PHYTOPLANKTON FEATURES OF NORTHWESTERN PART OF THE BLACK SEA IN COASTAL AREAS WITH A DIFFERENT LEVEL OF DESALINATION UNDER INFLUENCE OF THE DNIEPER-BUG ESTUARY WATERS

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It is known that in the areas of river hydrofronts of the northwestern part of the Black Sea there is a dependence of the total phytoplankton biomass on the salinity of the waters. In particular, in the area of the Dnieper-Bug hydrofront phytoplankton biomass was increased with decreasing salinity (Ivanov, 1967; Nesterova, 2006). The greatest impact of freshwater runoff of the Dnieper-Bug Estuary on the hydrological and hydrochemical conditions in the Odessa region occurs in the spring period (April-May), when the flow rate the Dnieper is maximal (Dotsenko, 2003).

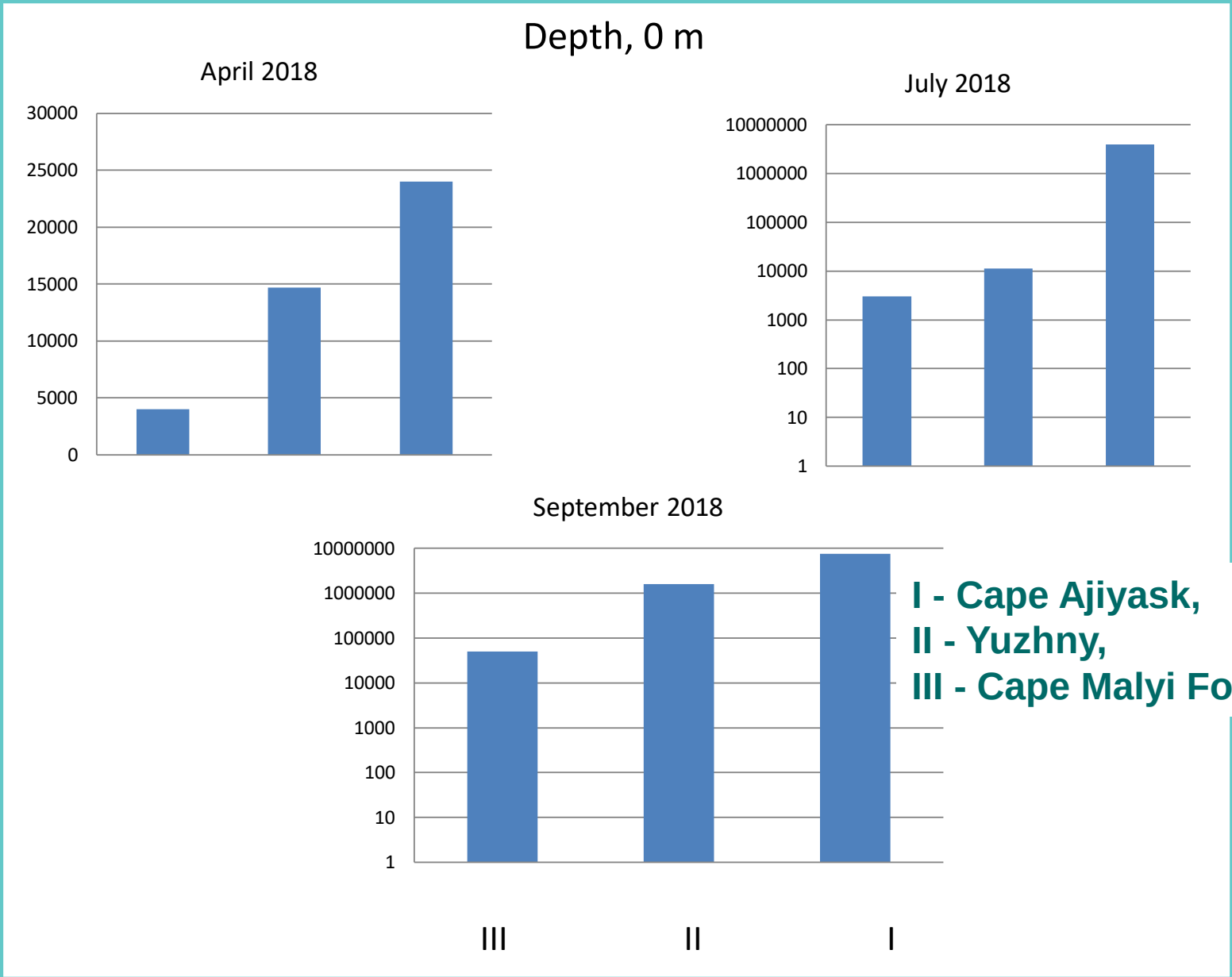
The aim: to study the features of the microalgae plankton community in the coastal areas of the northwestern Black Sea with different level of desalination as a result of influence the Dnieper-Bug Estuary waters

