

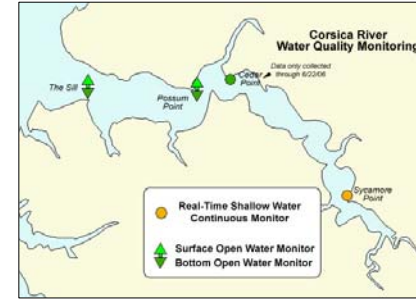
# Intensive Monitoring of the Corsica River 2005-2011



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The continuous monitoring and water quality mapping programs both collect **dissolved oxygen, chlorophyll, turbidity, water temperature, salinity and pH** data. Continuous monitors measure data every 15-minutes, while each monthly water quality mapping cruise measures several thousand surface water quality measurements. During bi-weekly continuous monitor exchange and monthly water quality mapping cruises, in situ calibration samples are taken for light attenuation, nutrients, chlorophyll and total suspended sediment. These calibration data, in combination with the spatially and temporally intensive automated data, provide managers with insight into the effects of current management efforts to reduce nutrient and sediment pollution and can guide future actions.



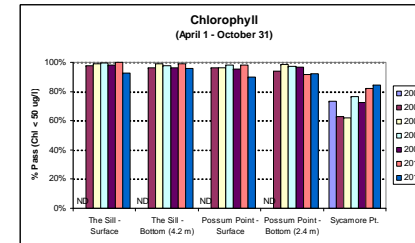
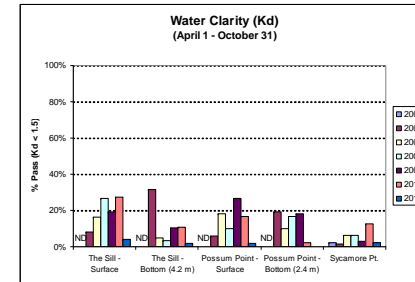
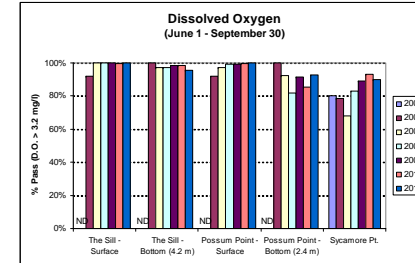
## Water Quality Mapping Results

- **Surface dissolved oxygen declined** in 2010-2011, following a 4-year period of improvement (2006-2009). Cruise times vary from year to year and this may account for some of the variability that is observed between years for dissolved oxygen.
- **Average chlorophyll levels appear to be becoming less intense** in recent years. However, the spatial extent of chlorophyll values less than 15 ug/l has been declining.
- **Average turbidity levels never reach a level that is supportive of underwater grass growth** except a small portion near the mouth in 2010, which is likely an influence of the Chester River.

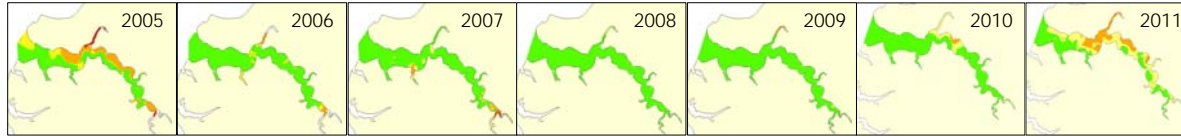
## Continuous Monitoring Results

- **Dissolved oxygen, water clarity and chlorophyll levels are better at downstream locations.**
- **\*For this analysis, negative turbidity values were not factored into the calculations.** These values could be acceptable data that represent exceptional water clarity and therefore **passing values may be artificially lowered.**
- **During 2008-2011, chlorophyll and dissolved oxygen 'attainment' has rebounded to and exceeded levels seen in 2006-2007 at Sycamore Point.**

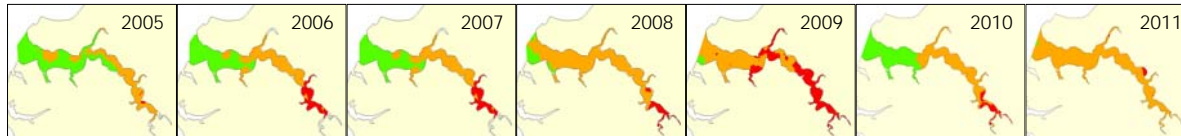
- **For the period 2005-2011, 2011 had the lowest water clarity at all stations due to heavier than normal Spring storms and Hurricane Irene and Tropical Storm Lee in the Fall.**



## Water Quality Mapping Dissolved Oxygen (mg/l) – Annual Minimum



## Chlorophyll (ug/l) – Annual Average



## Turbidity (NTU) – Annual Average



Percent area meeting water quality thresholds

	Dissolved Oxygen (mg/l)			
	%Area <3.2	%Area 3.2 - 5.0	%Area 5.0 - 5.5	%Area >5.5
2005	2.6	27.3	43.5	26.6
2006	0	2.5	7.7	89.8
2007	0.4	4.2	5.2	90.2
2008	0	0	0.7	99.3
2009	0	0.8	0.4	98.8
2010	0	1.7	8.9	89.4
2011	0	19.4	35.6	45.0

	Chlorophyll (ug/l)		
	%Area >50	%Area 15 - 50	%Area <15
2005	0.6	42.3	57.1
2006	12.8	54.1	33.1
2007	7.4	83.2	9.4
2008	23.2	58.7	18.1
2009	39.6	57.9	2.5
2010	6.8	45.0	48.2
2011	1.4	98.1	0.55

	Turbidity (NTU)	
	%Area >7	%Area <7
2005	100	0
2006	100	0
2007	100	0
2008	100	0
2009	100	0
2010	93.7	6.3
2011	100	0



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