can be extended with the eastern part of the Lagoon, situated beyond this sandbank, so-called Skoszowska Bay and the area of the Mielizna Wolińska (depth > 2 m and mostly muddy bottom sediments). The discussion should include specific environments of the waterway channels Szczecin-Świnoujście (with the depth 12-16 m) and their sections extending from the Gate 3 to Zalesie near Międzyzdroje (from the buoy MA to MK and farther M-I to M-IV and from the buoy 10 to 20), with prevailing muddy bottom (Niedźwiecki and Chinh 1991) and leading as far as Wolin (from the buoy ME-W and farther from W-4 to W-1) (Chudecki and Niedźwiecki 1987). The biocoenoses in these areas are different (Wolnomiejski 1994), though the observed changes in seasonal cycles are of similar character (Poleszczuk 1997, 1998). For this reason the specific ecosystems are difficult to distinguish. On the grounds of bottom morphology and sediment types it is solely the eastern part of the Wielki Zalew (the Skoszowska Bay and areas east to the Mielizna Wolińska) together with the lakes Wicko and Nowowarpieńskie are predestined to the specific ecosystem classification, if the differences between the biotopes and biocoenoses of these areas are significant in comparison to the central

part of the Wielki Zalew. However, up to now such comparative studies have not been conducted between the central part and east to the sandbank.