AREA OF THE SAMPLING

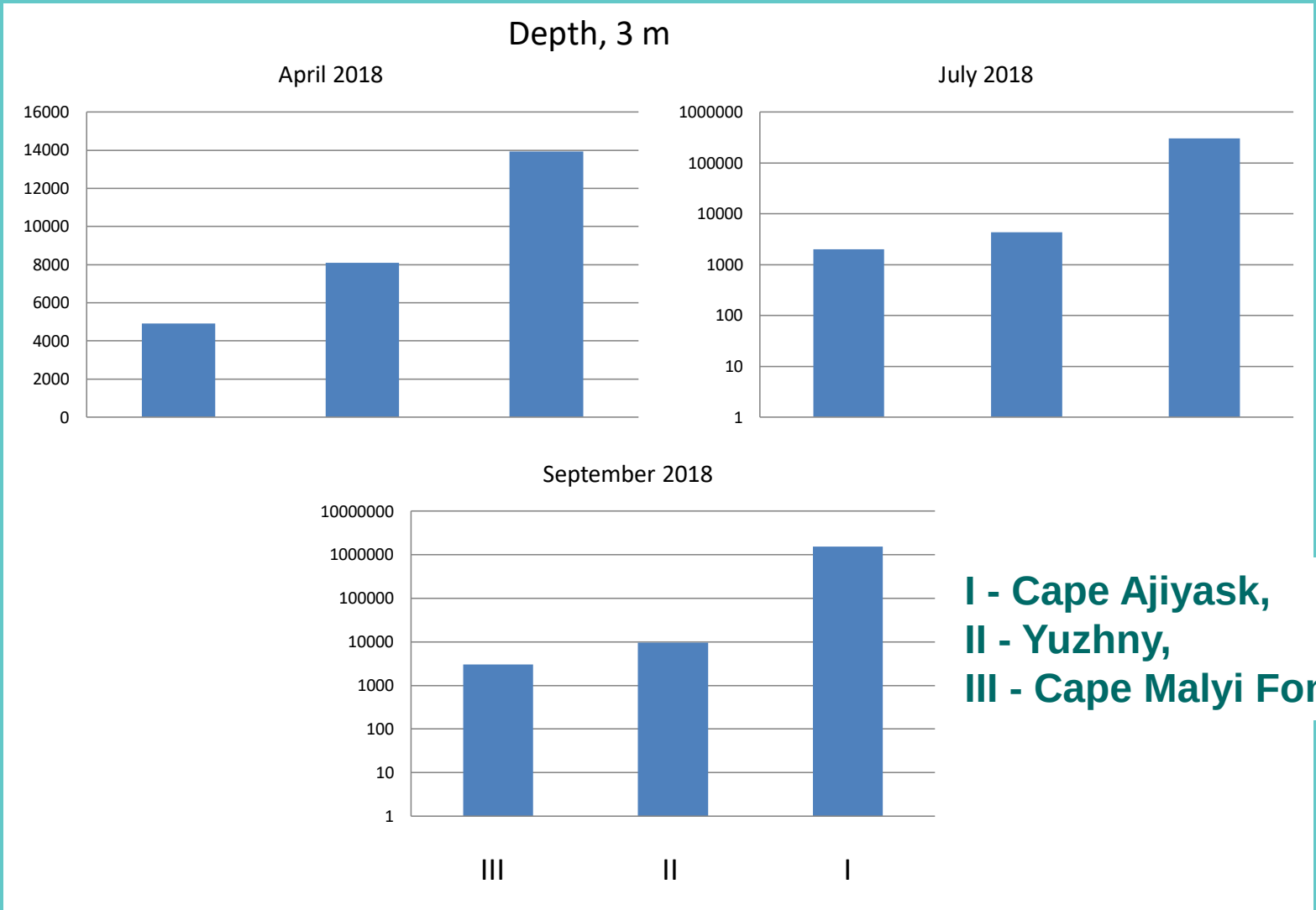
I - Cape Ajiyask,
II - Yuzhny,
III - Cape Malyi Fontan

Studies were conducted in April, July, September 2018 at 5 stations (in the direction from the Dnieper-Bug Estuary to the Odessa Bay: Cape Ajiyask, Berezan, Koblevo, Yuzhny, Cape Malyi Fontan) of the northwestern part of the Black Sea. Samples of phytoplankton were collected from a depth of 0 and 3 m. In the study period, the minimum value of salinity was in the area of Cape Ajiyask – 4 ppt, the maximum in the area of Cape Malyi Fontan – 17.72 ppt.

