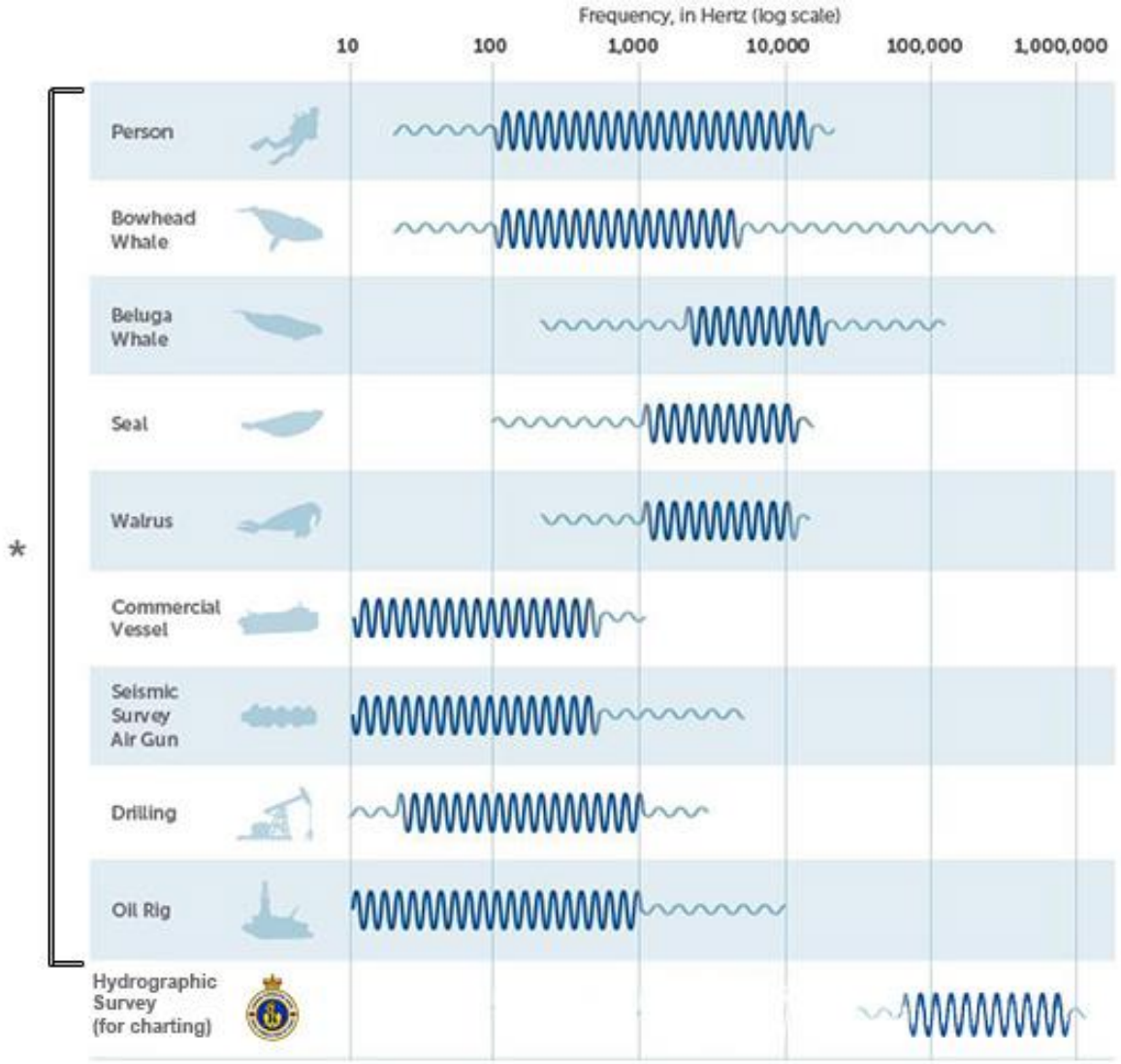
Effects of Noise on Arctic Marine Mammals

The oceans and seas that splash against the Pacific, Atlantic and Arctic coasts of Canada are filled with naturally occurring sounds and ambient noise. As man-made sounds continue to be introduced into these delicate ecosystems, the effects of acoustic pollution on marine mammals has come an integral element of the environmental impacts for Arctic research. Sound is the primary means of communicating, navigating and finding food for many species of marine mammal and fish. Sound is also a formidable tool used by Hydrographers, Oceanographers, and Seismologists to determine depth, water properties and the composition of the seabed.

FACTS:

- ✓ Sound moves about 1500 meters per second in seawater. That's approximately 13 city blocks in one second. Sound moves much more slowly in air, at about 340 meters per second, only 2.5 city blocks a second.
- ✓ Low frequency sounds travel farther than higher frequency sounds.
- ✓ Frequency, duration, and source levels of man-made sounds will determine the level of impacts to marine mammals.
- ✓ The frequency of sound in sonars used by Hydrographers for charting purposes typically ranges from 100 to 400 KHz.



*Source: D.K. Mellinger et al., « An Overview of Fixed Passive Acoustic Observation Methods for Cetaceans," Oceanography 20 (4) (2007): 37-45