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## ***Nitrate and Phosphorus Loads from Illinois Rivers***

### ***Preliminary Water Year 2022 Update***

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**with:**



**Illinois Environmental  
Protection Agency**

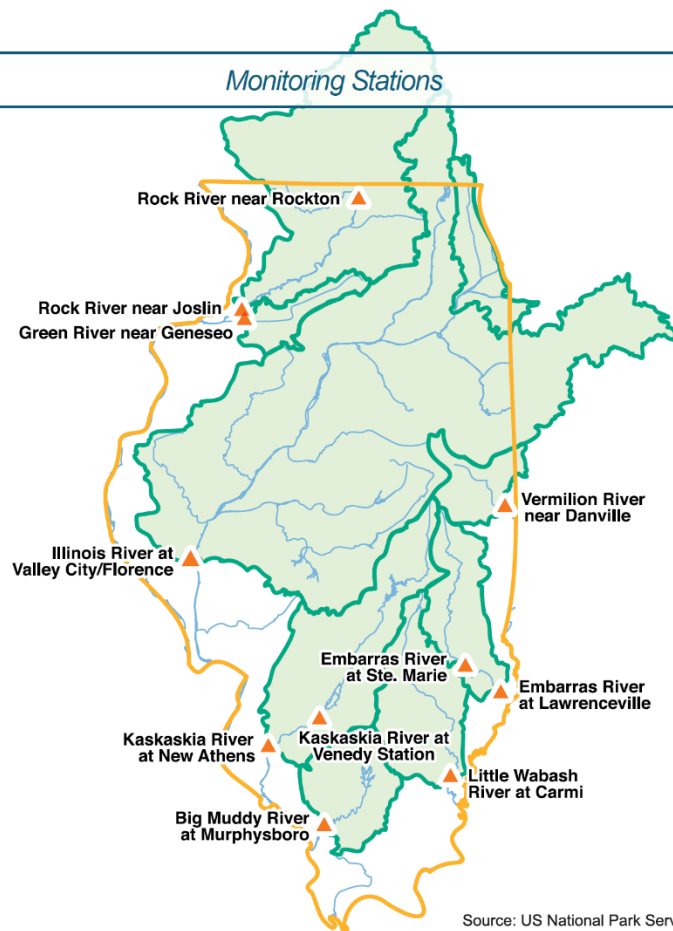
# Methods

Monitor nutrient loads from Illinois' eight largest rivers relative to the 1980-96 baseline.

**baseline:** water years 1980–1996

**target:** 15% (short term) and 45% (long term) reductions in N and P.

**INLRS:** Progress assessed based on the 5-year average loading. Continuous water-quality monitoring used to estimate loads since 2019.

