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“RESEARCH AND CONSERVATION OF EUROPEAN HERPETOFAUNA AND ITS
 ENVIRONMENT: *BOMBINA BOMBINA*, *EMYS ORBICULARIS*, AND *CORONELLA
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THE SMOOTH SNAKE (*CORONELLA AUSTRICA*) IN THE CROSS-BORDER NATURE PARK DE ZOOM – KALMTHOUTSE HEIDE

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From 2011 until 2013, the Herpetological Society of GP DZ-KH led an investigation into the behavioural ecology and distribution of the Smooth snake (*Coronella austriaca*) in the cross-border nature park De Zoom – Kalmthoutse Heide, in order to evaluate the effect of the LIFE HELA project and to formulate any necessary nature management measures, also in function of the coming LIFE HELVEX project.

To achieve this goal, we could build on the data (1998-2010) collected during previous Smooth snake surveys.

From 1998 to 2013, 1120 Smooth snake sightings were collected and processed into this report. The morphological data which we collected, accord well with the literature. As in other studies, males remain very hard to find. Very striking is the annual reproduction, recorded in our population, apparently unique in Western Europe. Smooth snakes seem present in all suitable habitats within the nature reserve, particularly in the dry heath habitats with lots of small dunes. The population is estimated to consist of several thousands of individuals, which is considered realistic by the authors.

Several important locations for breeding and also some hibernation sites were discovered. Both of which should be spared of any radical management actions. Specific migration routes could not be determined with certainty, but corridors constructed before the current investigation appeared to be well populated.

A big fire in 2011 destroyed a big part of the habitat and seemed to have killed a big part of the resident population through direct (burning) and indirect (lack of food, habitat, increased predation) effects. Also a road through the nature reserve is a current threat and shows that Smooth snakes are very vulnerable to traffic. Despite these threats, the population seems big and robust enough to be able to recover from them.