We estimate the total abundance of the Bering-Chukchi-Beaufort (BCB) Seas population of bowhead whales (*Balaena mysticetus*) in 2011 from large datasets of visual sightings and acoustic locations. This data were collected just off of Utqiagvik during the spring migration at ice-based observation stations on the lead edge and using hydrophones placed in the lead.

A mathematical adjustment is made, based on the numbers of whales counted at ice-based visual observation stations. It adjusts actual sighting counts by three correction factors:

- The first adjusts for visual detection ability based on offshore distance, lead condition, weather, and whale group size.
- The second correction uses the acoustic location data to adjust for whales outside of the range of vision.
- The third correction accounts for missed hours of visual watch effort.

After corrections, the **2011 abundance estimate is 16,892** (within the range of 15,704 - 18,928). We also estimate the rate of increase of the population, or trend, as compared to past abundance estimates, to be **3.7%** (within the range of 2.8 - 4.7%). These abundance and trend estimates are consistent with previous findings and suggest a very low conservation risk for this population under the current indigenous whaling management scheme. Consequently, at the 2012 IWC Commission meeting, the 2011 bowhead population estimate, along with other data, was considered in the renewal of the joint AEWC-NOAA bowhead whale harvest quota.

**Abundance estimates for bowhead whales between 1977 and 2011. Black dots indicate point estimates with vertical bars showing the range. Solid line indicates the trend, or rate of increase (with the range noted with dotted lines).**

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