

IDENTIFICATION OF CORRIDORS AND LINKAGE ZONES FOR BROWN BEARS AS A COMPENSATION MEASURE TO THE IMPACTS OF THE CONSTRUCTION OF THE “E65” HIGHWAY IN CENTRAL GREECE

BOUSBOURAS¹, D. (bous@kat.forthnet.gr), L., GEORGIADIS¹ (lgeorgiadis@arcturos.gr) D. CHOUVARDAS², (xouv@for.auth.gr) C. EVANGELOU^{1,2}, (katydata@for.auth.gr) L. KRAMBOKOUKIS¹, (lkrambokoukis@arcturos.gr) E. LAMPOU^{1,2}, (elampou@arcturos.gr) A.A. KARAMANLIDIS¹ (akaramanlidis@gmail.com)

¹ ARCTUROS, Roggoti Str. 3, 54625, Thessaloniki, GREECE, E-mail: lgeorgiadis@arcturos.gr (contact person)

² Laboratory of Rangeland Ecology, Aristotle University of Thessaloniki, P.O. Box. 286, 54124, Thessaloniki, GREECE

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A new threat endangering the survival of wildlife in Greece is the fragmentation of the limited habitat available in the country through the construction of large infrastructure projects, such as roads. The “Egnatia” highway, which links the western to the eastern part of the country, is such an example and its effects on the local brown bear (*Ursus arctos*) population are being closely monitored. The new highway “E65”, linking the southern to the northern part of the country, aligned between the mountain ranges of Pindos and Olympus - Pieria, will most likely negatively affect habitat connectivity of all large mammals populations. For preventing eventual fragmentation of natural habitats, special mitigation measures have been planned for a 40.8 km section of this road, including 5.1 km of tunnels and 4.1 km of large bridges. Additionally in order to ensure wider natural habitat continuity, a pilot study was carried out aiming to identify and propose special additional compensatory measures. Using the brown bear as an indicator species the study aimed in identifying the local linkage zones that would ensure intermountain habitat connectivity and was based on GIS mapping and on the least cost analysis model. The model’s input were land use types, the impact of human settlements and the type and density of the road network. The study identified the actual and potential corridors and linkage zones that allow brown bears to move between the Pindos and Olympus - Pieria Mountain ranges. The main land use types in the model affecting habitat connectivity were coppice oak forests, arable lands and grasslands. Based on these results inversion of coppice forests to high forests in the areas surrounding the construction site of the highway has been proposed and actively promoted in order to secure the long term functionality of the corridors and linkage zones.