

# NPDES Permit Implementation

- 11 POTWs in affected HUCs
  - Five Majors combined design flow of 34.0 MGD
  - Six Minors combined design flow of 3.04 MGD
- First phase implementation represented 51.5% load reduction from POTWs

Table 18. Phosphorus loads for wastewater treatment plants in the upper Little Miami River Basin

Entity	Design Flow (MGD)	Current Flow <sup>1</sup> (MGD)	Current Load <sup>2</sup> (kg/day)	Load at 1.0 mg/l P <sup>3</sup> (kg/day)	Wasteload Allocation (kg/day)
Montgomery County Eastern Regional WWTP	13.0	8.00	74.5	30.3	24.6
Greene County Beaver Creek WWTP	8.5	4.34	37.5	16.4	16.1
Greene County Sugar Creek WWTP	4.9	5.00	26.5	18.9	9.3
City of Xenia Gladys Run WWTP	4.0	2.05	13.9	7.8	7.6
City of Xenia Ford Road WWTP	3.6	2.35	16.5	8.9	6.8
Village of Jamestown WWTP	0.9	0.26	1.1	1.0	1.7
Village of Waynesville WWTP	0.71	0.65	6.4	2.5	1.3
Village of Yellow Springs WWTP	0.6	0.7	5.6	2.6	1.1
Greene County Cedarville WWTP	0.56	0.23	2.7	0.9	1.1
Village of South Charleston WWTP	0.24	0.14	0.6	0.5	0.5
Village of Clifton WWTP <sup>4</sup>	0.029	0.013	-	-	-
Reserve Load					4.3
Totals			185.3	89.8	74.4

# NPDES Schedule of Compliance

- The TMDL included language to be included in these NPDES permits that was developed in coordination with an external stakeholder's workgroup.

“As soon as possible, but not later than the dates developed in accordance with the following schedule, the permittee shall achieve the final effluent limits described below, and an allowable total phosphorus load of X kg/day during the months of May through October. The permittee may achieve the allowable phosphorus load by reducing phosphorus loads discharged through their final outfall(s) and/or by implementing nonpoint source load reduction projects that are reviewed by and are acceptable to Ohio EPA.”

# NPDES Schedule of Compliance

The allowable total phosphorus load may be expressed as:

$$WLA = (Q_{med} \cdot P_{med} \cdot CF) - LR$$

where:

- WLA = total phosphorus wasteload allocation (kg/d); see Table 18 for entity-specific value
- $Q_{med}$  = daily effluent flow rate during May - October (MGD)
- $P_{med}$  = median daily effluent total phosphorus concentration during May - October (mg/l)
- CF = conversion factor = 3.7854(kg)(l)/(MG)(mg)
- LR = estimated average daily total phosphorus load reductions during May - October achieved since 1998

# NPDES Schedule of Compliance, Phase I

- Upon permit renewal, immediately being evaluation to meet interim 1.0 mg/L TP monthly average limit.
- Within 12 months of renewal permit, shall implement measures to comply with 1.0 mg/L effluent limit.
- If determined upgrades are needed to comply, have 18 months from effective date to submit a general plan for compliance.
- No later than 36 months must comply with 1.0 TP monthly average limit.

# NPDES Schedule of Compliance, Phase II

- Acknowledgment that 1.0 mg/L is interim limit and still exceeds the final allocations.

“To achieve the final allowable total phosphorus load, the permittee will need to achieve additional average loading reductions or assimilative capacity increases of total phosphorus during the months of May - October:”

# NPDES Schedule of Compliance, Phase II

- Not Later than 24 months from effective date, must submit general plan to meet final allocation.
  - Plan must show achievement of final load within 118 months of permit.
  - Allowed for trading and alternatives analysis.

# NPDES Schedule of Compliance, Phase III

- TMDL implementation “off ramp”

“If evidence becomes available demonstrating that biological indices in the upper LMR are in full attainment, or that the lower end of the TMDL study area total phosphorus concentration is less than or equal to the 0.17 mg/l instream target for two consecutive years, the Director will evaluate any proposed modification of the TMDL Implementation Schedule”