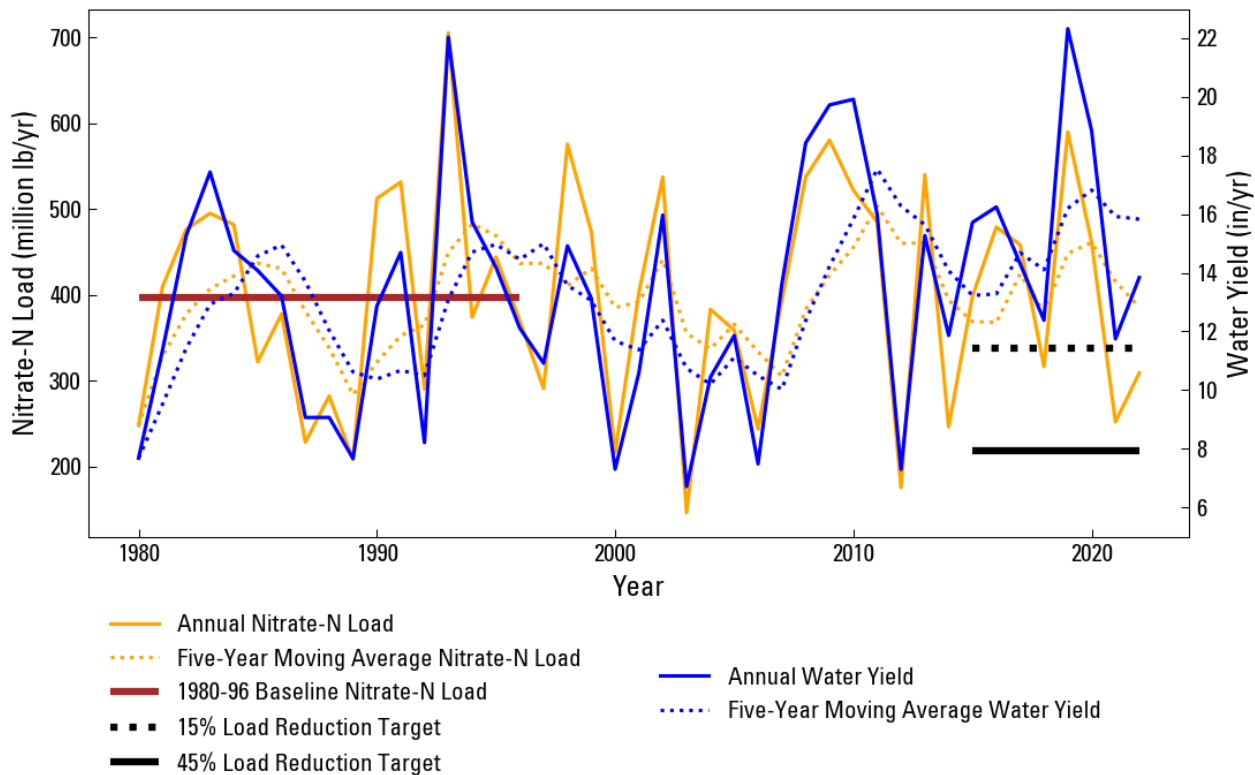


Source: US National Park Service

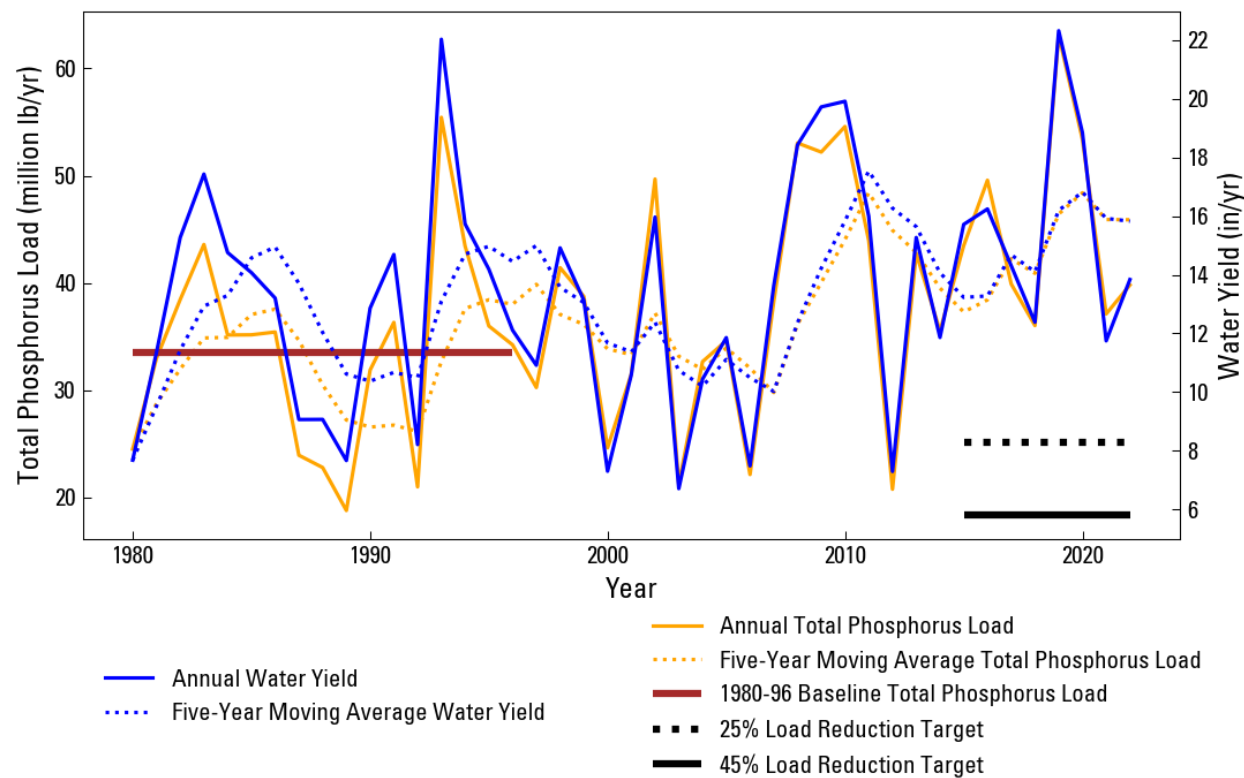


