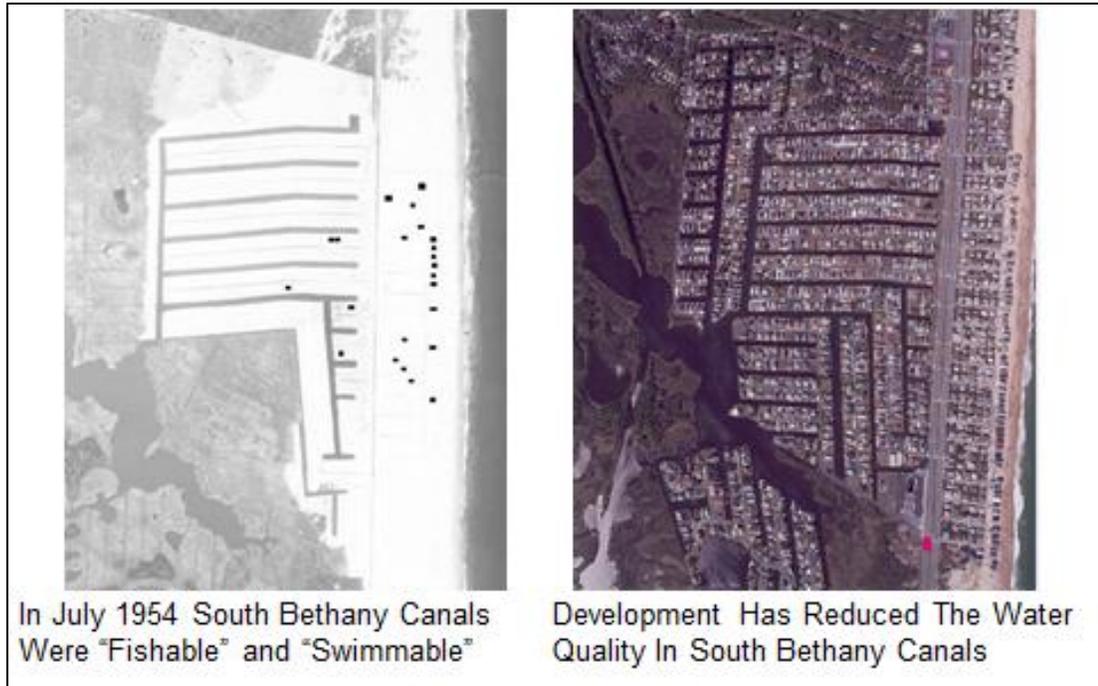
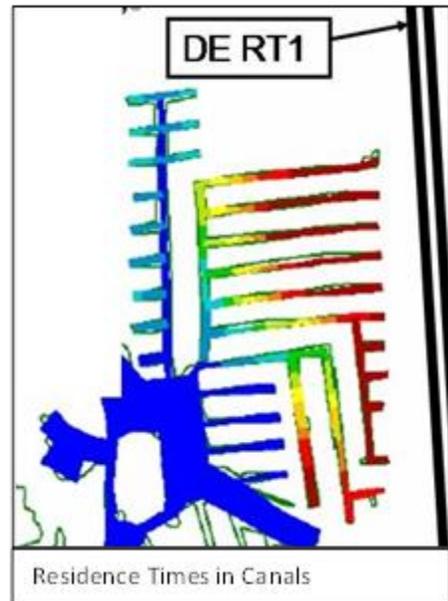


The Water Quality Problem

History of Monitoring Studies Shows That Increased Population Density Is Decreasing the Quality of Water in South Bethany's Canals



South Bethany was developed before the 1990 stormwater management regulations and contains five (5) miles of dead-end canals. These canals are currently used mainly for boating and storm water management. In the past they were also used for swimming, fishing and crabbing. However, due to increased pollution (excess nutrients, high Enterococcus levels and low dissolved oxygen) as a result of stormwater runoff these canals are rarely used for swimming, fishing and crabbing.



The canals perform the function of stormwater management ponds. Some have argued that since the canals are tidal that they in fact do not act as ponds. However this is not substantiated. The South Bethany

Canals Flushing Study – Entrix 2005 – demonstrates that there is essentially no flushing in the ends of the canals (Figure 2, Residence Time in Canals). Residence Time is de-fined as the time it takes a concentration to reduce by 36.79%. The computer flushing model was run to simulate three months of tidal action. The areas in red did not reach the 36.79 % reduction in the three months. The areas in green reached the 36.79% reduction in one month. The areas in dark blue reached 36.79% reduction in about one day. The resulting finding is that the canals shown in red do indeed act as storm water management ponds since they have no significant exchange of water due to tidal action. The study further shows that the South Bethany community must live with what enters the dead-end tidal canal waters for many months.