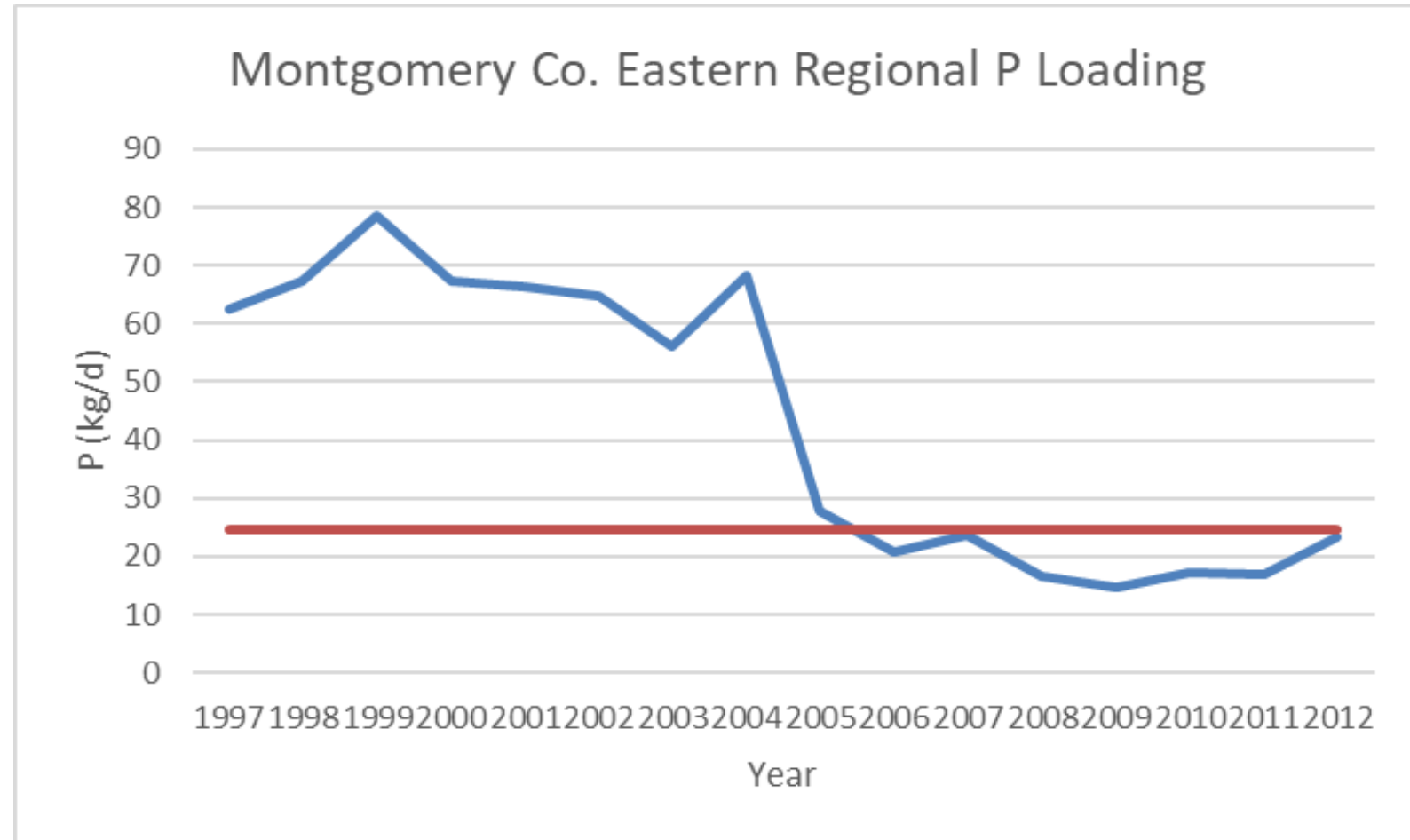


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- As permits began to be renewed following TMDL approval by USPEA, Phase I language was incorporated into permits starting in 2002 and 2003.
- 2008-2009 renewals included Phase II implementation and specific language regarding Water Quality Trading.
- 2013 renewals included the final load allocation as effluent limits and more specific language regarding trading.
- 2018 renewals continued the TMDL based load limits.

# Example summary of current loading

Year	kg/d
1997	62.611
1998	67.394
1999	78.699
2000	67.386
2001	66.456
2002	64.817
2003	56.142
2004	68.141
2005	27.834
2006	20.907
2007	23.721
2008	16.572
2009	14.513
2010	17.164
2011	17.004
2012	23.314



# Future considerations

- One of the local utilities has requested a possible “bubble” permit for meeting the TMDL obligations.
- Still some interest in trading.