

# Neuse River

## SUMMARY

The Neuse River watershed has undergone state-applied agricultural BMPs. There is a significant long term decrease in TN loading. However, if the 3-year drought (2000-2002) is excluded, the trend becomes non-significant. Nuisance/toxic blooms and hypoxia remain a problem. Ammonium concentrations have increased, regardless of attempts at control.

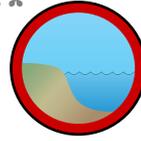
## Influencing Factors

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.



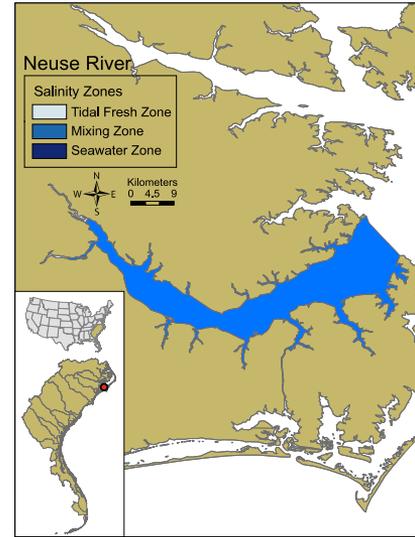
## Future Outlook

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

Reliability and Confidence

ASSETS

Unknown

High

Good

Moderate

Poor

Bad

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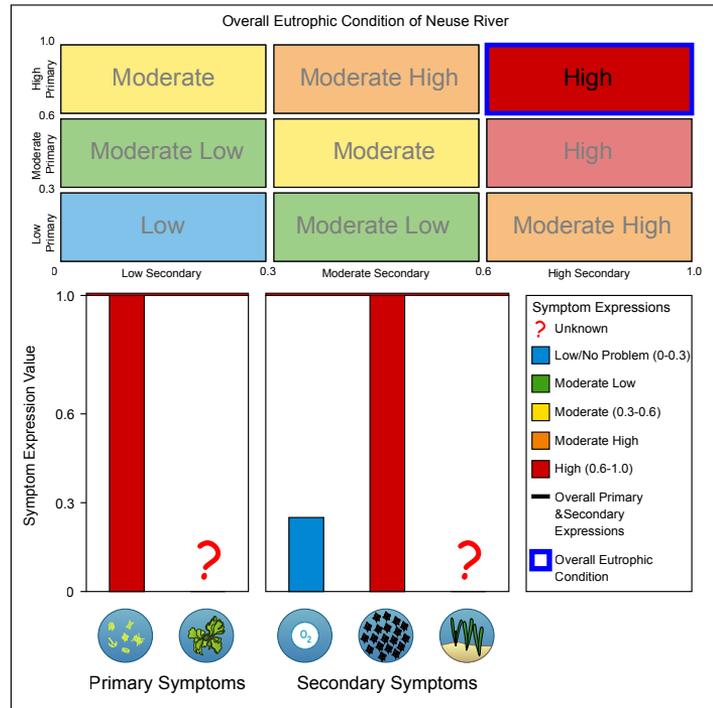
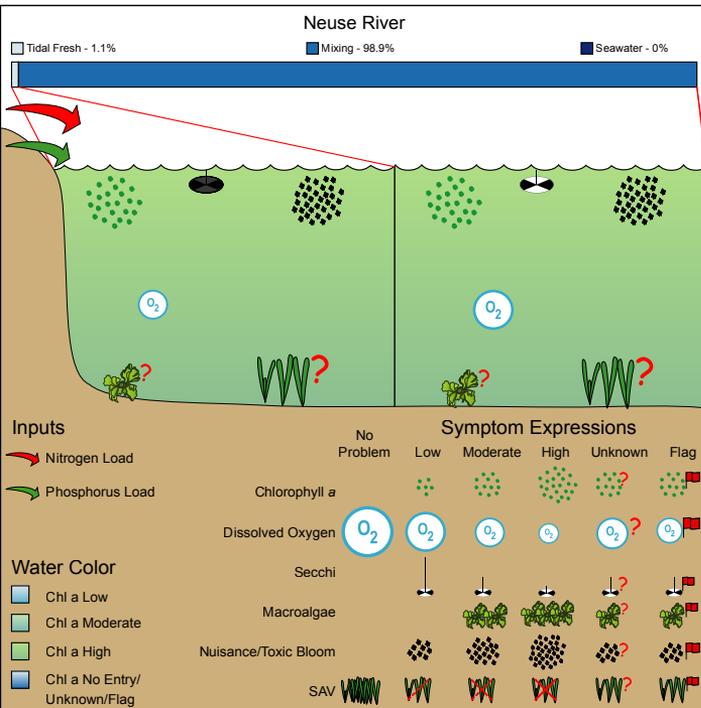
Unknown

Low

Moderate

High

## EUTROPHIC CONDITION



## WATERSHED AND ESTUARY CHARACTERISTICS

Estuary		Landuse / Population		Watershed Details / Input Loads	
Area (km <sup>2</sup> )	456	Urban (km <sup>2</sup> )	1,329 (9.5%)	Area (km <sup>2</sup> )	14,066
Tidal fresh zone area (km <sup>2</sup> )	5	Agriculture (km <sup>2</sup> )	4,983 (35.6%)	Mean elevation (m)	56
Mixing zone area (km <sup>2</sup> )	451	Forest (km <sup>2</sup> )	6,649 (47.5%)	Max. elevation (m)	245
Saltwater zone area (km <sup>2</sup> )	0	Wetland (km <sup>2</sup> )	1,020 (7.3%)	Watershed: estuary ratio	30.8
Volume (1,000 x m <sup>3</sup> )	1,304,160	Range (km <sup>2</sup> )	5 (0%)	TSS (tonne y <sup>-1</sup> )	85,200
Depth (m)	2.86	Barren (km <sup>2</sup> )	0 (0%)	TN (kg y <sup>-1</sup> )	9,600,000
Tide Height (m)	0.15	Total (km <sup>2</sup> )	13,986 (0%)	TP (kg y <sup>-1</sup> )	970,000
Residence Time (d)	73	Population	1,015,059	TSS/est. area (tonne km <sup>-2</sup> y <sup>-1</sup> )	187
		Popn: est. area ratio	2,226	TN/est. area (kg km <sup>-2</sup> y <sup>-1</sup> )	21,053
				TP/est. area (kg km <sup>-2</sup> y <sup>-1</sup> )	2,127