



## “What was that Sound?”

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***Establishment of biological base line on snow crab for the future seismic testing:  
Evaluation of methodological approaches***

The use of seismic surveys to explore for oil or gas offshore Nova Scotia has been controversial, due to competing interests between the fishing and oil and gas industries and the lack of definitive scientific data on whether or not these types of surveys are harmful to the marine ecosystem. The issue of whether or not snow crabs (*Chionoecetes opilio*) are susceptible to exposure to sound energy generated by seismic exploration is technically challenging to resolve.

Inconclusive results from the 2013 study conducted during a seismic exploration off western Cape Breton and discussion during the 2007 OEER (OERA) open forum clearly demonstrated that there is a need for further scientific studies on the impact of seismic exploration activities on invertebrates and there is a total lack of basic information on the normal/healthy status of the organs, appendages and normal behaviour of most marine invertebrates making it difficult to distinguish between healthy/normal and unhealthy/affected animals.

In order to address and resolve many of these concerns, a three-year (2012-2014) project was initiated under the collaborative research project by DFO and OERA. The objectives of this study are to determine 1) what is the normal condition of organs, appendages and tissues of crabs, and what is the natural variability of key characteristics of crabs found in their natural state within the primary habitat condition; 2) Evaluate the possible effects of caging (for immersion duration of 12 days, 6 months and 12 months) on the condition of organs, appendages and tissues of crabs; 3) Evaluate the effect of sample collection techniques (trapping and trawling). Some findings on crab health of trap- and trawl- collected samples as well as the effects of caging on crab health based on the preliminary results are presented.