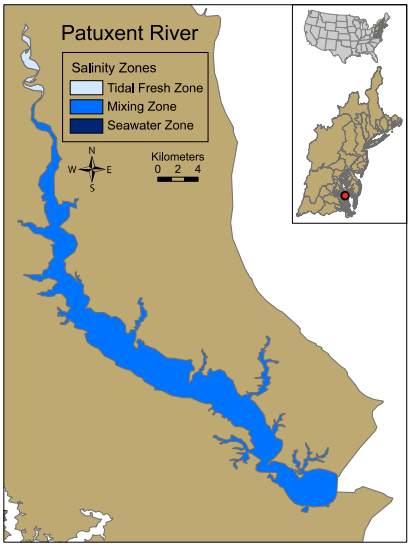
Patuxent River

SUMMARY

The Patuxent River's wastewater treatment plants are not meeting nutrient reductions due to population growth, contributing to a high eutrophic expression. It is a very turbid system due to sediments and high chlorophyll-a concentrations, leading to low dissolved oxygen events, some nuisance/toxic algal blooms and reduced light availability for SAV

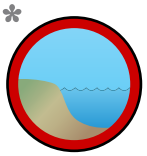


Influencing Factors

Moderate to high nitrogen input and moderate to high susceptibility (low ability for dilution and flushing of nutrients).

Eutrophic Conditions **

High primary and secondary symptom levels indicate serious eutrophication problems.



Future Outlook

Nutrient related symptoms observed in the estuary are likely to substantially worsen.

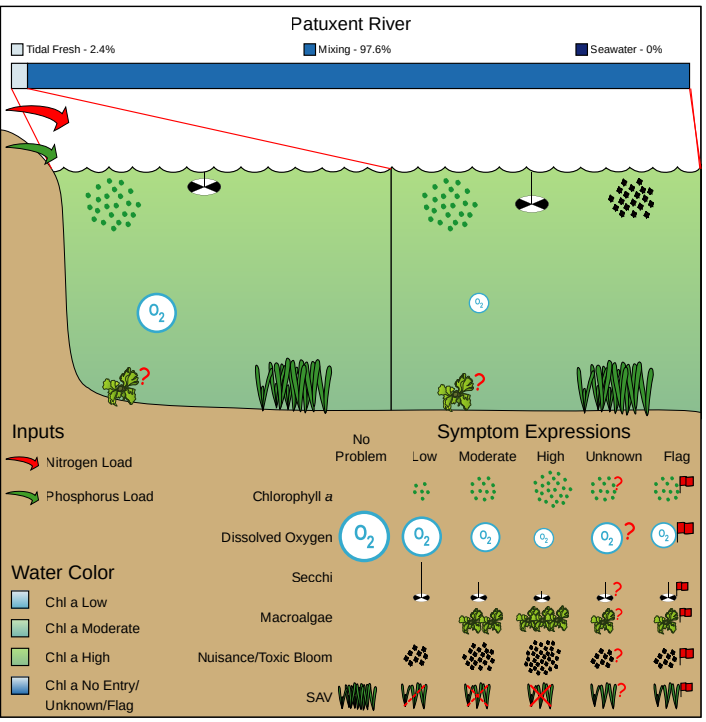
ASSETS Rating

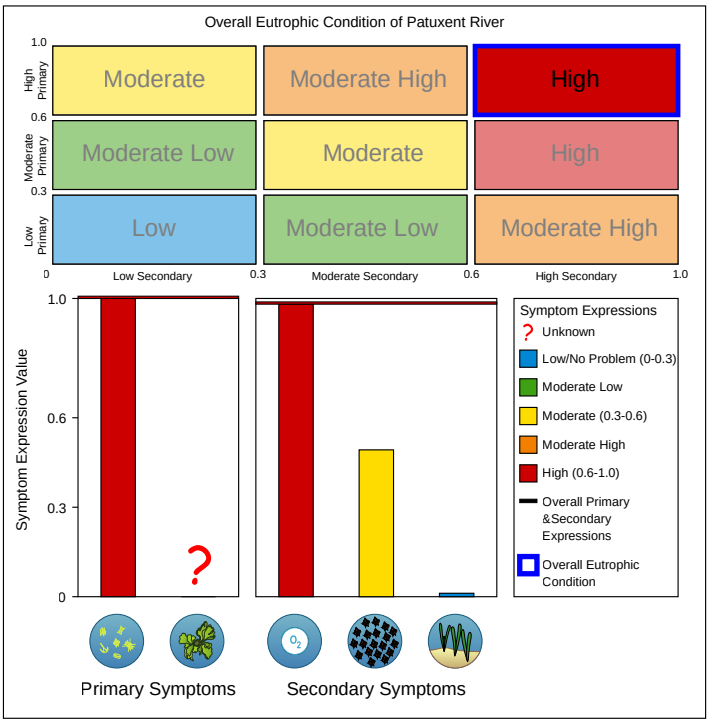
Assessment of Estuarine Trophic Status based on the three factors evaluated in NEEA.

Influence/eutro/future	Unknown	Low	Mod Low	Moderate	Mod High	High
ASSETS	Unknown	High	Good	Moderate	Poor	Bad

Reliability and Confidence: ? Unknown; * Low; ** Moderate; *** High

EUTROPHIC CONDITION





WATERSHED AND ESTUARY CHARACTERISTICS

Estuary		Landuse / Population		Watershed Details / Input Loads	
Area (km^2)	142	Urban (km^2)	746 (33.3%)	Area (km^2)	2,504
Tidal fresh zone area (km^2)	3	Agriculture (km^2)	699 (31.2%)	Mean elevation (m)	61
Mixing zone area (km^2)	139	Forest (km^2)	743 (33.2%)	Max. elevation (m)	259
Saltwater zone area (km^2)	0	Wetland (km^2)	52 (2.3%)	Watershed: estuary ratio	17.6
Volume (1,000 x m^3)	536,760	Range (km^2)	0 (0%)	TSS (tonne y^{-1})	100,000
Depth (m)	3.78	Barren (km^2)	0 (0%)	TN (kg y^{-1})	908,974
Tide Height (m)	0.52	Total (km^2)	2,240 (0%)	TP (kg y^{-1})	69,938
Residence Time (d)	26	Population	454,111	TSS/est. area (tonne km^{-2} y^{-1})	704
		Popn: est. area ratio	3,198	TN/est. area (kg km^{-2} y^{-1})	6,401
				TP/est. area (kg km^{-2} y^{-1})	493