

SHORT COMMUNICATIONS

EFFECTS OF DATA-LOGGERS IMPLANTED FOR A FULL YEAR IN FEMALE COMMON EIDERS

MAGELLA GUILLEMETTE,^{1,4} ANTHONY J. WOAKES,² ANNETTE FLAGSTAD³ AND PATRICK J. BUTLER²

¹*Division of Coastal Zone Ecology, National Environmental Research Institute, Grenåvej 12 DK-8410 Rønne, Denmark*

²*School of Biosciences, The University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK*

³*The Royal Veterinary and Agricultural University, Department of Clinical Studies, Bülowsvej 13, 1870 Frederiksberg, Copenhagen, Denmark*

Manuscript received 13 April 2001; accepted 15 November 2001.

⁴Present address: Département de biologie et sciences de la santé, Université du Québec à Rimouski, 300 Allée des Ursulines, Rimouski, Québec G5L 3A1, Canada. E-mail: magella_guillemette@uqar.qc.ca

Abstract. Data-loggers can be implanted into the body cavities of birds to monitor their physiology and behavior. This technology opens the potential for year-round monitoring, as long as data-loggers can be retrieved one year later and the implantation does not alter the bird's health or behavior. We tested the impact of carrying data-loggers on reproductive parameters of nine female Common Eiders breeding in the Baltic Sea. We minimized disturbance and maximized return rates of experimental females by implanting data-loggers during the second half of the incubation period and by choosing early breeders, which were presumably high quality individuals. All experimental females came back to the study plot the year following implantation. Using a before-after approach applied to an experimental and a control group, we found no evidence that carrying data-loggers had any harmful effect on laying dates, clutch sizes, or hatching success of experimental females. It appears that data-loggers implanted in the body cavities of female Common Eiders do not interfere with their reproductive activities. Explanations for this result are that data-loggers were small compared to body mass (<1%), and their implantation into the body cavity does not alter the hydrodynamic or aerodynamic properties of these diving birds.

Key words: data-loggers, eiders, impact study, philopatry, sea ducks.