
Colorado Pollutant Trading Policy

**Colorado Department of Public Health and
Environment
Water Quality Control Division**

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October 2004

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List of Acronyms

Section 208 Management Agency	Designated management agency as defined in section 208 (c) of the Clean Water Act (CWA)
BMPs	Best Management Practices
CDPS	Colorado Discharge Permit System
CWA	Clean Water Act
Division	Water Quality Control Division of the Colorado Department of Health and Environment
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
LA	Load Allocation
TMDLs	Total Maximum Daily Loads
WLA	Waste Load Allocation
WQCC	Water Quality Control Commission

I. Introduction

The Clean Water Act was designed to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” This was to be accomplished, “through the control of both point and nonpoint sources of pollution.” With over 25 years of experience in implementing the provisions of the Act, it has now become apparent that more innovative and cost-effective approaches to pollution control may be required. This is underscored by the need to identify and remediate numerous impaired waterbodies in the context of the total maximum daily load (TMDL) program. One such approach to advancing identified water quality improvement objectives is the use of pollutant trading schemes.

In January 2003, EPA headquarters issued its “Final Water Quality Trading Policy.” EPA stated therein:

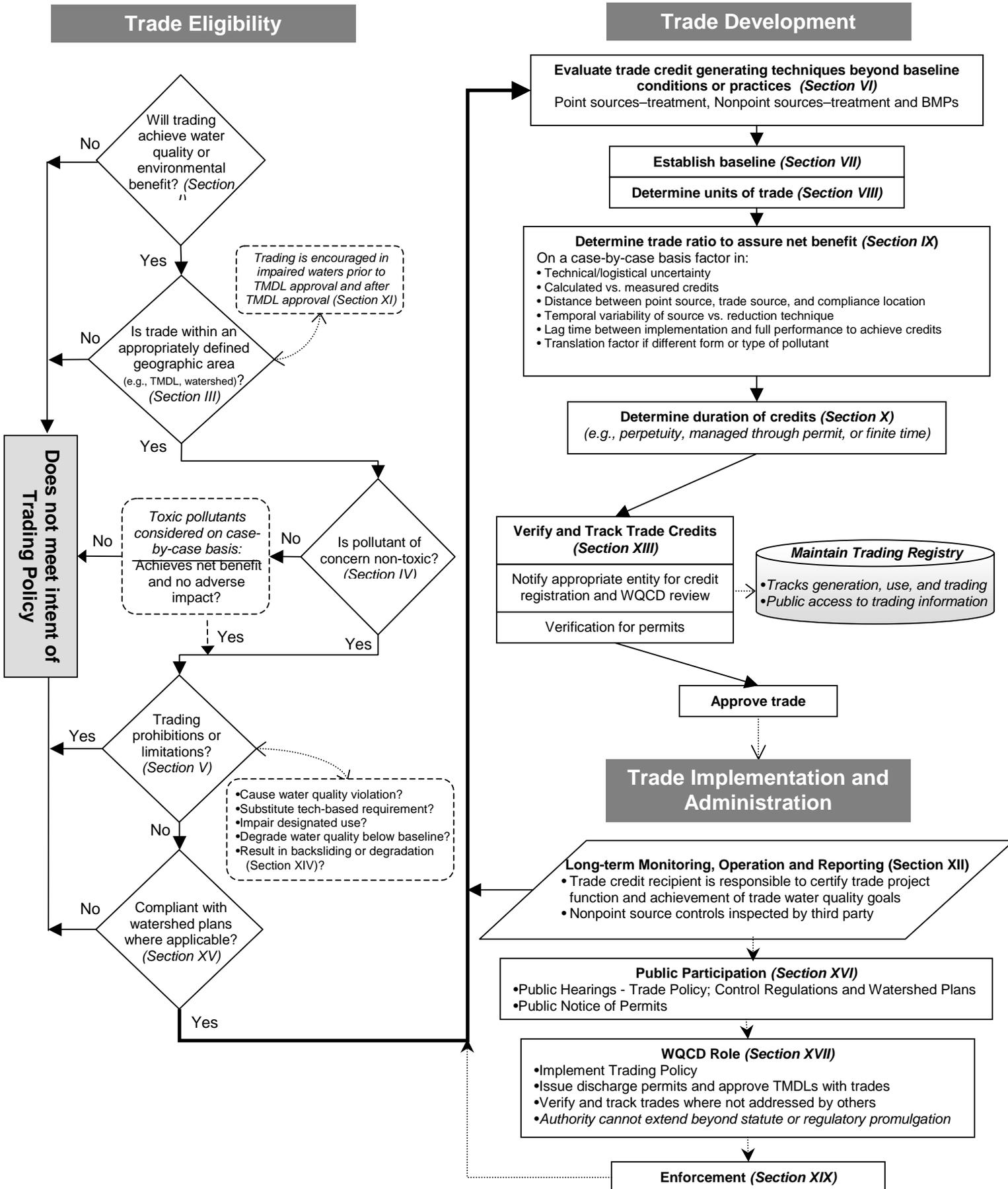
“The purpose of this policy is to encourage states, interstate agencies and tribes to develop and implement water quality trading programs for nutrients, sediments and other pollutants where opportunities exist to achieve water quality improvements at reduced costs. More specifically, the policy is intended to encourage voluntary trading programs that facilitate implementation of TMDLs, reduce the cost of compliance with CWA regulations, establish incentives for voluntary reductions and promote watershed-based initiatives.”