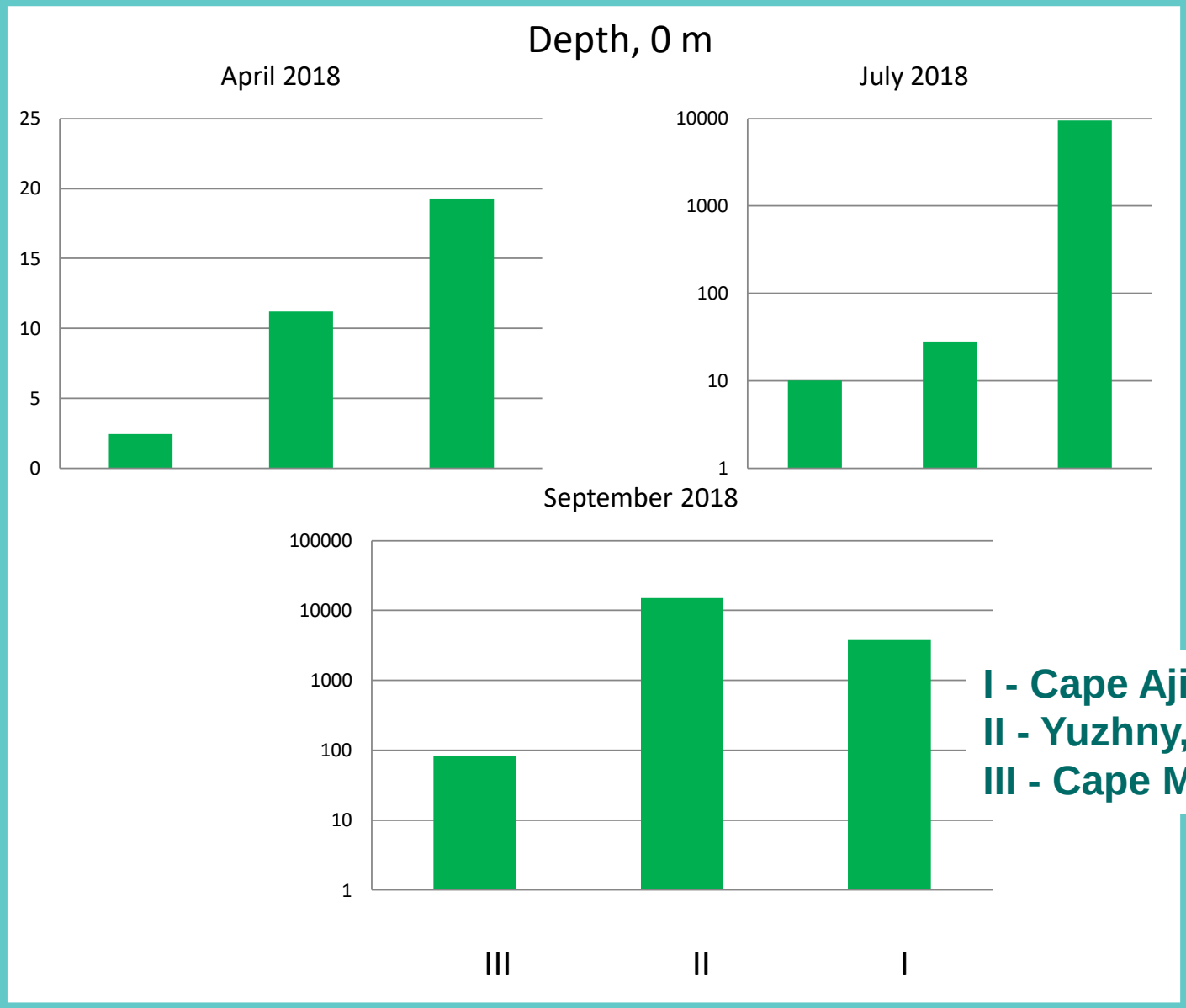
It was found that quantitative indicators from the Dnieper-Bug Estuary to the Odessa Bay are decreasing both in the water's line zone and at a depth of 3 m: the abundance was up to 432 times (0.024 -10.369 106 · kl · l^{-1}), biomass – up to 368 times (97-35754 mg · m^{-3}).



