

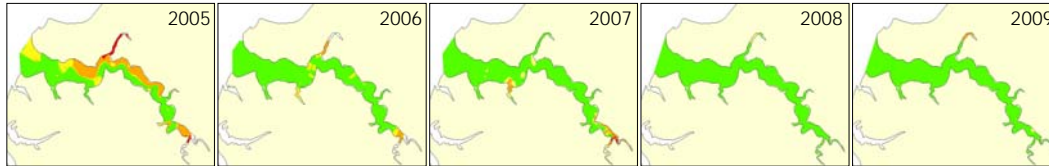
Intensive Monitoring of the Corsica River 2005-2009



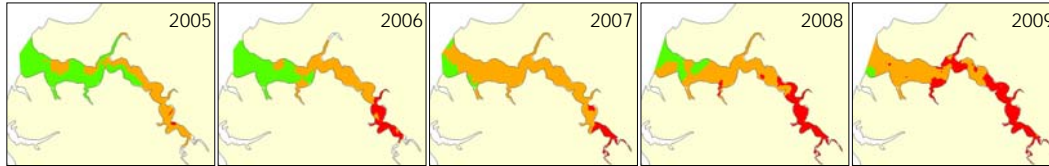
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The Corsica River Targeted Watershed Project was implemented in 2005. Maryland DNR's Tidewater Ecosystem Assessment division is responsible for the ambient water quality monitoring and assessment that supports the management actions of the project. As part of this effort, five continuous monitors are maintained at three locations, and monthly water quality mapping cruises are performed April - October.

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



Chlorophyll (ug/l) – Annual Average



Turbidity (NTU) – Annual Average

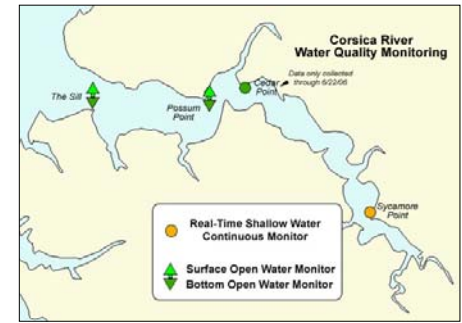


	Dissolved Oxygen (mg/l)				Chlorophyll (ug/l)			Turbidity (NTU)			
	%Area <3.2	%Area 3.2 – 5.0	%Area 5.0 – 5.5	%Area >5.5	%Area >50	%Area 15 - 50	%Area <15	%Area >7	%Area <7		
2005	2.6	27.3	43.5	26.6	2005	0.6	42.3	57.1	2005	100	0
2006	0	2.5	7.7	89.8	2006	12.8	54.1	33.1	2006	100	0
2007	0.4	4.2	5.2	90.2	2007	7.4	83.2	9.4	2007	100	0
2008	0	0	0.7	99.3	2008	23.2	58.7	18.1	2008	100	0
2009	0	0.8	0.4	98.8	2009	39.6	57.9	2.5	2009	100	0

Percent area meeting water quality thresholds

Monitoring Programs:

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.



Synopsis:

Water Quality Mapping

- **Surface dissolved oxygen has improved** over the 5-year period. Some of this improvement may be related to cruise times starting about 15 minutes later in the morning in each subsequent year and thus further away from the dissolved oxygen minimum time point (-07:00).

- **Average chlorophyll levels appear to be becoming more intense** and most extreme in the upper third of the river and may contribute to the higher surface dissolved oxygen observed during the day. Timing of the monthly cruises may greatly affect results due to the ephemeral nature of algal blooms.

- **Average turbidity levels never reach a level that is supportive of underwater grass growth.**

Continuous Monitoring

- **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 2008-2009, chlorophyll and dissolved oxygen 'attainment' has rebounded from levels seen in 2006-2007 at Sycamore Point.**