Colorado has been a leader in the utilization of trading concepts, e.g. Dillon Reservoir and the Cherry Creek Basin. However, it has never developed a statewide policy on this topic and has not actively encouraged the use of trading, be it point to point, point to non-point, or even habitat restoration in exchange for pollutant loadings.

Colorado stakeholders, in conjunction with the Water Quality Control Division (Division), have assembled the attached Pollutant Trading Policy as a guide to future trading initiatives within the state. It provides an initial framework under which trades can be established and approved, defining key terms, outlining use limitations and minimum trade criteria, and establishing the relationship between trades and more traditional water quality control measures. Figure 1 is a graphical representation of the policy.

The policy is a “first step.” The process of reaching a final state position on pollutant trading will be an iterative one. Policy amendments will undoubtedly be warranted based upon real life experience under various trading scenarios. It is hoped that stakeholders across the state will utilize this policy as they explore the unique possibilities associated with pollutant trading as a pollution control strategy.

Figure 1 - Colorado Pollutant Trading Policy Framework



II. Purpose

The purpose of this Policy is to provide a framework for voluntary water quality trading in Colorado. The Division anticipates that a trading program will:

1. Encourage early reductions and progress towards meeting water quality standards pending development of Total Maximum Daily Loads (TMDLs) for impaired waters.
2. Reduce the cost of implementing TMDLs through greater efficiency and flexible approaches.
3. Establish economic incentives for pollutant reductions from point and nonpoint sources within a watershed.
4. Reduce the cost of compliance with water quality-based requirements.
5. Offset new or increased discharges resulting from growth in order to maintain levels of water quality that support all designated uses.
6. Achieve greater environmental benefits than those realized under existing regulatory programs.
7. Secure long-term improvements in water quality through the purchase or retirement of pollutant credits by an entity.
8. Encourage a watershed approach that achieves multiple environmental and economic benefits, such as wetland restoration or the implementation of management practices that improve water quality and habitat.

III. Definitions

The following definitions are in addition to those found in current state guidance and regulations.

1. "Banked credits" means credits that are generated during a different time period than that in which they are used or traded and that have been duly registered.
2. "Baseline" means the pollutant -specific point source discharge or nonpoint source loading level below which reductions must be made to generate a credit.
3. "Best Management Practices (BMPs)" means schedules of activities, a prohibition of practices, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
4. "Credit" means the quantity of a pollutant that is available for a trade.
5. "Cross-pollutant trading" means the use of discharge or load reductions generated for one pollutant in exchange for an increase in the discharge or loading of a different pollutant.

6. "Load allocation" means the portion of a receiving water's loading capability that is attributed to either one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting loading.
7. "Nonpoint source" means a diffuse pollution source not emanating from a discernable confined and discrete conveyance.
8. "Point source" means 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. It does not include return flows from irrigated agriculture or agricultural stormwater runoff.
9. "Quantifiable" means that the amount, rate and characteristics of a discharge reduction or increase or watershed improvement can be determined or measured through an accurate, reliable and replicable method, procedure or set of calculations established by an applicable requirement or approved by the Division.
10. "Trade" means the purchase, sale, conveyance or other transfer of a pollutant credit from one person or source to another person or source.
11. "Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure that relates to the applicable water quality standard.
12. "Unregulated source" means any point or nonpoint source for which performance standards, effluent limitations, work practices and monitoring requirements have not been established by an applicable regulatory requirement.
13. "Watershed management plan" means a comprehensive water quality management plan approved by the Water Quality Control Division or the Water Quality Control Commission (WQCC) that includes a total load allocation, point and nonpoint source allocations, responsible parties, and management strategies to improve water quality or achieve water quality standards.
14. "Section 208 Management Agency" means a designated management agency as defined in section 208 (c) of the Clean Water Act (CWA). The Agency has the responsibility for area wide water quality planning in its geographic area.
15. "Offsets," means a pollutant reduction from one or more sources which reduces the total amount of the identified pollutant reaching the receiving water.
16. "Habitat Offset" means an improvement to a habitat that results in a net benefit to aquatic life or other designated species. It is equivalent to a pollutant reduction and can result in a credit to be used by a discharger.

IV. Geographic Scope of Trade

The geographic scope of a trade will be determined on a site-by-site basis depending on the nature of the pollutant and site specific constraints. Water quality trading will generally occur within a single stream segment, a defined watershed, a defined area for which a TMDL is being developed or has been approved, or other Division-approved area. Establishing trading areas that coincide with watershed or TMDL boundaries helps ensure that water quality standards are maintained or achieved throughout the trading area and contiguous waters.

It will be generally assumed that the geographic areas established under the following regulatory authorities will be considered adequate for trading purposes.

1. A plan developed to achieve water quality standards as part of a TMDL.
2. A remedial action plan.
3. An approved watershed management plan.
4. A watershed-based storm water management program or a storm water pollution prevention initiative approved by the Division under a CDPS permit.
5. A plan referred to as a Section 208 Plan developed by a Section 208 Management Agency.

