



## Global polar bear population estimates

The PBSG first provided a global population range estimate for polar bears in 1993. The range specified at that time, 21,470-28,370 polar bears, included statistically solid estimates (e.g. based on studies to estimate population abundance) for many of the identified polar bear subpopulations, and estimates (based knowledge of habitat quality and input from scientists) for several other subpopulations. Recognizing the false precision implied by a range of 21,470-28,370, the estimate was rounded to 22,000-27,000 in 1997. After some new population estimates were developed and after more discussion of the possible numbers in areas without estimates, the range was adjusted to 21,500-25,000 in 2001, and further simplified to 20,000-25,000 in 2005. The variation in ranges reflects the absence of rigorous estimates of subpopulation size in several areas and the consensus desire to express a reasonable round number range that could not be interpreted as more reliable than it really is.



Over the years following the first global population range estimate, the PBSG has refined subpopulation size estimates in some areas, but there still are areas where we have only educated hypotheses regarding numbers of animals present. Currently, the PBSG recognizes 19 subpopulations in the circumpolar Arctic. Scientific estimates are available for 14 (Baffin Bay, Barents Sea, Davis Strait, Foxe Basin, Gulf of Boothia, Kane Basin, Lancaster Sound, M'Clintock Channel, Northern Beaufort Sea, Norwegian Bay, Southern Beaufort Sea, Southern Hudson Bay, Viscount Melville Sound, and Western Hudson Bay). Abundance in these 14 populations was estimated using accepted inventory methods (e.g., mark and recapture or aerial survey). These estimates, descriptions of how they were developed, and the history of how they have been improved over the years, can be viewed in the population status tables (to be viewed in the [proceedings](#)). Until 2005, the PBSG status table also included estimates for 3 subpopulations (Chukchi Sea, Kara Sea, and Laptev Sea) where accepted methods never had been applied. These estimates were removed because including them in the table suggested they were more reliable than they really were. The PBSG has never provided estimates for two other regions (Arctic Basin and East Greenland). Bear numbers in the Arctic Basin are very low and bears present there may simply be passing through rather than representing a true subpopulation. East Greenland appears to have a resident group of polar bears but the PBSG has never ventured an estimate of their abundance.

For the 14 subpopulations with scientific estimates, the sum of the mid-point estimates is 18,349 bears (see <http://pbsg.npolar.no/en/status/status-table.html> for estimates). The PBSG expects that the number of bears ranges from several hundreds to a few thousands in each of the subpopulations in Chukchi, Kara, Laptev and East Greenland, bringing the midpoint estimate to approximately 25,000.

Because the global population estimate range includes subpopulation estimates of variable quality it is not used as a monitoring benchmark or other status assessment tool. Rather, it simply expresses a reasonable range in numbers, based on a combination of the best available information and understandings of polar bear habitat. Conservation assessments focus on the trends in subpopulations for which statistical estimates are available. Some of those subpopulations are declining, others are stable, and some may be increasing.