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# Statewide nitrate yield

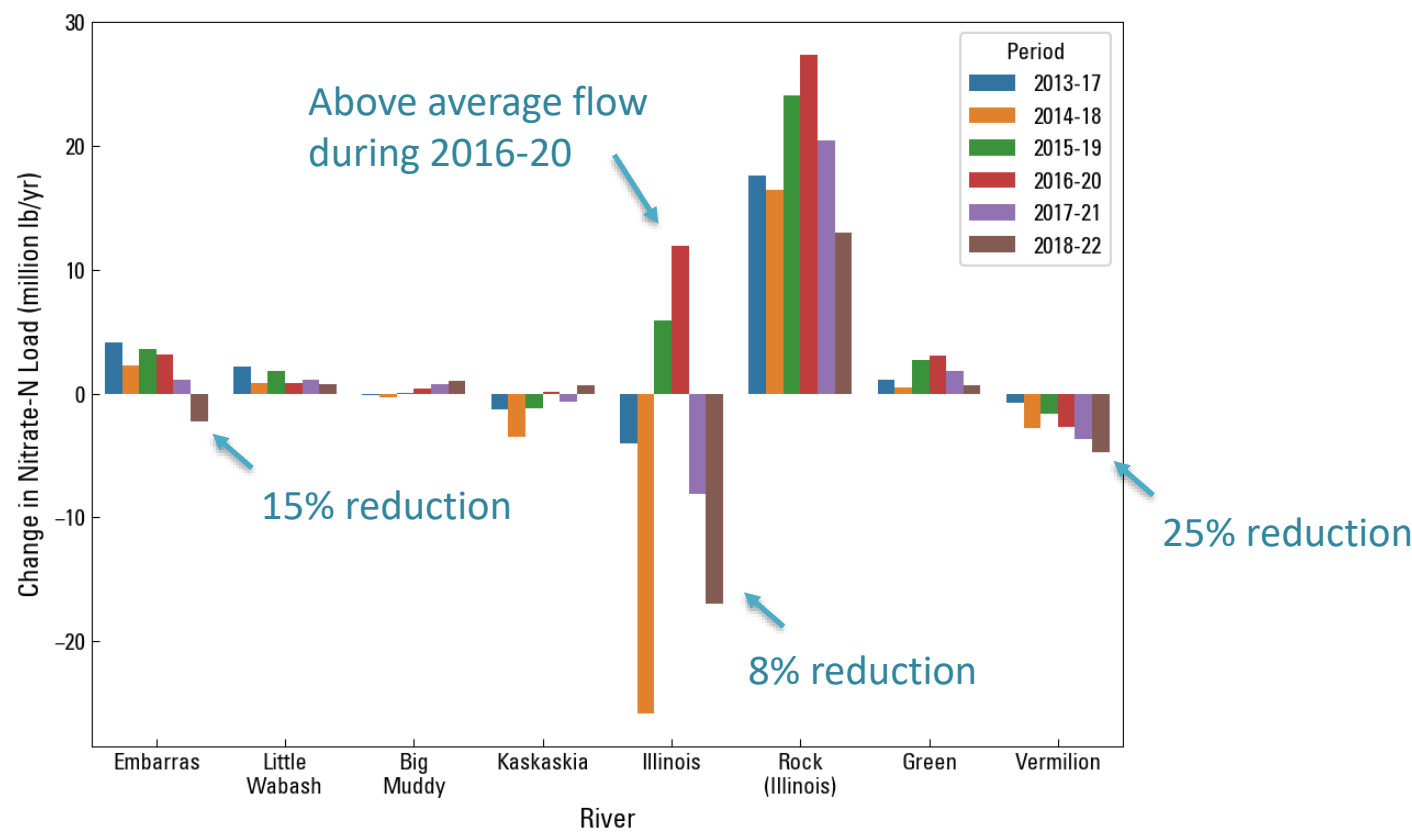


# Statewide phosphorus yield



