Glossary

The sources for these definitions vary. Some are unique to water quality trading and are defined here by EPA for purposes of this Toolkit. Other definitions are based on federal regulations, as well as EPA policy and guidance. If the definition has a source, it is noted by number (1-6). For the list of sources, see the bottom of this section.

Average Monthly Effluent Limitation: The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during that month divided by the number of daily discharges measured during that month. 40 CFR 122.2.

Animal Feeding Operation (AFO): Lot or facility (other than an aquatic animal production facility) where the following conditions are met:

- Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
- Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. 40 CFR 122.23(b)(1).

Anti-backsliding: A provision in the Clean Water Act (CWA) and NPDES regulations (CWA section 303(d)(4); CWA section 402(c); 40 CFR 122.44(l)) that requires a reissued permit to be as stringent as the previous permit with some exceptions. (1)

Antidegradation: Policies that ensure protection of existing uses and of water quality for a particular waterbody where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. Antidegradation also includes special protection of waters designated as outstanding national resource waters. Antidegradation plans are adopted by each state to minimize adverse effects on water. 40 CFR 131.12. (1)

Baseline: 1.) The pollutant control requirements that apply to buyers and sellers in the absence of trading. Sellers must first achieve their applicable baselines before they can enter the trading market and sell credits. Buyers can purchase credits to achieve their applicable baselines once they have met their minimum control levels. 2.) Some programs use baseline to define loads in a specific year, which usually represents the starting point of the program.

Best Available Technology Economically Achievable (BAT): Technology-based standard established by the Clean Water Act as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. BAT effluent limitations guidelines, in general, represent the best existing

performance of treatment technologies that are economically achievable within an industrial point source category or subcategory. (6)

Best Conventional Pollutant Control Technology (BCT): Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand, total suspended solids, fecal coliform, pH, oil and grease. The BCT is established in light of a two-part cost reasonableness test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a POTW for similar levels of reduction of a pollutant loading. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find limits that are reasonable under both tests before establishing them as BCT. (6)

Best Management Practice (BMP): For point sources, 40 CFR 122.2 defines BMPs as schedules of activities, prohibitions of practices, maintenance procedures, and other treatment controls and pollutant removal devices (structural and nonstructural) to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and activities to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. For nonpoint sources, BMPs are defined in 40 CFR 130.2 as methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include, but are not limited to, structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

Best Practicable Control Technology Currently Available (BPT): The first level of technology-based standards established by the Clean Water Act to control pollutants discharged to waters of the United States. BPT effluent limitations guidelines are generally based on the average of the best existing performance by plants within an industrial category or subcategory. (6)

Compliance Schedule: A schedule of remedial measures included in a permit or an enforcement order, including a sequence of interim requirements (e.g., actions, operations, or milestone events) that lead to compliance with the Clean Water Act and regulations. (1)

Contract: Written agreement between the trading parties, separate from any applicable NPDES permit, in which the parties may address a variety of financial or legal considerations and contingencies, including what happens in the case of default by any party.

Credit, or Pollutant Reduction Credit: A measured or estimated unit of pollutant reduction per unit of time at the discharge location of the buyer or user of the credit. A seller generates excess load reductions by controlling its discharge beyond what is needed to meet its baseline. A buyer compensates a seller for creating the excess load reductions that are then converted into credits by using trade ratios. Where appropriate, the buyer can use the credits to meet a regulatory obligation.

Credit Exchange: A centralized reserve of pollutant reduction credits administered by a third party who buys credits from point or nonpoint sources to sell to point sources in need of credits to comply with calculated WQBELs.

Cross-Pollutant Trading: Trading across two different pollutant parameters when equivalent mass loads of the different parameters can be calculated and the water quality effects of those equivalent mass loads are similar (e.g., meeting an effluent limitation for biochemical oxygen demand by purchasing credits generated for reduction of a phosphorus load).

Daily Discharge: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Delivery Ratio: Factor applied to pollutant reduction credits when sources are directly discharging to a waterbody of concern that accounts for the distance and unique watershed features (e.g., hydrologic conditions) that will affect pollutant fate and transport between trading partners.

Designated Uses: Those uses specified in water quality standards for each waterbody or segment whether or not they are being attained. 40 CFR 131.3. Examples of designated uses include cold and warm water fisheries, public water supply, and irrigation. (1, 4)

Effluent Limitation: Any restriction imposed on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean. 40 CFR 122.2.

Effluent Limitation Guidelines and Standards (ELGs): A regulation published by EPA under section 304(b) of the Clean Water Act that establishes national technology-based effluent requirements for a specific industrial category.

Equivalency Ratio: Factor applied to pollutant reduction credits to adjust for trading different pollutants or different forms of the same pollutant.

Load Allocation (LA): The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. LAs are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished. 40 CFR 130.2.

Location Ratio: Factor applied to pollutant reduction credits when sources are upstream of a waterbody of concern that accounts for the distance and unique watershed features between a pollutant source and the downstream waterbody (e.g., bay, estuary, lake, reservoir) or area of interest (e.g., a hypoxic zone in a waterbody).

Maximum Daily Effluent Limitation: The highest allowable daily discharge of a pollutant. 40 CFR 122.2.

Minimum Control Level: The pollutant load that a point source buyer must first meet before buying credits to meet the facility's baseline. This pollutant load is either the TBEL specified in a permit or the current discharge level, depending on which is more stringent.

