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Update of Mark-Recapture Estimates of Harp Seal Pup Production in the Greenland Sea

by

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Estimates of harp seal pup production in the Greenland sea based on mark-recapture experiments have been presented at earlier meetings (*Øien and Øritsland 1991, 1992; Øien 1993*). The following table is an update of these mark-recapture estimates based on information available up to now (that is, including the 1994 catching season), but these estimates are preliminary, awaiting a validation of the data. The estimates are based on data from the Norwegian catches only. This means that some recapture information is not used, since Russia has taken around 10% of the relevant catches during the period. Age distributions of the Russian catches are however generally not available, and earlier inclusions of these data in the estimations have not had any major influence on the estimates.

Cohort	Estimate	cv	Lower 95% c.i.	Upper 95% c.i.
1977	42,023	0.094	34,262	49,783
1978	53,670	0.122	40,828	66,512
1983	54,399	0.111	42,554	66,243
1984	105,457	0.173	69,643	141,272
1985	118,989	0.238	63,563	174,415
1987	53,420	0.091	43,937	62,904
1988	57,439	0.201	34,785	80,094
1989	109,102	0.086	90,778	127,426
1990	55,453	0.086	46,082	64,823
1991	65,177	0.091	53,562	76,791

The cohort estimates presented above are similar to those presented earlier, with the exception that the 1991 point estimate in this update is about 10% higher than that presented at the 1993 meeting of the WG.

### **References**

- Øien, N. and Øritsland, T. 1991.** Recaptures of harp seals (*Phoca groenlandica*) tagged as pups in the Greenland Sea. Pup production and dispersion patterns. **WP SEA-33.**
- Øien, N. and Øritsland, T. 1992.** Using mark-recapture methods to estimate pup production of harp seals (*Phoca groenlandica*) in the Greenland Sea. **ICES C.M.1992/N:10.**
- Øien, N. 1993.** Update of mark-recapture estimates of harp seal pup production in the Greenland Sea. **WP SEA-47.**