The ocean movement, residing ecosystems, benthic environments and

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Thelong-standing oyster culture we know today is based on fundamental aspects ofthe ocean. This industry is heavily influenced by ocean properties such aswater temperatures, salinity gradients, ocean movement, residing ecosystems, benthic environments and natural ocean-produced foods (Galtsoff 1964; Shumway1996). Industry's performance is not only based on the oceanic impacts, butalso the atmospheric influences. There has always been an co-dependentrelationship between the ocean and atmosphere in oyster production (Loosanoffand Nomejko 1949; Lund 1957 a, b). Weather development and climatic change is remainsvery important (Loosanoff and Nomejko 1949; Lund 1957 a, b; Galtsoff 1964). Owingto this, we are subjected to culture oysters within the necessary parameterprovided by the most suited areas in respect of our species of choice. Luckily, the Eastern oyster is widely adapted to various ranges of salinities, temperatures, substrates and suspended solid concentrations (Galtsoff 1964; Andrews1979a). In a natural scenario, bivalves are gregarious in nature, hence theyare usually found in concentrated populations (Galtsoff 1964).

The naturalbenefit to this would be promoting ' survival of the fitness' where strongmembers within the population would have more access to the limited resources. However, in an aquaculture setting, this is seen as an limitation as itencourages intraspecific competition among peers (Hadley and Manzi 1984; Jarayabhand and Newkirk 1989; Fréchette and Lefaivre 1990; Parsons and Dadswell1992; Fréchette 1998). In bivalve culture, an inverse relationship is notedbetween stocking densities and growth (St. Félix et al.

1984). Furthermore, insome cases, this same type of relationship is seen between stocking density andsurvival (Fréchette and Lefaivre 1990). In addition to this, itis important to note that structural composition may become compromised due tohigh stocking densities of shellfish (Adams et al. 1994). All these mentionedrelationships in respect to stocking density; growth rates, survival and propershell composition are important traits in oyster culture (Lavoie 1996). Mariculturein oysters is govern by these basic awareness and principles (FAO 2004). Open-watercultivation is divided into two types: ‘ suspended culture’ otherwise known as’off-bottom culture’ and ‘ bottom culture’ (FAO 2004). Bottom culture is the simplest method ofculturing oysters; this involves growing of naturally-produced orhatchery-based oyster spat on the ‘ seafloor’ (FAO 2004).

Recent developmentswithin the industry has allow for man-made hatcheries to provide nurseryenvironments of oyster spat. This aids in the overall proliferation andsurvival of the next generation of oysters. (FAO 2004). Upon reaching a largeenough size they are transplanted to the seafloor to grow until they becomemarket size (FAO 2004).

Bottom culture is relatively inexpensive in respect toharvesting, however, preparing a stable benthic environment, cost may becomestrenuous (FAO 2004). It is important to maintain stable substrate as this mayaffect oyster growth and quality (Galtsoff 1964). One of the main issues withbottom culture is predation (Galtsoff 1964). This can be reduced byimplementing various new forms of bottom culture, few of which are: bag- and-longlineculture, rack-and-bag culture, Standway tube culture and Lantern

nets (FAO2004). Each form possesses their own advantages and disadvantages however; theprinciple remains the same (FAO 2004).

Off-bottomculture is the newly modernized way of farming oysters (Lavoie 1996). In thismethod of culture, oysters are housed in various types of mesh bags that aresituated off the seafloor. Spat gained through either hatchery-rearing ornatural populations are placed in these containers to prevent predation (Lavoie1996; Comeau 2013). Similar bottom culture, there are many modified forms suspendedculture, where each possessing their own advantages and disadvantages (Lavoie1996). This method of culture is more desirable as it provides many benefits toits use; few of which are: increased survival, biofouling control, high qualityshell structure formation and product efficiency and consistency (Galtsoff1964; Quayle & Newkirk 1989; Lavoie 1996; Bastien-Daigle et al. 2007).

Despitethe chosen method of culture, oyster processing post-harvest is necessary. Processing plants would receive scrubbed oysters which would then be processedbased on their consumers' preferences. Some are processed as whole oysterswhich are often seen in the restaurant industry while others prefer shuckedoysters where the meat would be processed as a value-added product (FAO 2004).