Microalgae abundance (kl · l^{-1}) at a depth of 0 m



Microalgae abundance (kl · l^{-1}) at a depth of 3 m



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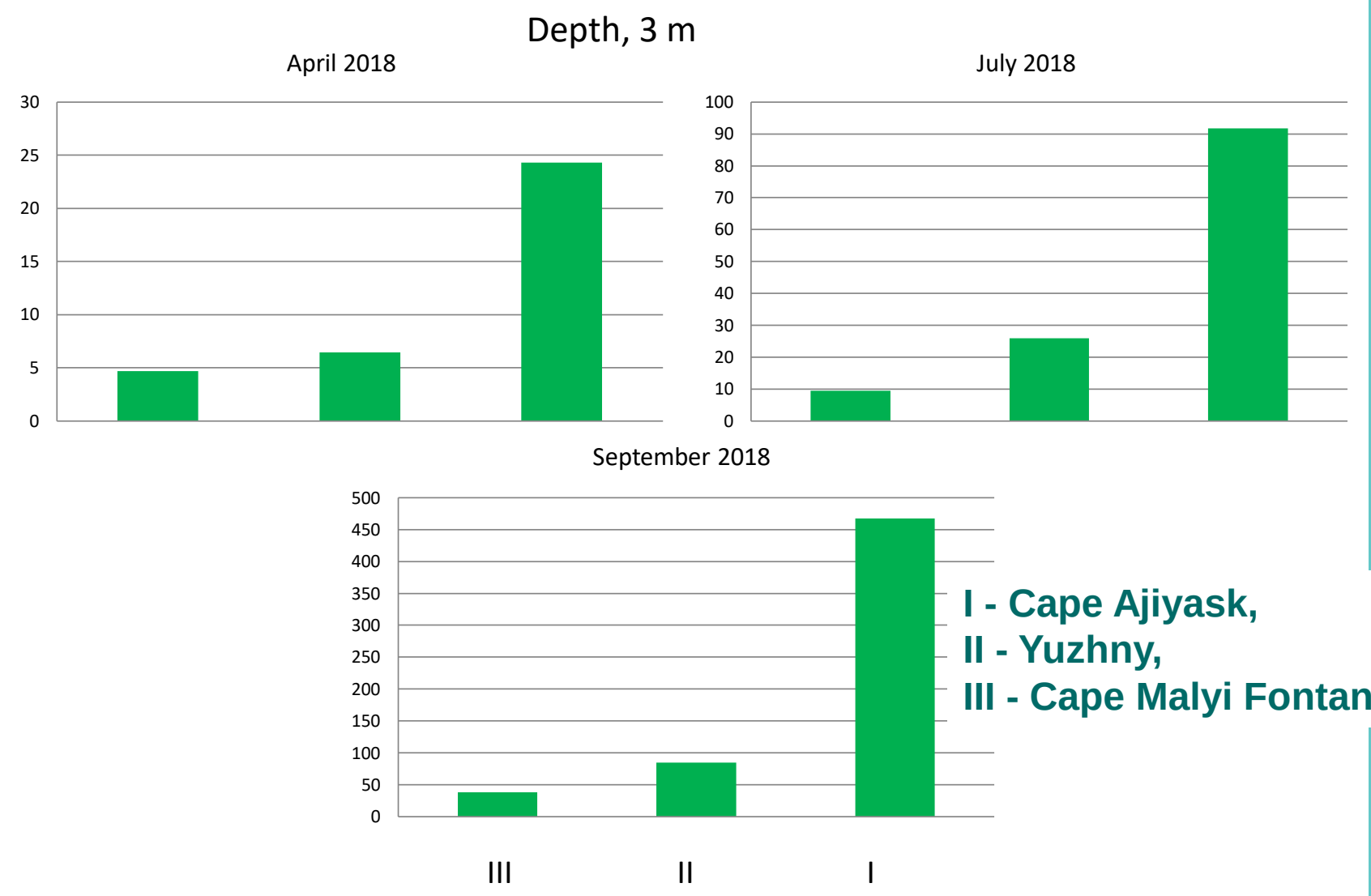

Microalgae biomass (mg · m^{-3}) at a depth of 3 m

In the phytoplankton species of microalgae are found that can be used as indicators of transit waters: *Oscillatoria kisselevii* Anissim., *Ceratoneis closterium* Ehrenberg, *Monoraphidium arcuatum* (Korsch.) Hindak.

In general, their quantitative indicators increased by several orders in areas of the coast with a high level of desalination.

CONCLUSION:

1. As a result of phytoplankton research in the northwestern part of the Black Sea in coastal areas with different desalination level, it has been established that quantitative indicators are decreasing in the direction from the mouth of the Dnieper-Bug Estuary to the Odessa Bay, both in the water's line zone and at a depth of 3 m.
2. In the phytoplankton community species of microalgae were found that can be indicators of transit waters.

Thank you for attention!