V. Allowable Trades

Programs may be developed to address trading of non-toxic pollutants, such as nutrients, sediment, salinity, or oxygen depleting pollutants. Nutrients potentially include phosphorus or nitrogenous compounds that contribute to non-attainment of numeric or narrative water quality standards. Nutrients and other substances may contribute to in-system (in-stream or impounded waters) biological or chemical oxygen demand, which in turn contributes to non-attainment of numeric or narrative water quality standards. In any such instance, such pollutants may be traded on a specific pollutant basis or a cross-pollutant basis. For example, reduction of upstream nutrient levels in order to affect a downstream biochemical oxygen demand or to improve a depressed in-stream dissolved oxygen level is permissible. Any such cross-pollutant trades will require demonstration of the correlation between pollutant levels and the water quality effects.

Sediment trading may be allowed in circumstances where sediment deposition has caused or contributed to, or may potentially cause or contribute to non-attainment of a narrative water quality standard. Trading in the context of sediment might include a cross-pollutant element, habitat enhancements, dedicated instream flows or management of flows to facilitate sediment transport, or the implementation of urban stormwater controls.

Programs for the trading of toxic pollutants may be considered in situations where there is a clear definition of the sources and their relative contributions, along with a reliable quantification of loading reductions. Monitoring must be adequate to demonstrate such

reductions. In general, any such trades must involve CDPS permitted point sources or nonpoint sources subject to alternate mechanisms assuring compliance with applicable trading provisions.

The Division encourages the development of other types of trading programs where such trading achieves a net water quality or environmental benefit and does not cause adverse localized impacts. Some situations present unique challenges, such as waters impaired by abandoned mine drainage. At other times, a trade involving habitat restoration or the provision of instream flows (through the Colorado Water Conservation Board where appropriate) in exchange for increased pollutant loading beyond that otherwise allowed, would be an acceptable approach. The Division recognizes that there must exist a measure of flexibility in the application of this guidance, and encourages stakeholders contemplating innovative projects to contact the Division to discuss possible trading scenarios.

Notwithstanding the above, all trades are subject to the provisions of Sections *XII. Verification and Tracking of Trade Credits* and *XIII. Long-term Monitoring and Operation*.

VI. Prohibitions and Limitations on Use of Credits

There are certain circumstances under which the use of credits would be contrary to sound public policy or, at the very least, undermine existing regulatory requirements that cannot be compromised. Those circumstances can be identified as follows:

- Utilization of credits in such a manner that would cause or contribute to a violation of water quality standards. This includes situations involving the use of credits in a situation where there would exist an exceedance of water quality standards in localized reaches, i.e., “hot spots” as a consequence of the difference in the physical location between the respective sources.
- Utilization of credits as a substitute for technology-based requirements;
- Utilization of credits in such a manner as would lead to impairment of a designated use; and
- Utilization of credits in a manner that would result in the degradation of water quality below the established baseline.

In other words, implementation of a trade should result in water quality conditions that are at least as protective of standards and classified uses as would be the case through the implementation of current requirements. The effectuation of trades cannot result in “backsliding” relative to the attainment and maintenance of water quality objectives. Of particular concern is the need to avoid situations where a given waterbody reach may be impaired due to the fact that the “credits” are not realized until some distance downstream from the original pollutant discharge source. Though some incremental increase in pollutant loading within such reach may be permissible, consistent with the state antidegradation policy and instream water quality standards, it is not acceptable to degrade a significant portion of a stream segment despite the identified water quality or habitat benefits that may be realized below the source of the pollutant reductions.

The Division generally will not approve the trade of credits for biocumulative toxic pollutants. However, this guidance does not establish an outright prohibition upon the trade of all toxics. Trades involving certain toxics, such as selenium, may be of significant benefit to the aquatic environment. An absolute prohibition would negate any incentive to install nonpoint BMPs by point source dischargers where such pollutants represent a concern.

Finally, there may exist situations where an investment in habitat improvements, i.e., a habitat offset, is an appropriate type of trade credit. That is to say, an investment in voluntary habitat restoration or enhancement efforts may more than compensate for any incremental increase in pollutant loadings which represents the quid pro quo for such an undertaking by the trade proponent. However, consistent with the above-referenced prohibition on the exceedance of water quality standards as a consequence of the trade, if the standard were going to be exceeded in such circumstances, it would be necessary to petition the Commission to modify the pertinent standard(s) on a site specific basis before the trade is consummated. The Division could assist in this effort.

VII. Generation of Credits

Credits can be generated in a number of ways by a variety of entities. Credit generation can occur at the source as pollution prevention, at the discharge point with treatment technologies and processes, through nonpoint source control using treatment technologies or structural and nonstructural best management practices, or through hydrologic manipulation techniques. Following is a list of potentially acceptable credit generating techniques that can be considered for use:

- Installation or modification of water pollution control equipment;
- Operational changes and/or the modification of a process or process equipment;
- Reformulating raw materials or products;
- Implementation of pollution prevention or minimization programs;
- Implementation of early discharge or load reductions before a compliance date specified by an applicable requirement;
- Implementation of nonpoint source BMPs;
- Implementation of stormwater controls or management practices beyond regulatory requirements;
- Restoration or creation and maintenance of wetlands;
- Habitat restoration in receiving waters;
- Modification of water diversion, delivery, and storage activities that result in pollutant concentration reductions;
- The installation of equipment or implementation of management practices at orphan sites of environmental contamination to control discharges to the waters of the state by a

person or party that is not responsible for the contamination or liable for response activities under state and federal regulations;

- Other pollution controls or management practices approved by the Division.