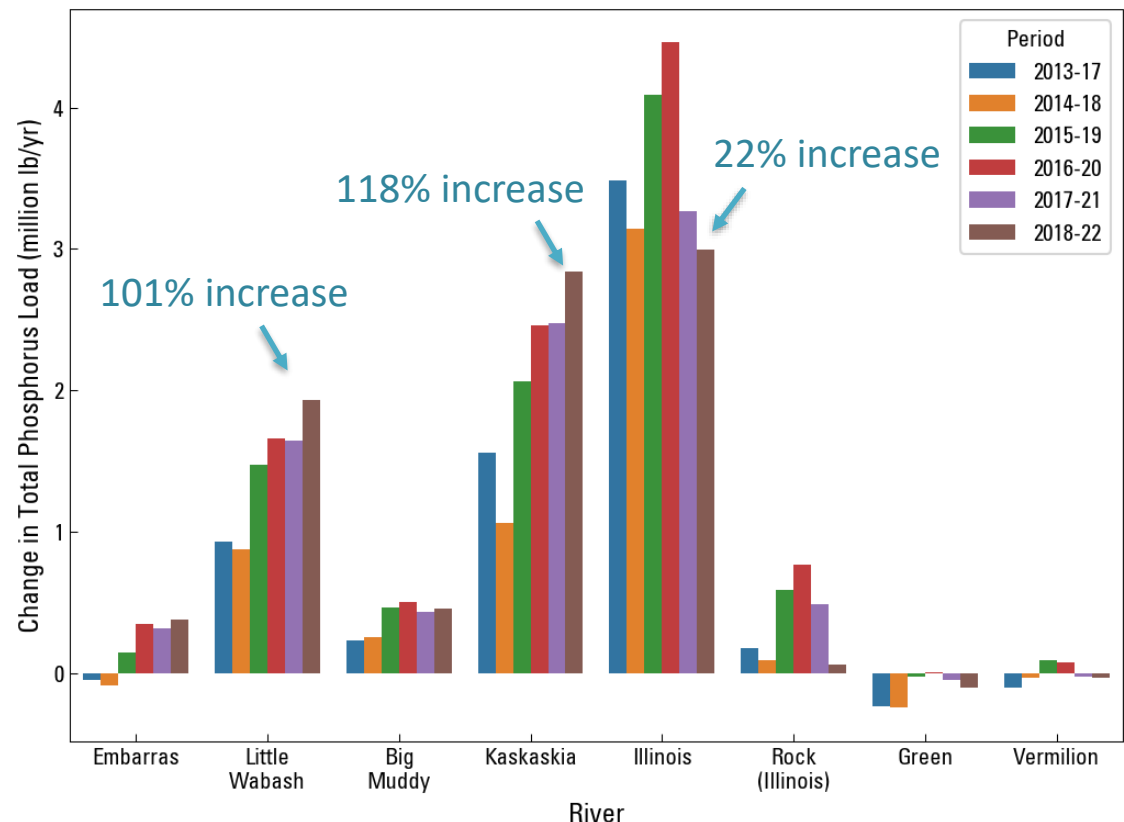
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# Change in nitrate relative to baseline



