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D. GLANDT & R. JEHLE (Hrsg.): Der Moorfrosch/The Moor Frog

Praktische Schutzmaßnahmen für den Moorfrosch (*Rana arvalis*) und Effizienzkontrolle im Naturschutzgebiet »Fürstenkuhle«, Nordwestdeutschland

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Conservation measures for the moor frog (*Rana arvalis*) and efficiency control in the nature reserve »Fürstenkuhle«, North West Germany

The contribution summarises a model project on conservation for the moor frog (*Rana arvalis*), conducted in the nature reserve »Fürstenkuhle« (Münsterland region, North Rhine-Westphalia) in the years 1983–2001. The moor frog is endangered in North Rhine-Westphalia, and served as a flagship species towards the protection of an old remainder of a peat bog and on the optimization of the surrounding fields, pastures and meadows. The surrounding areas were added to the nature reserve by a considerable enlargement of the protected area, which formerly consisted only of the peat bog itself. The situation at the beginning of the project and the practical measures are described. The efficiency control consisted of chemical and physical investigations of water quality, population estimation of moor frogs during breeding time, estimates of reproductive success, phenological studies at the main breeding pond, dispersal after breeding, and habitat choice in the summer months. In order to create a buffer zone around the bog against the use of fertilisers, new areas were developed to extensified pastures and meadows within the past 15 years. Furthermore, maize fields were converted into fallow fields, and then developed to pastures. The extensification measures should provide better conditions for the large moor frog population and other animals. Therefore, two new ponds were created in addition to three existing ponds, and four further standing waters developed due to damming the main drainage ditch crossing the old nature reserve. The nine ponds are lying on different geological substrates, and their physico-chemical conditions are differing. The moor frog colonised only the ponds on sand or peat substrate, respectively, but not those on clay grounds. Furthermore, in the old reserve the remainder of a formerly large peat bog, numerous bushes and trees (mostly birch) were removed to create terrestrial habitats of the moor frog population, containing dominantly *Molinia caerulea*, *Erica tetralix* and other low-growing plants. In the years 1985–2000, the moor frog population grew to a size of at least 2200–2300 adults, probably reaching 3000 adults. This was more than twice the initial population size, and obviously the result of the numerous extensification measures over 15 years.

Key words: Amphibia, Anura, Ranidae, *Rana arvalis*, peat bog conservation, increase of water levels, extensification measures, creation of new ponds, summer habitats, efficiency control.

Zusammenfassung

Der Beitrag stellt eine Übersicht über ein Modellprojekt zum Schutze des Moorfrosches (*Rana arvalis*) dar, das in Jahren 1983 bis 2001 im Naturschutzgebiet Fürsten-