Pollutant reductions and their quantification and eligibility for trading will be determined in relation to a baseline condition.

VIII. Trading Baselines

In implementing a trade, it is necessary to establish an appropriate pollutant loading baseline. Baselines should be established using the most accurate, representative and reliable information, including flow data, discharge and loading data.

Unless specified otherwise by the Division, the baseline for all sources except permitted stormwater sources for which a numerical effluent limitation has not been established, should be determined by using the information and data representative of the three year period before the date that a change is made to generate the discharge or load reduction associated with the trade. A different time period that is more representative of historical operations and provides more accurate and reliable actual discharge or existing loading data may be employed if first approved by the Division.

The baseline for permitted stormwater sources for which a numerical effluent limitation has not been established should be the pollutant specific loading achieved through implementation of management practices specified in or approved under a discharge permit at the time a change is made to generate the credit. Monitoring data and actual measurements of load reductions achieved in practice from changes in land use, pollution control facilities and implementation of BMPs should be used where required by the permit. Baselines for agricultural, industrial, urban and residential stormwater run-off should be calculated by using the meteorological information and precipitation data for a representative period or the period of record, whichever is longer. This information and data should be obtained from the nearest national weather service station unless a different location or source is approved by the Division.

The point source baseline shall be the actual discharge level that complies with the most protective of the following:

1. Water quality based effluent limitation established by an applicable requirement; or
2. Wasteload allocation specified under a total maximum daily load; or
3. Wasteload allocation specified in a watershed management plan approved by the Division; or
4. Wasteload allocation determined by the Division to be consistent with water quality standards and specified in a remedial action plan or similar such document.

The baseline for un-permitted nonpoint sources of run-off other than agriculture should be either of the following:

1. For nonpoint sources that are not subject to an applicable requirement, the pollutant-specific loading associated with existing land uses and reasonable and appropriate best management practices, if any; or
2. For nonpoint sources that are subject to an applicable requirement, the most protective of the following:
 - a. A pollutant specific cap and loading allocation specified in the total maximum daily load; or
 - b. A pollutant specific cap and loading allocation or the management practices specified in a watershed management plans approved by the Division; or
 - c. A pollutant specific cap and loading allocation or the management practices determined by the Division to be consistent with water quality standards and specified in a remedial action plan or similar such document.

The baseline for agricultural nonpoint source run-off should be the most protective of the following:

1. The pollutant specific loading from existing agricultural operations that are subject to an applicable requirement; or where there is no applicable requirement, the baseline for such agricultural operations shall be established by a registered engineer or other qualified person based on reasonable and appropriate practices for agricultural operations in that area;
2. The pollutant specific loading achieved after implementation of best management practices established by an applicable requirement; or
3. A pollutant specific cap and loading allocation specified in the watershed management plan approved by the Division; or
4. A pollutant specific cap and loading allocation determined by the Division to be consistent with water quality standards and specified in a remedial action plan or similar such document.

IX. Units of Trade

Trading projects or proposals must specify a clearly defined unit of trade. A mass based credit (e.g., pounds) will generally be the most appropriate, especially where mass-based loading targets or caps have been established by an individual permit, TMDL or voluntary cooperative planning process. For cross-pollutant trading, appropriate units are in mass (pounds) of a pollutant for which credits are being established and the credit should be based on an appropriate consideration of the mass of the pollutant being reduced and the relative impact of other pollutants on beneficial uses. Units for credits in trades involving flow or habitat restoration would also be determined in pounds of pollutant but are appropriately based on a biologically defensible relationship between expected improvement in the aquatic community due to habitat/flow modifications and the impact to the community due to higher pollutant loadings of the parameter being credited.

It is important that the trade reflect the type of water quality standard. For example, if the pollutant being traded is based on an acute water quality standard, then a daily mass load would be the unit of trade. If the standard is an annual average, then an annual mass load would be the appropriate unit.

It is anticipated that for some pollutants a load may not be appropriate. An example would be fecal coliform or *E. Coli*. In this case, the units would be determined on a case-by-case basis.

X. Trading Ratios

All trading ratios must be approved by the Division or other organization as authorized by regulation. Trading programs may use equivalence ratios or similar mechanisms to adjust for the amount of pollutant reduction needed to assure that trades result in environmentally equivalent outcomes at the point(s) of concern in the receiving water. Trading ratios can be determined on a case-by-case basis and take into account the following factors:

- Degree of technical and logistical uncertainty associated with the credit generating method.
- Whether the credits are calculated or measured. Generally, measured values will be more reliable than calculated values; uncertainty is greater when the calculation method is used.
- The fate and transport of the pollutant over the distance between the pollutant source, trade source and points of regulatory compliance within the watershed. The distance factor should take into account the fate and transport mechanisms for the specific pollutant.
- Temporal variability of the pollutant load and of the pollutant reduction method. Credit ratios may be adjusted to compensate for variabilities in loading or treatment that may occur daily, monthly, seasonally, or annually as appropriate.
- Any time lag between implementation of the technology or practice and full performance.