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# Change in phosphorus relative to baseline



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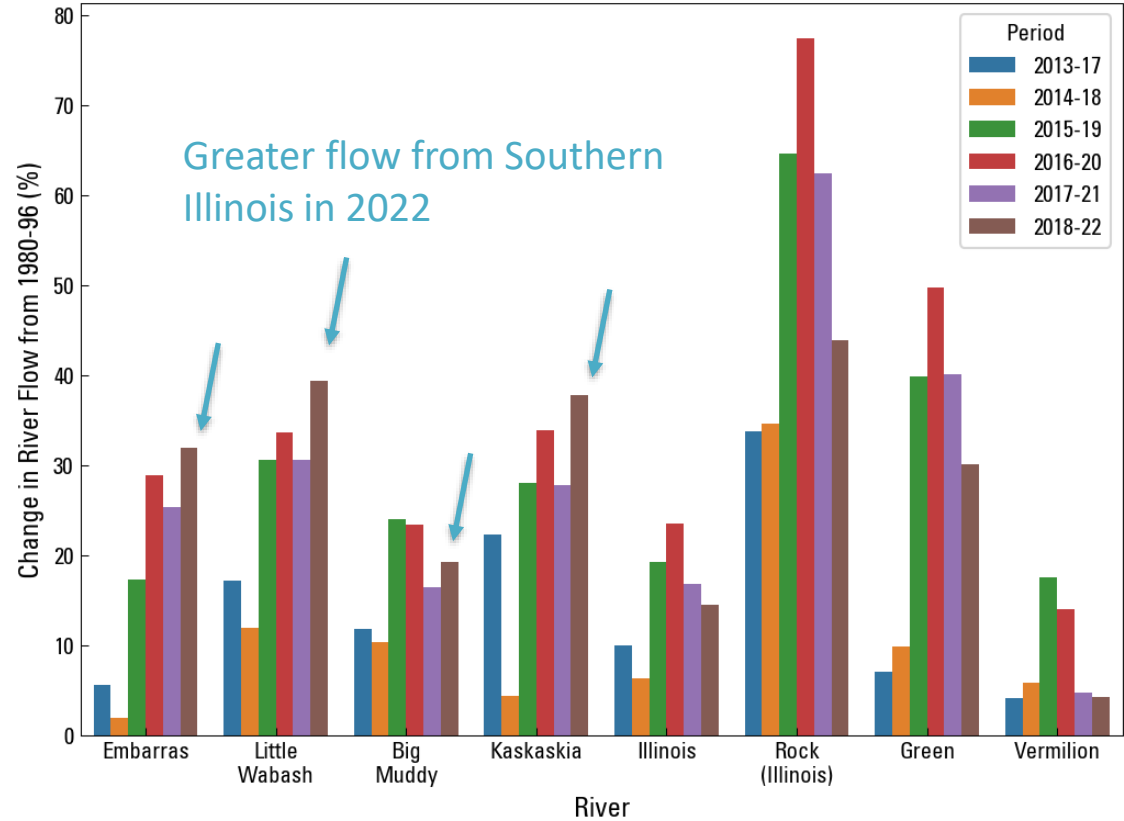
# Change in phosphorus relative to baseline

TABLE 3. Average annual TP loads in the Illinois River and tributaries during 1989–1996 and 2015–2019, in megagrams phosphorus per year (Mg P/year).