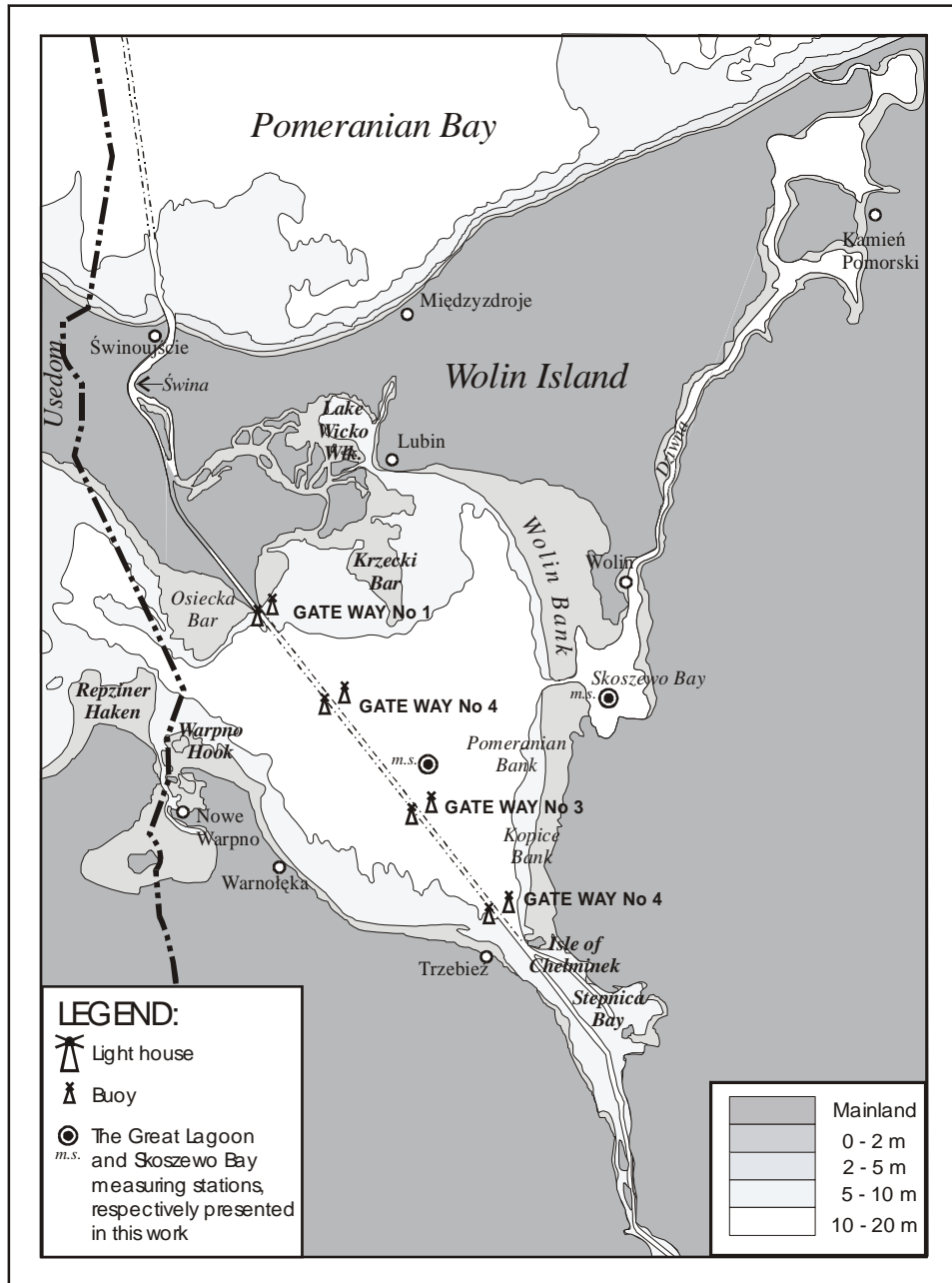


Fig. 1. Szczecin Lagoon - location of the measuring stations

The results of a pilot study of some water quality indicators in the central part of the Szczecin Lagoon and in the Skoszewska Bay were published in 2000. The analyses were performed by methods described earlier (Poleszczuk 1998) and the results are shown in Fig. 2.

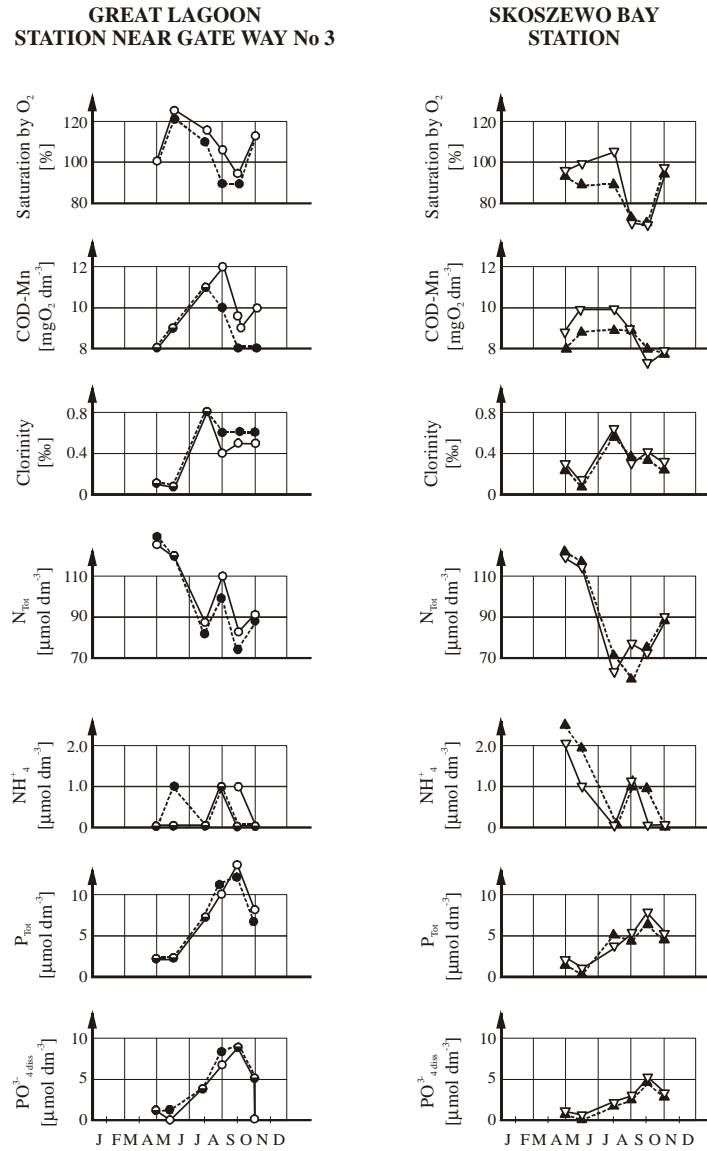


Fig. 2. Szczecin Lagoon – selected water quality indices in 2000 year season

The significant differences (10% and larger) occurring between number water quality parameters confirm the difference between the biotope of the central part of the Lagoon and its eastern part. Hence, the hypothesis that a number of specific, individual biotopes can be distinguished in the Szczecin Lagoon was confirmed to a certain extent.

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