

**Title:** Development of a technique for taking inventory of stocks and a software tool for managing mussel farming operations and equipment.

**Summary:**

Quebec marine farmers do not currently have a powerful software tool available to them for efficiently managing their marine aquaculture equipment and mollusc stocks. None of the software on the market is suitable for the specific needs of Quebec mussel farmers. This is largely due to the fact that they have developed mussel production on continuous socks suspended on submerged longlines. To supply software for optimizing operations, it is important to develop a technique for stock inventory that is statistically valid and that can be adopted by all mussel producers. Data from inventory taking should serve as input to the software. Development of an inventory taking technique had two main objectives: studying different levels of variability when taking samples in mussel breeding and evaluating various problems relating to sampling in mussel farms. The results of the variability study indicates that there is practically no "statistical" interest in taking measurements on different dropper loops (i.e., one sock dropper loop in the case of continuous breeding) of a single longline for estimating average weight, number of mussels per foot and yield per foot. Variability between the segments measured on the sock dropper loop were a major source of variability to be considered for the main variables: number of mussels per foot, yield, average weight of mussels and size of mussels for the crop year studied. This result directed the final inventory methodology to using composite samples that take into account all the depths of a sock dropper loop. The regression model between the weight and size of mussels provides a good estimate of the size of mussels from their weight. Use of this model only requires marine farmers to take a weight measurement which is much easier to obtain than a size measurement, while allowing derivation of a size measurement that is needed for marketing. Checking with the various aquaculture operations in Quebec has allowed user-friendly software to be developed that uses basic and functional computer concepts and runs on a PC with Windows or Mac OS operating systems. The software allows a variety of information to be managed and generated - here is a preview: longline characteristics (i.e., launch into the water, length, anchoring, etc.), longline management, production ratio (estimates of volume, value, yield, etc.), percentage collected, projection of gross weight, net weight and yield (and therefore estimated inventory).

**Proponent:** Société de développement de l'industrie maricole Inc. (SODIM)

**Total project cost:** \$118,444

**DFO-AIMAP Contribution:** \$55,000

**Other Financial Support:**

- Proponent: SODIM [www.sodim.org](http://www.sodim.org)
- Provincial government, MAPAQ [www.mapaq.gouv.qc.ca/Fr/Pêche](http://www.mapaq.gouv.qc.ca/Fr/Pêche)
- Marine Farmer, Moules Forillon/Cascapédia

For more information about this project, please contact the regional coordinator.  
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