National Pollutant Discharge Elimination System (NPDES): The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402 , 318, and 405 of the Clean Water Act. 40 CFR 122.2. NPDES permits regulate discharges of pollutants from point sources to waters of the United States. Such discharges are illegal unless authorized by a NPDES permit. (1)

Nonpoint Sources (NPS): Diffuse pollution sources (i.e., without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by stormwater. Common nonpoint sources include runoff from agriculture, forestry, urban environments, land disposal, and saltwater intrusion. (2, 4)

Offset: 1.) n. Offsite treatment implemented by a regulated point source on upstream land not owned by the point source for the purposes of meeting its permit limit. 2.) n. Load reductions that are purchased by a new or expanding point source to offset its increased discharge to an impaired waterbody. *(Note: EPA considers both types of offsets to be trading programs)* 3.) v. to compensate for.

Overlay Permit: A NPDES permit issued to a group of point source dischargers that supplements individual permits by establishing permit limits and other requirements for one or more pollutant of concern that are not addressed in the existing individual permits.

Permitting Authority: EPA (an EPA Regional Administrator) or an authorized state, territory, or tribe. Under the Clean Water Act, most states are authorized to implement the NPDES permit program. (1)

Point Source: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff. 40 CFR 122.2.

Publicly Owned Treatment Works (POTW): A treatment works as defined by section 212 of the Clean Water Act (CWA), which is owned by a state or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works. 40 CFR 403.3.

Reconciliation Period: The period of time during which a seller generates water quality credits and a buyer purchases and uses those credits to compensate for a pollutant load that it discharges during that same time period.

Retirement Ratio: Factor applied to pollutant reduction credits to accelerate water quality improvement. The ratio indicates the proportion of credits that must be purchased in addition to the credits needed to meet regulatory obligations. These excess credits are taken out of circulation (retired) to accelerate water quality improvement.

Single-Pollutant Trading: Trading a single pollutant parameter or different forms of the same pollutant parameter when equivalent mass loads of the different forms can be calculated and the water quality effects of those equivalent mass loads are similar (i.e., meeting an effluent limitation for total nitrogen by purchasing credits generated for reduction of another source's total nitrogen load or by purchasing credits generated for reduction of another source's nitrate load).

Technology-Based Effluent Limitation (TBEL): A permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration. TBELs for POTWs are derived from the secondary treatment regulations (40 CFR Part 133) or state treatment standards. TBELs for non-POTWs are derived from national ELGs, state treatment standards, or on a case-by-case basis from the best professional judgment of the permit writer. (1)

Third party: Any entity that is not a buyer or seller in the trade. A third party can be a state agency, conservation district, private entity, or other organization or person. Third parties could assist in facilitating credit exchanges and verifying BMPs.

Total Maximum Daily Load (TMDL): A calculation of the maximum amount of a pollutant a waterbody can receive and still meet applicable water quality standards (accounting for seasonal variations and a margin of safety), including an allocation of pollutant loadings to point sources (wasteload allocations) and nonpoint sources (load allocations).

Trade Agreement: Document that specifies the overall trading policies that trading parties must follow to participate in trading. The NPDES permitting authority would approve the trade agreement and could either reference the terms of the trade agreement in the NPDES permit or include the trade agreement as part of the permit for each point source participating in a trade.

Trading Limit: Level of control on the pollutant discharge the point source seller chooses to achieve, through technology or BMPs, beyond that facility's baseline.

Trading: A market-based approach to achieving water quality standards in which a point source purchases pollutant reduction credits from another point source or a nonpoint source in the same watershed that are then used to meet the point source's pollutant discharge obligations. To be creditable to the point source purchaser, the credits must reflect actual, achieved pollutant reductions in excess of the credit seller's baseline. Under certain circumstances, a point source buyer may have to purchase more than one pound of upstream pollutant reduction to equal a pound discharged at its outfall.

Uncertainty Ratio: Factor applied to pollutant reduction credits generated by nonpoint sources that accounts for lack of information and risk associated with best management practice measurement, implementation and performance.

Waste Load Allocation (WLA): The portion of a receiving water's loading capacity (TMDL) that is allocated to one of its existing or future point sources of pollution. 40 CFR 130.2.

Water Quality Criteria (WQC): Elements of state water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. 40 CFR 131.3.

Water Quality Standard (WQS): Provisions of state or federal law that consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based on such uses, and an antidegradation policy. Water quality standards are to protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. 40 CFR 131.3.

Water Quality Based-Effluent Limitation (WQBEL): An effluent limitation determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, wildlife, translation of narrative criteria) for a specific point source to a specific receiving water for a given pollutant or based on the facility's wasteload allocation from a TMDL. (1)

EPA sources of definitions

1. EPA. 1996. *NPDES Permit Writers' Manual.* EPA 833-B-96-003. U.S. Environmental Protection Agency, Office of Water. December.
2. EPA. 2004. *Water Quality Trading Assessment Handbook: Can Water Quality Trading Advance Your Watershed's Goals?* EPA 841-B-04-001. U.S. Environmental Protection Agency, Office of Water. November.
3. EPA Region 10. 2003. *Water Quality Trading Assessment Handbook: EPA Region 10's Guide to Analyzing your Watershed.* EPA 910-B-03-003. U.S. Environmental Protection Agency, Region 10, Seattle, Washington. July.
4. EPA. *Terms of Environment: Glossary, Abbreviations, Acronyms.* <www.epa.gov/OCEPAterms/cterms.html>.
5. EPA. *National Water Quality Trading Policy*, January 13, 2003.
6. EPA. *NPDES Glossary.* <http://cfpub.epa.gov/npdes/glossary.cfm?program_id=0>.