It may be desirable in some instances to establish a watershed-specific reserve pool of credits to compensate for unanticipated shortfalls in the quantities of credits actually generated. Having such a pool in place may be a suitable mechanism for managing uncertainty.

In situations where different forms or types of a pollutant are involved in a trade, a translation factor or environmental indicator shall be determined. Translations can make it possible to trade more than one form of pollutant or pollution by defining the ratio at which the two forms may be exchanged with an equal effect on water quality. Trading may occur between two different types of pollutants if there is sufficient information to establish translation ratios that describe how they interrelate. For example, reductions in upstream nutrient levels can improve downstream dissolved oxygen levels or biochemical oxygen demand. Use of translation ratios requires a demonstration of supporting data and analysis regarding how pollutants behave under specific watershed conditions.

XI. Duration of Credits

EPA's 2003 Water Quality Trading Policy states the following with respect to the creation and duration of credits:

“Credits should be generated before or during the same period they are used to comply with a monthly, seasonal or annual limitation or requirement specified in an CDPS permit. Credits may be generated as long as the pollution controls or management practices are functioning as expected.”

However, no specific guidance is given regarding trading projects that are abandoned or that fail. In addition, the issue of credit banking, either short-term or long-term, is not addressed in the policy.

Inasmuch as the Colorado Pollutant Trading Policy is intended to provide flexibility to promote the initiation and continuation of sustainable water quality trading projects, a number of elements need be considered in determining how long credits generated during the project remain viable. At the present time, trading programs initiated around the nation employ different strategies related to the generation and duration of credits. Examples, listed below, set forth various approaches currently in use.

Example: Credits Remaining Valid in Perpetuity – Cherry Creek Trading Program (Colorado)

The Cherry Creek Basin Water Quality Authority Trading Program Guidelines state: “Credits [for phosphorus reduction] received in approved Trades or Sales shall remain valid in perpetuity, subject to adjustments, modifications, or revocation by the [Cherry Creek Basin Water Quality] Authority as set forth herein; actions or decisions by any other state or federal governmental body or court; or changes in state or federal law.” Under the Program, landowners, local governments, or point source dischargers may construct phosphorus removal projects and receive credits for their own use or for transfer. Credits are put into a reserve pool and can be purchased directly from the Authority or through private project trades.

Example: Lake Dillon Effluent Trading Program (Colorado)

Under the Program a single point source can increase its own permit limit by reducing nonpoint pollution and generating credits; however, once these credits are recognized, they are incorporated into that point source's permit and cannot be traded to other point sources.

Example: Credits Used in the Same Month – Lower Boise River Effluent Trading Demonstration Project (Idaho)

Point Source to Point Source Trade: In this Project, a point source is able to increase its discharge permit limit for phosphorus by receiving the transfer of a credit generated by another point source located within the same watershed. In such a case, credits only can be used in the same month in which the reduction took place.

Nonpoint Source to Point Source Trade: A nonpoint source can voluntarily reduce the amount of phosphorus it discharges, thereby creating a credit that can be transferred to a point source. Each nonpoint credit is characterized by an amount and a time period, e.g., the time period of the reduction. A point source can increase the amount of phosphorus

discharged for any month by receiving the transfer of a credit generated in the same month by a nonpoint source located in the same watershed.

Example: Nutrient Reduction Credits can be Banked for Up to Five Years (Michigan)

Under Michigan's Water Quality Trading Program, credits must be generated before or contemporaneously with the time they are used or traded. Banked credits are those generated during a different time period than that in which they are used or traded. They have been entered into the state water quality registry. Credits for total phosphorus and total nitrogen may be used or traded for a period of five calendar years after the year of generation, subject to certain regulatory restrictions and conditions. Credits that are not used within the credit life are retired to provide a water quality benefit.

Credit Duration for Future Pollutant Trading Projects in Colorado

The above examples show that a number of approaches to the duration of credits are currently used in ongoing trading projects around the nation. Although the approaches differ, each must be consistent with federal and state mandates.

The merits of any proposed pollutant trading project should be evaluated on a case-by-case basis before the project is implemented and periodically thereafter. For example, if pollutant credits are designated to be valid in perpetuity, it may be advisable for them to be reviewed on an annual basis to ensure that this designation is appropriate over time. Where a pollutant trading project involves a permitted point source facility, the sale or purchase of credits can be managed through permitting mechanisms, e.g., implementation of compliance schedules as well as permit renewals. For trades involving solely nonpoint sources, credits may have a finite life, unless a mechanism is in place to assure periodic review. The party responsible for creating credits or its successor in interest, may elect to have the credits permanently retired, (to protect water quality, aquatic species or the environment) and such retired credits shall not be available for any future transfer or allocation.

XII. Trading and TMDLs

Trading is encouraged in impaired waters as it can provide a more cost-effective means of reducing pollutant loadings with resulting progress toward the goal of bringing the water body into attainment with the water quality standard for the parameter being traded. Trades generally cannot be allowed that would result in an increase in the loading of the pollutant of concern.

