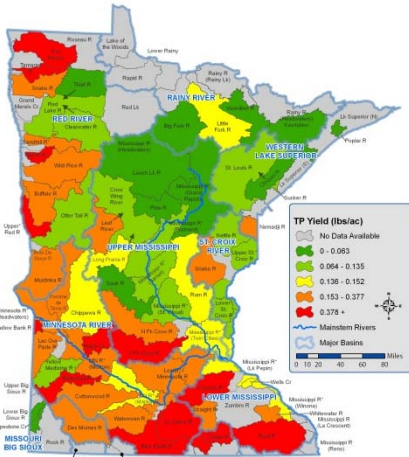


Phosphorus Science

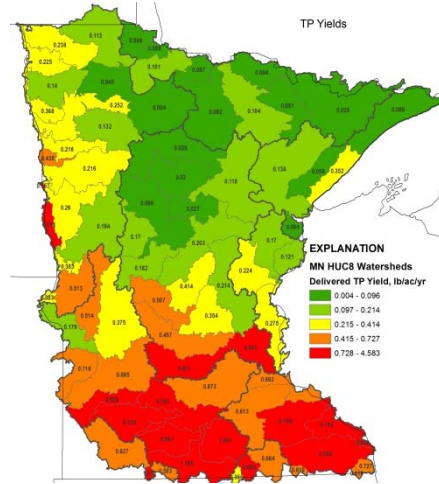
Existing Conditions & Sources to Water

Phosphorus Monitoring Conditions



Left - Average annual total phosphorus yield near watershed outlets. One to three year averages derived from available information collected in 2007-09.

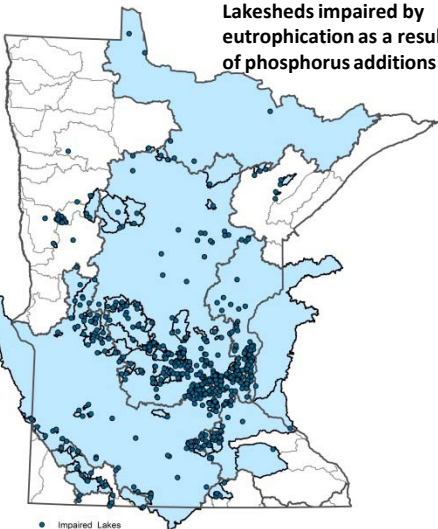
Right - Simulated annual total phosphorus yield from the SPARROW model. Yields represent total load delivered to the watershed outlet divided by the catchment area.



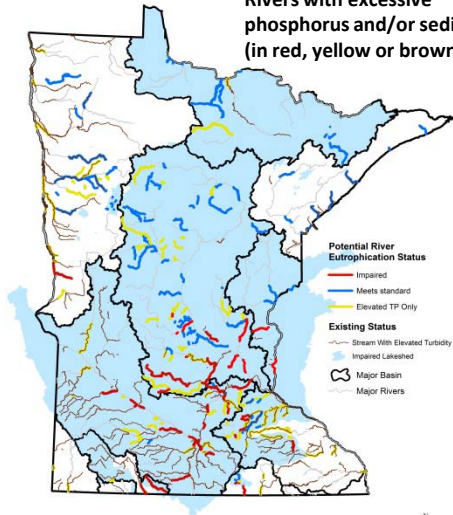
Watershed outlet monitoring

SPARROW modeling

Lakesheds impaired by eutrophication as a result of phosphorus additions



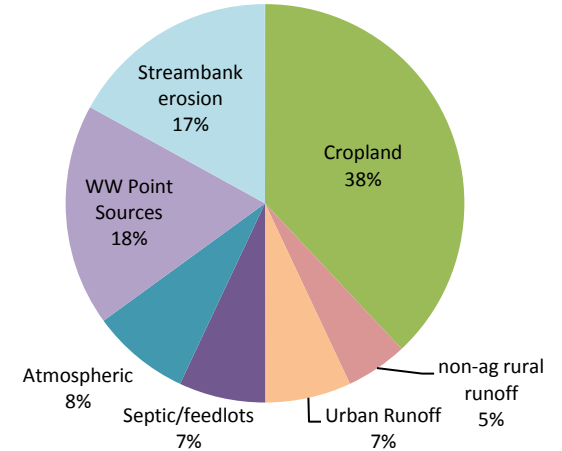
Rivers with excessive phosphorus and/or sediment (in red, yellow or brown)



Standard or proposed standard	Avg. P reduction needed
River Eutrophication	41%
Lake Pepin	43%
Local Lake Eutrophication	45%

Phosphorus Sources to Surface Waters (current; average precipitation yr.)

Mississippi River Phosphorus (MN)



Red River Phosphorus (MN)

