

# Rahr Malting

## Program Description:

### Rahr Malting, Minnesota

The [Minnesota Pollution Control Agency](#) (MPCA) has approved a trade which substitutes upstream nonpoint phosphorous reductions for at-plant biochemical oxygen demand (BOD) discharges from the Rahr Malting Company to address a dissolved oxygen sag in the lower Minnesota River.

This trade is based on trading principles developed in Minnesota, as well as EPA's Framework and is expected to provide water quality benefits both upstream and below the TMDL zone (MPCA 1997). The relationship of nutrient conversion to organic matter and subsequent decay/oxygen demand in the lower reach of the river is the foundation for this trade. Trading is aimed at reducing persistent upstream nutrient loadings to achieve downstream reductions in oxygen demand.

The MPCA developed guidelines for trades that result in reductions which are equivalent, additional and accountable (Senjem, 1995). The Rahr trade provides equivalence between nonpoint source reductions and increased point source loadings by establishing trading ratios to discount the pollutant credits that are traded. Specific examples include a 1:8 phosphorous to BOD ratio, a 0.75 safety factor for soil phosphorous content and a 1:4 oxygen demand credit to pounds of nitrogen reduced. It is estimated that these multiplicative factors will result in conservative underestimation of the amount of phosphorous that is actually reduced, by at least a factor of 2 on typical sites where BMPs are implemented (MPCA, 1997). BMPs, which would have occurred without trading, and any currently regulated practices can not be used in trading to assure that the BMP reductions meet the criterion of additionality. The BMPs identified for trading in this permit include: soil erosion, livestock management, critical area set-asides, and wetland treatment for nutrient removal.

Another interesting feature of this trade is the structure of the trade agreement. The point source agreed to set up a trust fund dedicated to nonpoint source reduction projects, which encourage the adoption and implementation of BMP. A board of citizens, state officials and company representatives will oversee the selection of BMP sites. The trust fund was initially established at \$200,000 and will be augmented by \$5,000 per year over the life of the trade. The MPCA will approve all BMP sites selected by the board and the use of pollution reduction credits established by using prior agreed upon formulas.

Benchmark goals have been established for each year of the 5-year permit period. Compliance with the permit(s) will be based on actual mass loadings of BOD discharged from the point source. A nonpoint source mitigation of 150 pounds BOD per day is being assumed in the permit. Enforcement discretion may be exercised based on the

significance of any deficit, additional upstream benefits and factors beyond the company's control (MPCA, 1997).

The Rahr trade is a pioneering agreement, which could help Minnesota break new ground in environmental protection. It provides a flexible means of compliance, allows industrial expansion while ensuring water quality protection equal to or better than more traditional approaches (MPCA 1997).

[USEPA NPDES Watershed- Based Permitting Case Study: Final Permit, Rahr Malting Company, MN](#)