

# Point to Nonpoint Trading: Calculating Credits

This factsheet is intended for wastewater treatment system operators, permittees and/or staff who may be interested in pursuing a point to nonpoint water quality trading project. Information contained in this factsheet is a summary of [MPCA's Water Quality Trading Guidance](#), which should be referenced for additional information.

## Trade Credits

The value of water quality trading credits are based on the estimated reductions of a pollutant to the targeted body of water. Determining the value requires four steps:

1. Estimate the amount of the pollutant reaching the targeted body of water before the pollutant-reduction project is implemented.
2. Estimate the expected amount of pollution reduction from the future completed project.
3. Apply a watershed delivery adjustment to the credit value depending on the location of the reduction project and the target water body (see tools below).
4. Apply a trade ratio to the transaction to account for uncertainty in pollution reduction amounts and ensure net water quality benefits.

## Establishing project site baseline

Baselines are measured, modeled or estimated pollutant loads from the site of proposed best management practices (BMPs) prior to implementation. Monitoring is a key component to understanding current baselines for the proposed BMP project site. MPCA requires an adequate amount of data to properly establish a project site's current conditions and potential for reduction. What is adequate can differ depending on project site and proposed BMP, but conversations with MPCA trade staff will clarify data needed on a case by case basis. Common examples of monitoring include: soil sampling, erosion rates, livestock inventories and tile line water sampling. If a permittee does not have access to monitoring equipment the following options are available:

- Request monitoring from local government units within the watershed (Soil & Water Conservation District, Watershed District, County).
- Utilize services from consultants.
- Consult with MPCA on available water quality data, monitoring strategies, and field monitoring visits.

## Calculating pollutant reduction

As part of a Trading Plan, a permittee must estimate the amount of pollution reduction expected from a project. Many tools exist that can estimate pollution reduction. No single tool is required, but the tool used to estimate reductions must be approved by MPCA. Some estimation methods include but are not limited to:

- [MPCA's Pollutant Trading Guidance \(Appendix D.\)](#)
- [MPCA's Watershed Pollutant Load Reduction Tool \(HSPF-based\)](#)
- [PTMApp](#)
- [University of MN Nitrogen & Phosphorus BMP spreadsheets](#)
- [HSPF-SAM](#)

- [EPA's Pollution Load Estimation Tool](#)
- [MIDS calculator – MN Stormwater](#)
- Other tools listed in [BWSR Reference Guide \(2019\)](#)
- Other literature-supported BMP effectiveness rates

## Trade Ratios

Trade ratios are a numeric value used to account for uncertainty and to ensure a net environmental benefit. Trade ratios are based upon scientific research (Senjem, 1997, Kieser & Associates 2009) and years of experience issuing NPDES permits with trading conditions.

Default Trade Ratios		
Credit Generators (Sellers)	Nonpoint source	2.6:1.0
	Stormwater NPDES (MS4)	2.1:1.0

## Credit Calculation

The following calculation is used to establish the amount of pollutant credit needed for a permittee engaged in a point to nonpoint trade:

**(Effluent load - WLA) x trade ratio = X kg/yr (credits needed) + 10% MOS\* = potential credit demand**

*WLA = Waste Load Allocation (kg/yr). Assigned by TMDL or NPDES Permit.*

*\*Margin of Safety - Not required but recommended as it can cover any unforeseen increase in demand or failure of BMP.*

Example: Effluent load of 150 lbs/yr, WLA of 100 lbs/yr, Trade ratio of 2.6:1

$$\begin{aligned}
 150 - 100 &= 50 \text{ lbs/yr} \\
 50 \times 2.6 &= 130 \text{ lbs/yr credit needed} \\
 130 + 13 \text{ (MOS)} &= 143 \text{ lbs/yr credit demand}
 \end{aligned}$$

**Want more information?** Contact the Water Quality Trading Program team at [WQtrading.PCA@state.mn.us](mailto:WQtrading.PCA@state.mn.us).