Segment	Monitoring location	Annual TP load (Mg P/year)		
		1989–1996	2015–2019	Change
Upper basin	Illinois R. at Marseilles	4,649	4,587	–62
Lower tributaries	Fox R. at Dayton	625	676	51
	Vermilion R. at Leonore	400	430	30
	Big Bureau Cr. at Princeton	90	114	24
	Mackinaw R. at Green Valley	312	337	26
	Spoon R. at Seville	728	659	–69
	Sangamon R. at Oakford	1,408	2,005	597
	La Moine R. at Ripley	462	465	3
	Upper basin + lower tributaries	<b>8,674</b>	<b>9,273</b>	599
Entire basin	Illinois R. at Valley City	<b>6,892</b>	<b>9,599</b>	2,707
Lower mainstem	Entire basin minus upper basin and lower tributaries	<b>–1,782</b>	<b>326</b>	2,108

Values in bold font represent 1) the sum of loads from upstream (Upper basin + lower tributaries), 2) the load at Valley City, and 3) the difference between 1) and 2).

# Change in streamflow relative to baseline





# WY 2022 by the numbers

Relative to the 1980-96 baseline,

- WY22 loads of N, P, and streamflow (Q) were -22%, 19%, and 7%, respectively
- 5-year mean loads were -3% (N), 37% (P), and 27% (Q).

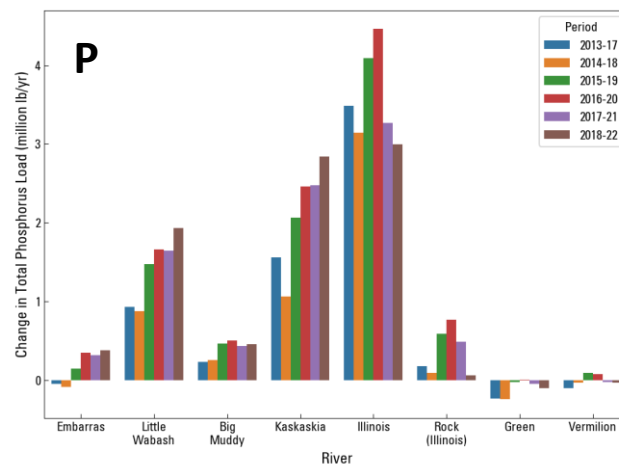
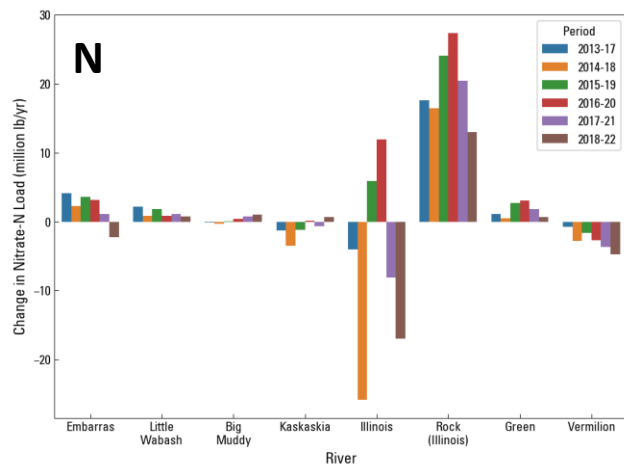
Relative to the 2010s,

- WY22 loads were -26% (N), -7% (P), and -8% (Q)
- *showing recent improvements, overall.*

# WY 2022 by the numbers

Since the 2020 peak,

- The largest reductions in N were the Illinois (-29 million lbs) and Rock (-14)
- Similarly, the largest reductions in P were the Illinois (-1.5 million lbs) and Rock (-0.7)
- Whereas P and Q from southern watersheds increased.



# Thank you!



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