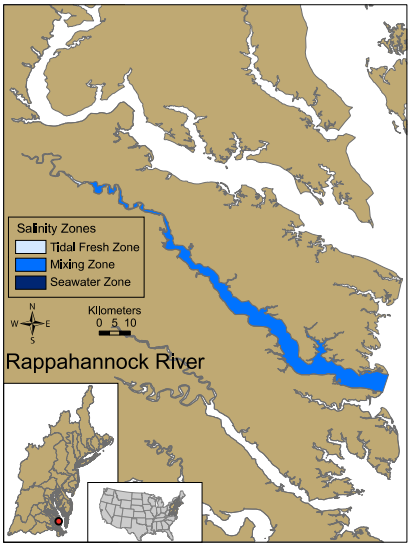
Rappahannock River

SUMMARY

The Rappahannock River has a moderate eutrophic expression. While point and non-point sources of nutrients have decreased, the system remains highly susceptible. It has a high chlorophyll-a symptom expression, leading to some low dissolved oxygen events, some nuisance/toxic algal blooms and some loss of SAV. Macroalgae abundance is low.

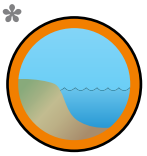


Influencing Factors

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

Eutrophic Conditions **

Primary symptoms high and substantial secondary symptoms becoming more expressed, indicating potentially serious problems.



Future Outlook

Nutrient related symptoms observed in the estuary will most likely stay the same.

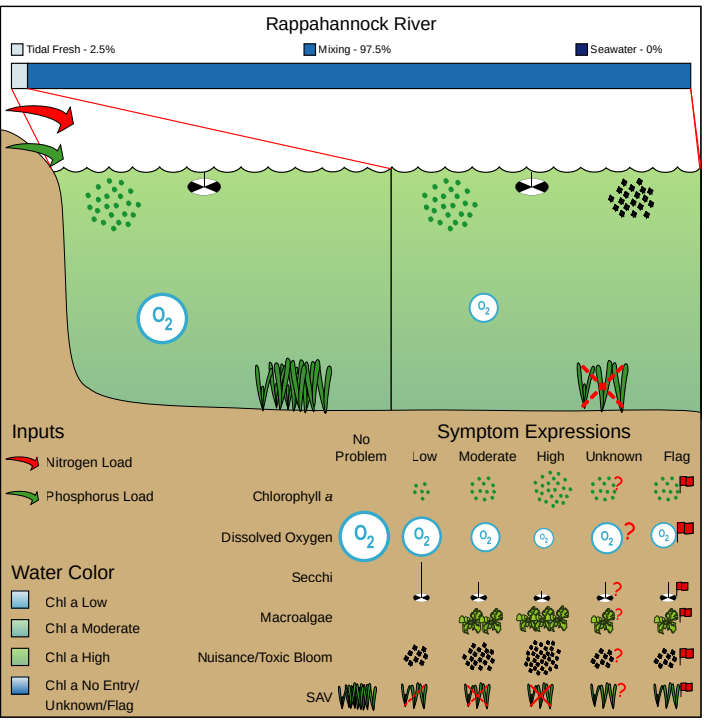
ASSETS Rating

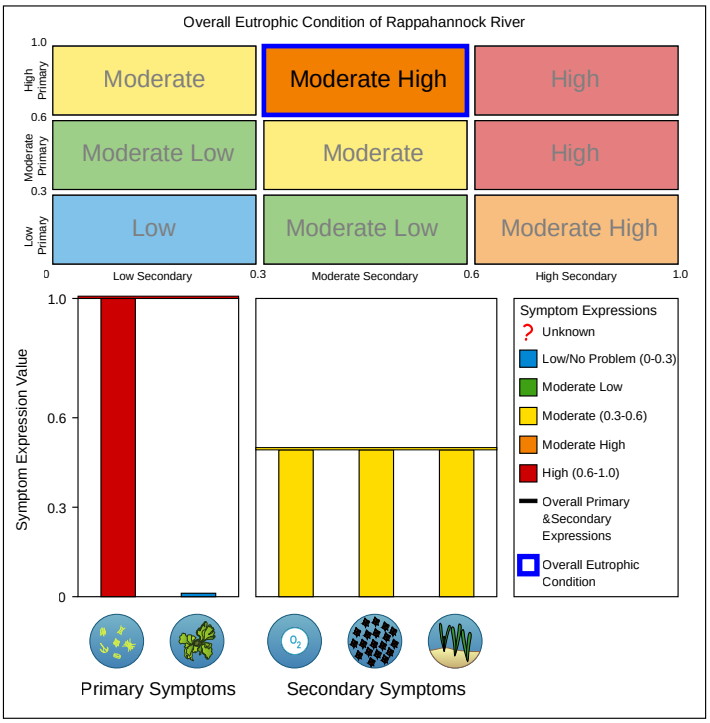
Assessment of Estuarine Trophic Status based on the three factors evaluated in NEEA.

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)	377	Urban (km^2)	386 (5.9%)	Area (km^2)	6,664
Tidal fresh zone area (km^2)	9	Agriculture (km^2)	2,481 (37.7%)	Mean elevation (m)	140
Mixing zone area (km^2)	368	Forest (km^2)	3,636 (55.2%)	Max. elevation (m)	1,158
Saltwater zone area (km^2)	0	Wetland (km^2)	80 (1.2%)	Watershed: estuary ratio	17.7
Volume (1,000 x m^3)	1,413,750	Range (km^2)	0 (0%)	TSS (tonne y^{-1})	61,600
Depth (m)	3.75	Barren (km^2)	0 (0%)	TN (kg y^{-1})	2,536,254
Tide Height (m)	0.53	Total (km^2)	6,584 (0%)	TP (kg y^{-1})	281,402
Residence Time (d)	24	Population	181,861	TSS/est. area (tonne km^{-2} y^{-1})	163
		Popn: est. area ratio	482	TN/est. area (kg km^{-2} y^{-1})	6,728
				TP/est. area (kg km^{-2} y^{-1})	746