

Supplementary Materials

Supplementary Table 1. Mean oyster settlement (± 1 SEM) (sum of weekly average number of spat per shell) collected on shellstrings and mean oyster spat recruitment (± 1 SEM) collected via dive and patent tong surveys in the hydrodynamically-retentive portions of the Great Wicomico and Piantatank Rivers, 2005-2007 (Figure 3).

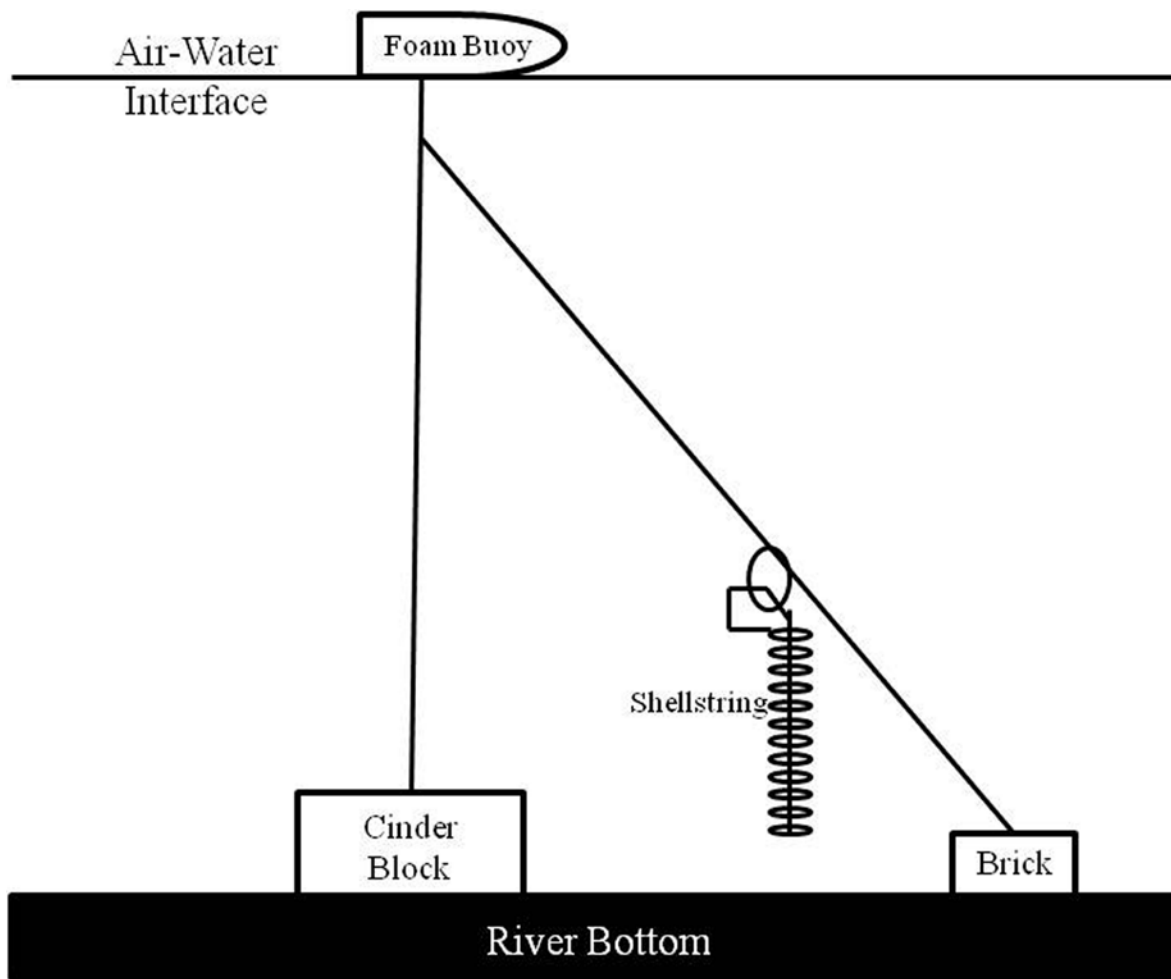
Year	GWR Settlement	PR Settlement	GWR Recruitment	PR Recruitment
2005	1.5 (0.3)	0.9 (0.3)	10.2 (7.1)	1.8 (0.8)
2006	68.2 (15.0)	4.3 (1.1)	1261.3 (414.3)	58.0 (16.8)
2007	87.7 (20.5)	11.3 (3.2)	393.2 (62.7)	72.3 (20.0)

Supplementary Table 2. Annual public oyster ground harvest (VA Bushels) in the Virginia portion of the Chesapeake Bay, 1931-2012 (Figure 1).

