

### Fishery Management Practices and Oyster Consumption Among Oyster-Harvesting Communities in Ghana

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**Objectives:** Sustainable management of fisheries is important for improving nutrition and food security. In 2017, an oyster harvesters' association in Ghana began implementing a 5-month (Nov-Apr) closed season to improve oyster yields of the Densu estuary. It is unknown how much oysters contribute to the diet of women during the open season and whether there is a substantial reduction in oyster consumption during the closed season. This study aimed to examine oyster consumption during the open and closed seasons and the perception of the closed season.

**Methods:** We recruited women (n = 137) residing in 4 major communities located near the Densu estuary in the Ga-South Municipality of Ghana. We collected data on oyster harvesting and consumption using a survey and a 30-day food frequency questionnaire during the closed (March 2020) and open (August 2020) seasons. The amount of oysters consumed was determined by converting reported portion

sizes to grams using average wet weights of oysters purchased in the study area. We used McNemar's test for paired samples to compare differences in the proportion of women who consumed oysters, and Wilcoxon signed-rank test to compare differences in the amount of oysters consumed.

**Results:** A majority (63%) of the women were oyster harvesters. Significantly higher proportion of women consumed oysters in the 30 days preceding the interview during the open compared to the closed season (57% vs 13%,  $p < 0.0001$ ). Among those who consumed oysters, the mean  $\pm$  SD oysters (wet weight) consumed at a sitting was  $218.4 \pm 114.7$  g, equivalent to 60 oysters, and did not differ between the open ( $211.6 \pm 119.9$  g) and closed ( $242.8 \pm 92.6$  g) seasons ( $P = 0.73$ ). The majority of women were aware of the closed season (87%) and viewed it positively (85%).

**Conclusions:** The majority of women in these communities consume oysters during the open season, and are in support of the closed season. Considering that a smaller percentage of women consumed oysters during the closed season, additional research is warranted to further examine the aggregate impacts of oyster management in Ghana on nutrition and household food insecurity, considering both consumption and income impacts.

**Funding Sources:** University of Rhode Island.