Water quality trading does not affect the obligation to develop a TMDL for impaired waters. Section 303(d)(1)(C) of the Clean Water Act (CWA) requires that TMDLs be developed for waters for which technology-based limitations and other required controls are not stringent enough to achieve applicable water quality standards (See also 40 CFR 130.7(b)(1)). Nothing in this trading policy changes this obligation. Where pre-TMDL trading occurs and achieves a level of pollutant load reduction or improvement in the beneficial use, such that the impairment no longer exists, in accordance with any adopted state regulation or guidance, the water body need not be listed as provided under 40 CFR 130.7(b)(1).

Trading in Impaired Waters Prior to TMDL Approval

Trading may be conducted in impaired waters prior to the completion or approval of a TMDL when a trade is projected to help achieve progress toward attaining water quality standards. The trades can consist of either:

- Individual trades that achieve a measured or calculated net reduction in loading of the pollutant in question (In order to achieve the appropriate reduction, trade ratios developed pursuant to Section IX of this policy should be set at a somewhat higher level than that for a trade on an unimpaired segment) or
- Watershed-scale trading programs that reduce loadings to a level under a specified cap that is set based on baseline information on pollutant sources and loadings.

Trade Issues During TMDL Development

During the development of a TMDL, any reductions in loading to generate credits for pre-TMDL trading will be considered in developing load allocations and wasteload allocations under the TMDL. Parties that have executed a pre-TMDL trade should participate in the TMDL development process and make the Division and other stakeholders fully aware of their trading arrangement. The Division will, to the fullest extent practicable, seek to have the TMDL include load and wasteload allocations that are consistent with any pre-TMDL trade. However, wasteload or load allocations in a TMDL may be set at a level that is below the level authorized as a result of the pre-TMDL trade as necessary to achieve the goal of attaining water quality standards or restoring beneficial uses.

Trading in Impaired Waters after EPA Approval of a TMDL

Trades in impaired waters for which a TMDL has been approved should be consistent with the assumptions and requirements upon which the TMDL was established. This requires assurance that the system used to determine when credits are created and how they may be applied are consistent with the wasteload and load allocations established by the TMDL and any associated implementation plan. Where a TMDL has been approved or established by EPA, the applicable point source waste load allocation or nonpoint source load allocation would establish the baselines for generating credits from that point forward.

XIII. Long-term Monitoring and Operation

Water quality monitoring is an essential element in any trading program to ensure the water quality goals of the trade are achieved. Actual monitoring plans will be developed on a trade-by-trade basis, and are determined by the nature of the trade, whether point source to point source, or nonpoint source to point source. The trade credit recipient (buyer) is responsible to ensure that monitoring and operation and maintenance of any controls are conducted for the life of the trade.

Trade monitoring and reporting will consist of ambient water quality monitoring, facility discharge monitoring and facility contractual compliance, certification of proper best management practice implementation and maintenance, and overall trade assessment. Some of this information can be referenced in the buyer's regular discharge monitoring report.

As previously noted, in point source to point source trades, the CDPS discharge limit of the buyer will adjust up and the seller's CDPS discharge limit will adjust down, based on the volume of reductions traded and their environmental equivalence ratio. It shall be the sole responsibility of the buyer to obtain any approvals or modifications to their discharge permits necessary to allow increased or modified discharge limits. Buyers must work with the state to amend their CDPS permit limits prior to discharging excess pollutant(s). Monitoring and reporting protocols are defined in the individual CDPS permits and follow the standard reporting mechanisms for CDPS permitting. Each point source facility is responsible for its own discharge monitoring. The state will maintain oversight of facility monitoring and enforcement responsibilities.

In nonpoint source to point source trades, buyers should combine standard CDPS reporting requirements with annual reporting (or more frequent reporting depending on any seasonality of the trade or permit requirements) to certify that the nonpoint source controls are operating and that any appropriate or necessary maintenance has been completed. Nonpoint source monitoring will be conducted to provide sufficient data to demonstrate the effectiveness of trading actions. If water quality monitoring is not utilized, nonpoint source pollutant loading reductions will be determined based upon data and analysis obtained from a model agreed to between the trading parties and the state.

Nonpoint source controls should be inspected immediately after installation or initial implementation to ensure the control is properly sited, the materials and plans satisfy established quality specifications, and the installation job meets performance standards. Inspections should be conducted by a qualified third-party inspector, which may include a professional engineer, certified crop consultant, or certified erosion and sediment control professional or other similarly qualified inspector.

In addition to initial inspections, all nonpoint source controls may have periodic on-site assessment by a qualified inspector to ensure continuing functionality as established on a site by site basis. The buyer will be responsible for the expense of initial inspections and annual assessments.

The Division may use periodic spot check inspections to supplement annual assessments. It may be necessary for the nonpoint source to allow the state or its designated agent access to the property. The Division may invalidate credits established by the nonpoint source reductions if the controls fail to meet BMP protocols and performance expectations.

XIV. Verification and Tracking of Trade Credits

Credit trading documents such as, but not limited to, permit, permit related documents, or other agreements or plans, should include a detailed description of the method used for credit generation. They should also include a description of how the amount of credit generated is determined. Measured credits (i.e., pollutant reductions physically monitored in the field and then calculated based upon actual data) shall include a description of the methods and procedures used for monitoring and calculating eligible credits. Calculated credits (i.e., pollutant reduction calculated using empirical methods because direct monitoring is either technically infeasible or too costly) should include a description of the methods, equations, and assumptions used in deriving eligible credits.