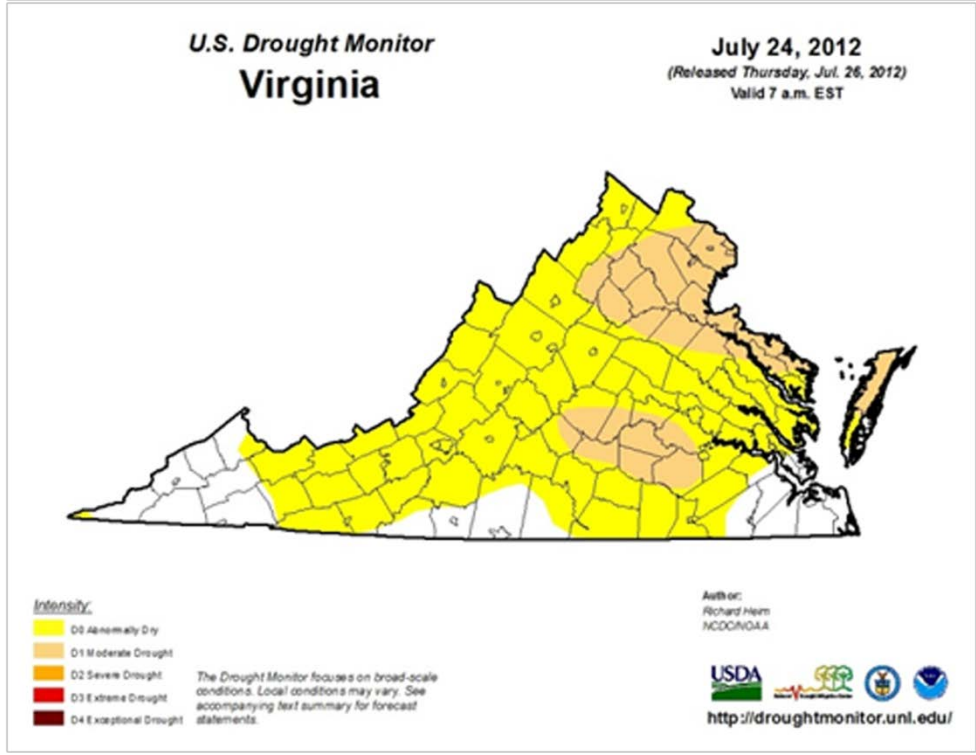
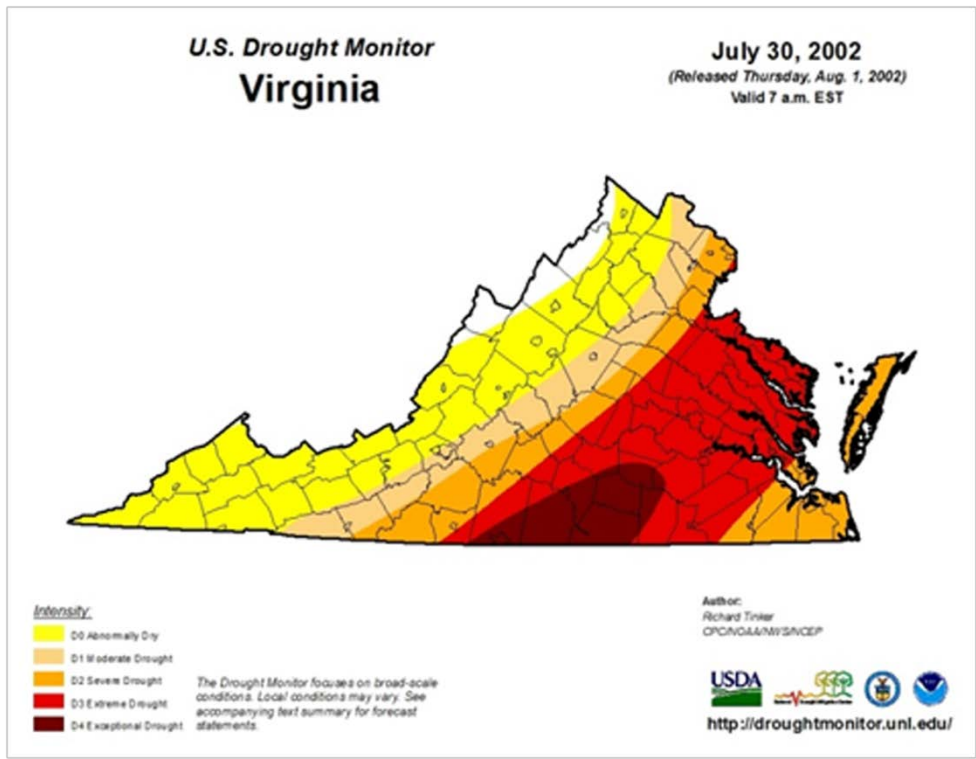
Year	VA Harvest	Year	VA Harvest	Year	VA Harvest
1931	523982	1959	699420	1987	325527
1932	433284	1960	781783	1988	165061
1933	619207	1961	227921	1989	88635
1934	556502	1962	278830	1990	59883
1935	465514	1963	576857	1991	53288
1936	370853	1964	615864	1992	34355
1937	231783	1965	605982	1993	7401
1938	490591	1966	226855	1994	18583
1939	616587	1967	262996	1995	3710
1940	687558	1968	227577	1996	8801
1941	744574	1969	192187	1997	4416
1942	749410	1970	281001	1998	19620
1943	845721	1971	260241	1999	4758
1944	829231	1972	287222	2000	1823
1945	999833	1973	374522	2001	17354
1946	911501	1974	403737	2002	25057
1947	854680	1975	397209	2003	19729
1948	995090	1976	312539	2004	65182
1949	650848	1977	512687	2005	98186
1950	436302	1978	590533	2006	44898
1951	529598	1979	608880	2007	35856
1952	455634	1980	704848	2008	56310
1953	443257	1981	464280	2009	57315
1954	607541	1982	329492	2010	99242
1955	486189	1983	334749	2011	127371
1956	565614	1984	308392	2012	137292
1957	586304	1985	328338		
1958	703915	1986	501075		

