

## Where did the dissolved phosphorus come from?



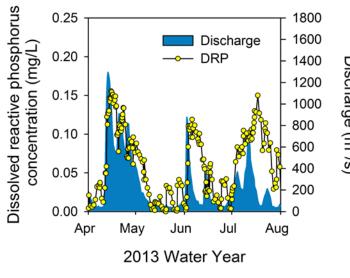
Dissolved phosphorus is highly bioavailable to algae

Indicators of non-point sources *e.g., land runoff*Example: Maumee River

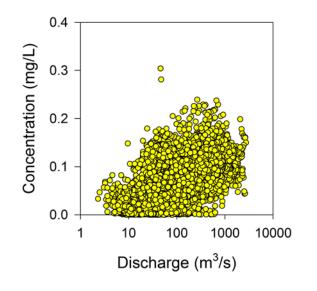


Indicators of point sources *e.g., effluent* Example: Cuyahoga River

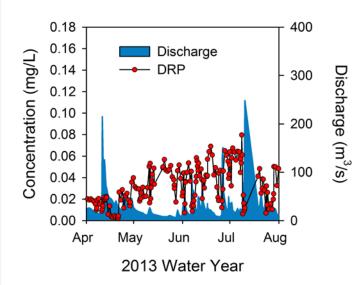
## 1) Concentration increases during storms



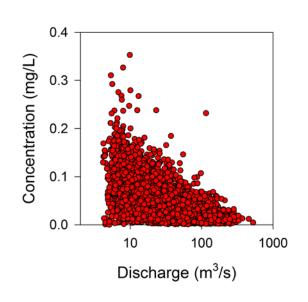
2) Concentration increases with flow



1) Concentration increases during low flow

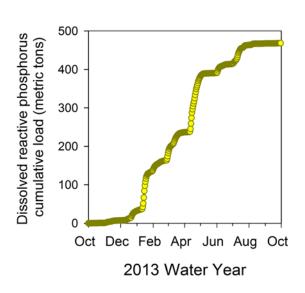


2) Concentration decreases with flow



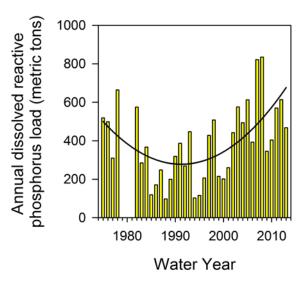
Indicators of non-point sources *e.g., land runoff*Example: Maumee River

3) Load is pulsed over time



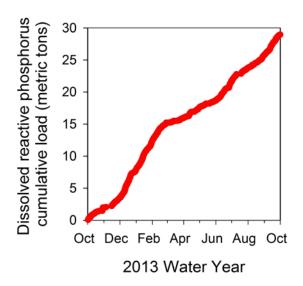
82% of the load delivered in the highest 25% of flows

Since 1995, dissolved phosphorus has been increasing in agricultural watersheds



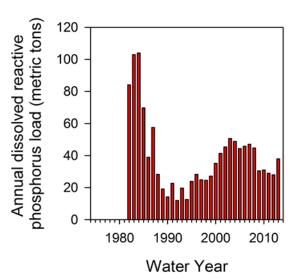
Indicators of point sources *e.g., effluent*Example: Cuyahoga River

3) Load is constant over time



40% of the load delivered in the highest 25% of flows

Since 1995, dissolved phosphorus has been low compared to the early 1980's



Loading between March and June has the strongest effect on Lake Erie bloom intensity

For more information visit http://www.heidelberg.edu/ncwqr or contact Laura Johnson: ljohnso1@heidelberg.edu, 419-448-2056