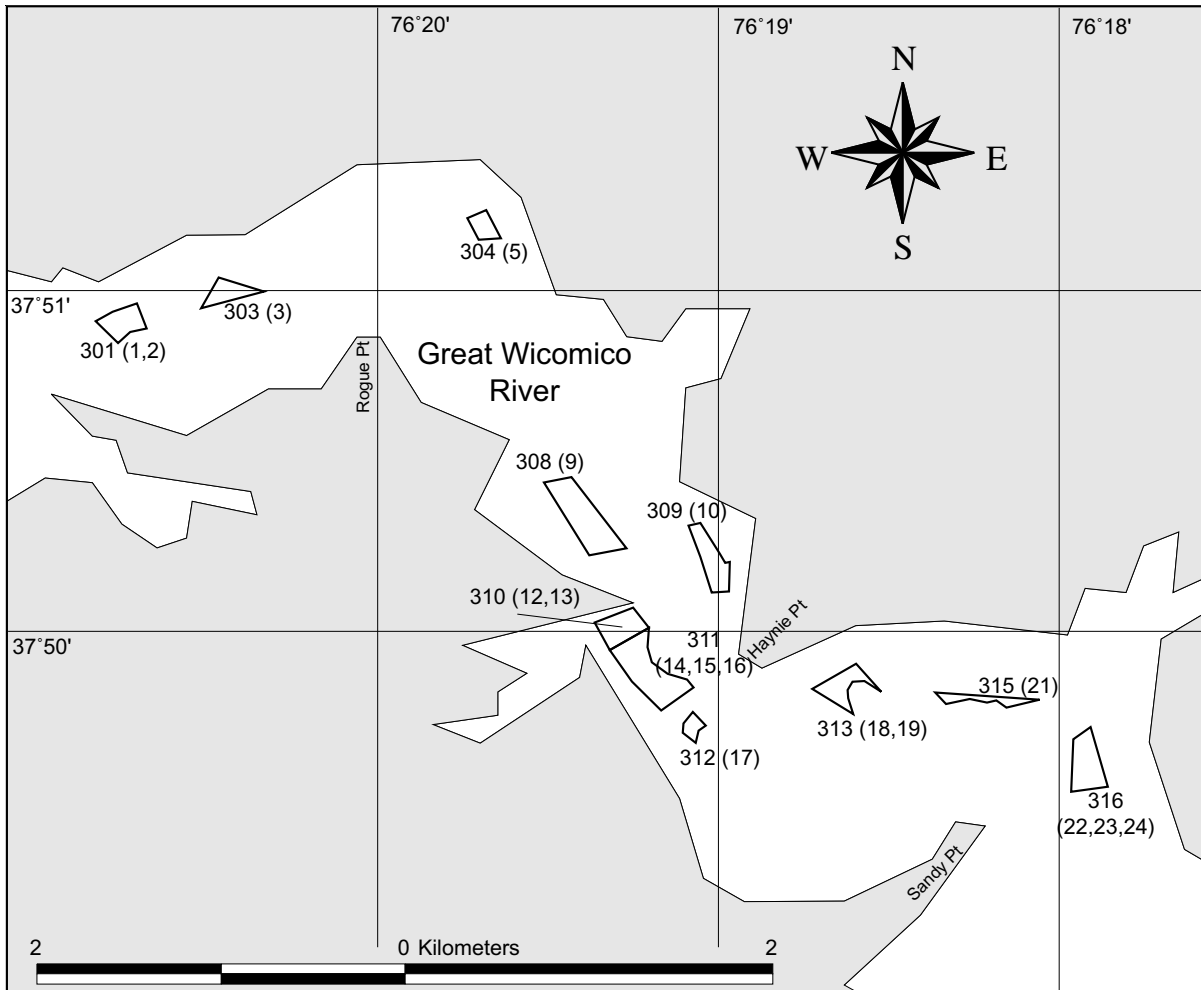


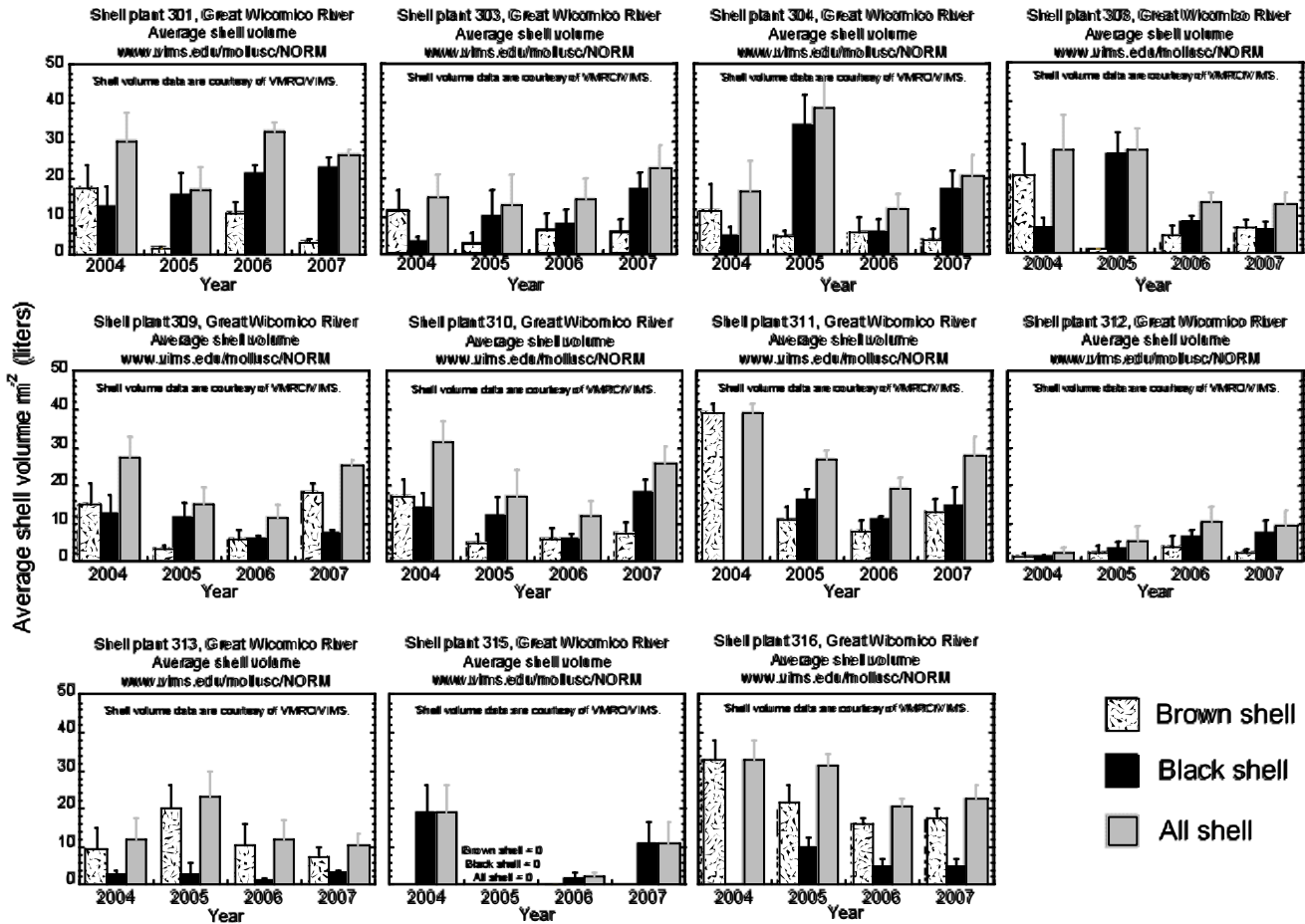
Speaker's Notes: Great Wicomico River Shell volume from Patent Tong Surveys 2004-07

Contact Ms. Melissa Southworth (melsouth@vims.edu) for additional information or questions regarding these data.



This map shows the approximate locations of oyster shell plants in the Great Wicomico River, Virginia that are surveyed annually with patent tongs by the Virginia Marine Resources Commission (VMRC) Shellfish Conservation Division and the Virginia Institute of Marine Science (VIMS) Molluscan Ecology Program. Survey areas established by the VMRC Shellfish Conservation Division in 2004 are indicated by unfilled trapezoids and are identified by their VIMS Molluscan Ecology station numbers (301, 303, etc.). The corresponding identification numbers assigned by the U.S. Army Corps of Engineers Norfolk District at the time of shell planting in 2004 are given in parentheses after the VIMS Molluscan Ecology station numbers. VIMS Molluscan Ecology station numbers are used to identify shell plant locations in the graphs on the following page.

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Oyster populations on subtidal shell plants in the Great Wicomico River are surveyed annually with patent tongs. Shell volume measurements quantitatively describe available oyster shell habitat. Brown (any shell with > 10% of its surface brown with fouling organisms present on the shell) and black (any shell with > 90% of its surface black with no living organisms present on the shell) shell volumes (liters) collected in patent tong samples are added to estimate total or all shell volume. Over time, the ratio between brown and black shell volume tends to decrease as the shells settle post-planting. This trend is especially evident in habitats with soft bottoms (e.g. mud). In general, brown shell volume is a good indicator of the amount of cultch (habitat) available for oyster larvae to settle on whereas the presence of black shell is an indicator of shells that have either been buried or experienced prolonged periods of poor oxygen conditions. In either case, black shell is not suitable habitat for settling oyster larvae. Differences in total shell volumes recorded during patent tong surveys using stratified random sampling between years at the same site may reflect shell deterioration or sinking post-planting as well as the consistency or evenness of shell distribution within the site at planting. In general, total shell volume has been decreasing since 2004. Brown shell volume has been steadily increasing at several sites (303, 308, 309, 310, 311) since 2005. This observed increase in brown shell volume is most likely the result of the relatively high recruitment of oysters to these sites during 2006 and 2007 with concurrent shell production by the living oysters. Reef 316 has had relatively high brown and total shell volume throughout the study period.