Excess credits can not be generated, used or traded unless they have been registered with an appropriate entity. That entity could be a nonprofit corporation established for such purposes, a “volunteer” governmental entity, the Division or some other entity acceptable to the Division. An appropriate credit reporting form must be prepared prior to effectuation of the trade and provided to the Division for review and comment. The registry of credits shall be updated on a regular basis.

Information contained in the water quality-trading registry shall be available to the public. The responsible individual who certified the generation or use of credits as found in the registry should notify the Division of any data entry errors and necessary corrections to the information posted. After a transaction is completed, the Division retains the right to review reduction performance periodically and adjust the number of credits or credit allowances awarded to point sources based on actual performance with appropriate notification to the buyer.

In addressing the use of credits associated with a trade involving a permitted entity, new or modified permits may incorporate the waste load allocation as a limit or utilize provisions enabling a trade-dependent variable limit. The permit provision can allow monthly changes to either the sources’ discharge limit (the amount of discharge both sources are allowed to put into the river) or the recognized discharge volume (the amount of discharge counted against the limit) based on trading behavior.

In point- source to point-source trades, the trade automatically adjusts the buyer’s CDPS discharge limit up and the seller’s CDPS discharge limit down, based on the load reductions traded and their environmental equivalence ratio. If a source exceeds its adjusted discharge limit during a reporting period, it is in violation of the CWA and held liable for its actions.

In nonpoint source to point source trades, the trade provides a “credit” resulting from lowering the load contributed by the nonpoint source which can count against the point source’s CDPS permit limit during that reporting period. The credit is based on the amount of environmentally equivalent reductions that have been traded from the nonpoint source to the point source. A point source violates the CWA and its discharge permit if its actual discharge, net of all reduction credits acquired through trading during that period, is higher than its discharge limit. The Division may invalidate nonpoint source reductions if they fail to meet BMP protocols, with proper notification to the nonpoint source and point source and retains full authority to enforce the corresponding point source’s effluent limit without crediting its lower discharge volume.

Point sources involved in a trade may use a modified DMR, supplied by the Division to report on their discharging activities, including the actual discharge, point source trades discharge limits modified by the Division as a result of a trade, and nonpoint source credits. This is designed to assure CWA and permit compliance.

XV. Incorporation of Antibacksliding and Antidegradation

Antidegradation. Antidegradation provisions vary according to a waterbody’s designation in one of two categories as described below.

The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to Section 31.8(2)(a) of the Basic Standards and Methodologies for Surface Waters (Basic Standards), shall be maintained and protected at their existing quality. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. These waters, known as “reviewable waters,” shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review in accordance with Section 31.8(3) of the Basic Standards. Water quality trades that will result in an increase in the downstream ambient concentration of a pollutant discharge from a point source discharge to reviewable waters are subject to antidegradation review in accordance with Section 31.8(3)(c) of the Basic Standards. This would occur where the reduction in load to the segment is occurring below the point source discharge. In such cases, the Division will consider the overall reduction in loading to the segment that would result from the trade in its decision regarding a Necessity of Degradation Determination.

Antibacksliding. The State has established rules regarding antibacksliding applicable to discharges under the CDPS permit system. (See Colorado Discharge Permit System Regulations at section 61.10 Modification and Renewal of Permits -Antibacksliding). These rules allow for less stringent effluent limitations (i.e., “backsliding”) from one permit to the next under certain conditions. Water quality trades should be designed in a manner to be consistent with these regulations. Trades could be designed such that the provisions allowing for less stringent limitations are met 1) through the use of traded credits as described in a waste load allocation in the CDPS permit or 2) through trading provisions described in an EPA-approved total maximum daily load (TMDL). The state rules do not allow less stringent effluent limitations if the implementation of such limitation would not be consistent with the Antidegradation provisions of section 31.8 of the Basic Standards or would result in a violation of an applicable water quality standard.

XVI. Watershed Plans

It is important to fully understand the local watershed where a trade will take place in order to ensure that the trade will occur in a manner consistent with the provisions of this policy and applicable regulatory provisions, including water quality standards. Hence, where a trade is contemplated involving more than two point sources, a watershed plan is appropriate. In the alternative, the watershed plan concept could be incorporated into the area’s section 208 Plan. The extent and complexity of the plan will vary depending upon watershed specific factors, including the geographic extent of the area involved, the nature of the pollutants being traded, the number of involved entities, the degree of existing impairment, etc.

A watershed plan for trading can include:

1. A statement of the purpose of the plan.

2. An identification and delineation of the boundaries of the receiving water or watershed for which the plan has been prepared and where trading may occur.
3. A description, to the extent pertinent, of current and projected land use activities within the area for which the plan is prepared.
4. Based upon existing and readily available data, an assessment of existing water quality, along with a comparison to the water quality standards for the receiving waters or watershed for which the plan is prepared.
5. A pollutant-specific inventory of point and nonpoint sources in the plan area for any pollutants involved in the trade.
6. An identification of goals and priorities for implementing the plan.
7. Specific activities, management options and a schedule for implementation of the plan or plan elements.
8. An identification of those persons, organizations and agencies responsible for implementation of the plan or any portion thereof.
9. The identification of any pollutant-specific cap that has been developed.
10. Point and nonpoint source baseline allocations or management practices for the generation and use of credits by all sources that may engage in trading in the plan area.
11. A program to periodically assess the effectiveness of, and make revisions to, the plan.
12. A process for stakeholder involvement throughout the development, implementation and revision of the plan.

