

Harbour porpoises (*Phocoena phocoena*) in the North Atlantic: Biological parameters

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ABSTRACT

Biological parameters for harbour porpoises are reviewed throughout their range in the North Atlantic. Most information is based on studies of a combination of directed catches, bycatches and strandings. All these sources are valuable for providing biological information, but each carries some bias when it comes to interpretation of parameters, especially those involving age structure.

Information on age-related parameters, reproduction and growth is presented and assessed by region and/or population, of which there may be 14 throughout the North Atlantic. Among age-related parameters, maximum longevity recorded is 24 years; maximal rate of population growth is probably 9.9% but in the range 3–10%; mortality is highest in year 1, and <5% of the population live beyond 12 years; an estimate of 0.867 with a maximum age of 23 years has been given for survival. Among reproductive parameters, age at sexual maturation falls between 3–4 years for both sexes; age at first parturition is probably 4–5 years; age at first ovulation is >3 years; ovulation rates fall in the range 0.64–0.998 ova per year, and reproductive interval is 1.01–1.57 years; pregnancy rates are generally in the range 0.74–0.998 per year, meaning that not all females produce a calf every year; there is seasonal breeding/mating in the period June–August; gestation lasts 10–11 months; parturition generally occurs between mid-May to mid-July; duration of lactation is uncertain, but is probably at least 8 months; size at birth is usually in the range 65–75 cm with a maximum size of about 80 cm. Sex ratios (x biased to males throughout life: 1.1–1.2 males : 1.0 females in the foetal stage, and 1.1–1.7 males : 1.0 females post-natal). Growth parameters indicate an asymptotic length and weight that varies with population, but usually falls in the range 153–165 cm and 55–65 kg for females and 141–149 cm and 46–51 kg for males. Growth models used for length and weight are typically based on von Bertalanffy and Gompertz models. Length at sexual maturity also varies with population, but is usually in the range 136–147 cm for females and 127–135 cm for males. There is no information based on vertebral epiphyseal fusion to indicate age at physical maturity. Pinnal growth appears normal, but there is uncertainty about the existence of *zygodontic-diapause*. Storage of waxing are uncertain, but size may be <1.5 cm and at an age >8 months, however, entirely independent feeding may not occur until about 10 months.

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