Supplementary Table 3. Mean oyster spatfall (± 1 SEM) (sum of weekly average number of spat per shell) collected on shellstrings in the hydrodynamically-retentive portions of the Great Wicomico and Piankatank Rivers, 1980-2013 (Figure 4).

Year	Great Wicomico River Mean Spatfall (± 1 SEM)	Piankatank River Mean Spatfall (± 1 SEM)
1980	27.00 (10.92)	169.53 (49.17)
1981	56.60 (21.87)	52.03 (15.64)
1982	179.00 (63.07)	55.90 (5.66)
1983	21.88 (12.41)	115.03 (44.53)
1984	2.07 (0.75)	67.97 (31.74)
1985	10.90 (1.91)	103.60 (20.90)
1986	257.67 (56.84)	226.20 (81.17)
1987	28.30 (11.87)	147.37 (52.15)
1988	48.77 (10.91)	5.47 (2.14)
1989	19.20 (5.59)	31.60 (5.77)
1990	69.10 (28.82)	93.73 (24.64)
1991	8.13 (2.89)	28.00 (5.77)
1992	1.20 (0.17)	13.80 (5.94)
1993	0.90 (0.40)	3.03 (1.43)
1994	0.00 (0.00)	0.03 (0.03)
1995	0.90 (0.60)	0.67 (0.17)
1996	2.13 (1.63)	1.10 (0.36)
1997	21.57 (10.02)	0.23 (0.23)
1998	0.49 (0.12)	3.93 (1.19)
1999	1.74 (0.28)	13.60 (5.15)
2000	1.96 (0.52)	3.31 (0.69)
2001	0.97 (0.09)	0.99 (0.25)
2002	57.66 (37.70)	9.63 (3.63)
2003	3.59 (0.71)	0.14 (0.02)
2004	0.64 (0.17)	0.67 (0.23)
2005	1.51 (0.26)	0.94 (0.34)
2006	68.16 (18.63)	4.27 (0.95)
2007	87.70 (18.89)	11.27 (2.92)
2008	126.00 (28.06)	13.46 (2.20)
2009	109.13 (51.51)	5.79 (0.74)
2010	39.70 (7.95)	56.30 (23.40)
2011	52.70 (13.97)	24.10 (2.60)
2012	937.00 (254.10)	176.16 (23.60)
2013	49.40 (8.22)	31.46 (7.30)



Supplementary Figure 1. Schematic of a deployed oyster shellstring (Adapted from Southworth and Mann 2014).



Supplementary Figure 2. Examples of dry local weather conditions in the PR and GWR watersheds in 2002 and 2012 (Images courtesy of USGS Drought Monitoring).



Supplementary Figure 3. Cluster of 2007 (top) and 2012 (bottom) oyster recruits set on a large adult oyster collected from the Great Wicomico River (5/1/13).