The Division will review such plans to ensure consistency with this policy. It is anticipated that plans will be reviewed and revised as necessary.

XVII. Public Participation Requirements

Public participation is an important element of any trading program. Early public participation allows the public access to the decision making process. Trades may be undertaken pursuant to Colorado's trading policy and, thereafter, will be incorporated, as appropriate, into the individual discharge permit. Trades may also be undertaken pursuant to specific control regulations addressing watershed plans, which plans identify the parameters for the trades.

Each control regulation or Section 208 Water Quality Plan (watershed plan) which contains provisions regarding trading will continue to be noticed by the Commission for a public administrative action hearing. Specific trading programs (in Control Regulations or Section 208 Plans) should identify the following:

- Geographic area for trades to occur;
- Constituents which can be traded;
- Criteria for reviewing trades;

- Trade ratios or considerations for establishing credits for each project;
- Process for trade approvals and trading including mechanisms for providing notice to stakeholders of proposed trades and approved trades.

Representatives of the public, stakeholders and other parties may participate in the adoption of the specific trading program approvals. Trading programs described in control regulations will be subject to triennial review. Section 208 plans and trading programs described are reviewed on a regular basis.

There is currently a public notice process for new, renewed, or modified discharge permits. Permits may contain provisions allowing trades based upon flexible limits, or pursuant to a control regulation or watershed plan. The authorization would be contained within the permit limits and conditions.

XVIII. Role of Division

The role of the Division in the implementation of this pollutant trading policy is significant. In general, the Division would interface with trade participants under the following circumstances:

- Issuance or modification of a discharge permit which incorporates trades;
- Approval of a TMDL incorporating a trade;
- The need to assure adherence to identified trading prohibitions; and
- Review and approval of trades (absent a statutory or regulatory provision delegating such authority to another entity) to ensure that they are:
 - Of an acceptable type;
 - Appropriately quantified;
 - In an acceptably defined reach;
 - Measured in appropriate units; and
 - Reflective of appropriate ratios.

Each of these determinations would be made in accordance with those guidelines set forth herein.

The Division may also have a role, as spelled out in individual trades, in assuring adequate long-term monitoring and facility operation. In addition, in certain instances, the Division may also participate in the verification and tracking of trade credits to the extent that others are not designated this responsibility. However, since this is a state policy and not a state regulation, the Division's regulatory authority cannot extend beyond that currently provided by statute or existing regulatory promulgations. Therefore, by way of example, though the Division may be able to foreclose a trade in the context of a point source permits, it would have very little oversight authority if the trade involved "voluntary" actions by two nonpoint sources.

XIX. Enforcement

The implementation of trading must not result in water quality degradation, therefore compliance with the terms of a trade must be verified.

If a trade is between nonpoint sources and point sources, the Division has jurisdiction over the point sources. However, the nonpoint source removals must be verified. The nonpoint source reductions can be verified through measurements of the pollutant removals from monitoring of the project(s) or through certification that the project(s) remains in operation. Such certification should be completed by a third party such as Urban Drainage and Flood Control District, or other appropriate federal, state or local agency that can review the site and determine that the project is operating. For habitat offsets or habitat-related trades, the certification can be by the Colorado Division of Wildlife, US Fish & Wildlife Service or a nonprofit wildlife group. Each permittee should file with its DMRs information to verify that the trade credits remain in place and that the discharge has not exceeded the limits plus trade credits. For point source / point source trades, the monitoring by each point source discharger as part of its monthly DMRs will provide verification that the appropriate reductions have been received and that the transfer is effective.

If a nonpoint source fails to achieve the reductions, then the point source will not be entitled to use the credits. The point source should seek immediately to acquire credits from third parties, implement other projects or commence adjustments to processes to compensate for the failure of the nonpoint source project. The point source will be granted a period of time, not to exceed three years, in which to rehabilitate the nonpoint source project, develop a new project, or find another means to obtain the credits provided that all effluent limitations necessary to ensure compliance with water quality standards are met in the interim. The three year period is deemed reasonable as it generally requires 3 years to design, construct and commence removals from nonpoint source projects such as storm water detention and wetlands.

Each party to a trade may include in their contracts private remedies that would address the failure of one party to achieve appropriate reductions and removals.

Catastrophic events could occur which would obliterate or preclude the removal credits associated with the trade. If such events occur, it may be treated as a bypass provided the regulatory requirements are met. The discharger should provide notification to the Division that a bypass has or will occur. In accordance with bypass provisions, no enforcement action will occur.

XX. Property Rights

Pollutant credits resulting from an approved trade do not constitute property rights. Like wasteload allocations under a TMDL, pollutant credits constitute a license to discharge, in accordance with the terms of any applicable discharge permit and/or control regulations adopted by the Water Quality Control Commission. Pollutant credits, wasteload allocations, load allocation and permit requirements may be changed in accordance with applicable regulations or through revisions to applicable regulations. However, it is important that trading programs be structured to provide adequate certainty to those potentially undertaking trading projects, thereby ensuring a meaningful incentive for the associated investment.