

Impact of the Colonies of Great Cormorants (*Phalacrocorax carbo sinensis*) on Small Mammals Communities †

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Abstract: Great cormorants (*Phalacrocorax carbo sinensis*) are ecosystem engineers, able cause extremely changes in the territory of the breeding colony. The purpose of our work was to evaluate the influence of the colonies of great cormorants on small mammal communities. The investigation was done in 4 colonies of the great cormorants located in Lithuania. During nine-year study 1967 individuals of 10 small mammal species were trapped with a total sampling effort of 17,700 trap days. We found, that the small colonies of the great cormorants (80–130 breeding pairs) had a positive effect on small mammals communities. Abundance, species richness and diversity increased there. In the big colony of the great cormorants (which in different years hosted 1500–3800 breeding birds pairs) in the active part of colony abundance, species diversity, body condition index and proportion of females decreased. However, in the abandoned part of the colony abundance, diversity and body condition index increased. Thus, results of this study allow a better assessment of the complexity of the environmental impact of cormorants. For the first time we highlighted the effect of colony size, finding that with increase of the colony positive effects on small mammal communities are outweighed by the negative ones.

Keywords: Great cormorants colony; small mammal; diversity; body condition index; abundance