

# Erfassung und Bewertung von Amphibien der Nordseeinsel Amrum unter besonderer Berücksichtigung von Kreuzkröte (*Epidalea calamita*) und Moorfrosch (*Rana arvalis*)

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## Mapping and assessment of amphibian of the North Sea island of Amrum under particular consideration of the natterjack toad (*Epidalea calamita*) and the moor frog (*Rana arvalis*)

Within the framework of a master thesis, the amphibian populations on the North Sea island of Amrum were mapped in spring 2018 in the period from March to June. The aim of the work was to record the amphibians throughout the island and to assess the population situation and possible development trends. The focus was on the endangered species natterjack toad and moor frog. Four amphibian species were recorded: *Rana arvalis*, *Epidalea calamita*, *Bufo bufo* and *Lissotriton vulgaris*. The common newt is the most widespread amphibian species on the island. The introduced common toad has spread strongly since the last mapping in 2003 and a further expansion is expected in the next few years. The situation of the moor frog and the natterjack toad looks worse. The number of moor frog spawn clumps recorded has decreased by 72% compared to the last recording in 2003. The once large moor frog populations in the marshlands of the island are extinct and also those of the dune habitats in Wittdün have thinned out considerably. Only in the area of the disused duck decoy in Norddorf small increases can be observed. As new spawning grounds for the moor frog as well as for the natterjack toad, three beach lakes near Nebel should be mentioned. Especially for the natterjack toad these waters are of great importance. During the calling surveys of the water bodies, 46 out of 66 male natterjack toads (~70%) were recorded in the beach lakes. The population in the dune habitats of Wittdün is very small with 20 callers, and as with the moor frog, no individual could be sighted or recorded in the marshes. The main reasons for the decrease in populations are competition and the disappearance or deterioration of suitable spawning habitats. The marshes hardly provide suitable spawning grounds for these two species. Likewise, the availability of spawning waters in the dunes is declining: Waters in the initial stage of succession have largely disappeared in the meantime, and a lack of dynamics in the dunes leads to their overageing, so that dune ponds as well as land habitats are increasingly becoming overgrown. This has a negative impact not only on the natterjack toad, but also on the moor frog, which during its spawning season prefers the rather open dune ponds. As succession progresses, these waters become overgrown, resulting in the loss of important spawning habitats for both species. Consequently, both are much more limited in their choice of spawning grounds than the newt and the common toad. The latter could benefit from succession and also displace the competitively weak natterjack toad.

**Key words:** Amphibia, *Epidalea calamita*, *Rana arvalis*, mapping, assessment, decline of spawning waters, succession, competition.