DEPARTMENT OF
ECOLOGY
State of Washington

# Draft Water Quality Trading/Offset Framework

*Draft Framework and Response to Comments*

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## Publication and Contact Information

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DEPARTMENT OF ECOLOGY
State of Washington

**Draft for Public Comment**

# Washington Water Quality Trading/Offset Framework

Pollution trading, sometimes called water quality credit trading, uses the market concept to help achieve water quality goals. Trading relies on the fact that many different facilities and activities, such as businesses and industries, wastewater treatment facilities, urban stormwater systems, and agricultural sites, may discharge the same pollutant into a water body, yet may face substantially different costs to control that pollutant. The use of trading allows pollution reduction activities to be assigned a water quality improvement value in the form of *credits* that can then be traded on a local *market* to achieve cost-effective water quality improvements.

Pollution trading can provide advantages in addition to reduced costs for water quality improvements. Pollution to a water body can come from both point and nonpoint sources. In some watersheds, it may not be possible for the point sources to achieve a higher level of treatment using the best technology available at this time. In those situations, pollution trading between point sources and nonpoint sources may be the only way for the point source discharger to achieve compliance with state water quality standards. Trading can provide a fund source for nonpoint pollution controls in addition to the currently available fund sources, such as state and federal grant and loan programs. This may be critical in solving our water pollution problems, since nonpoint pollution has been identified nationally as the leading cause of water pollution.

The purpose of water quality credit trading markets is not financial gain. Markets in this context are intended to promote more effective, lower cost reductions of pollutants to restore water quality and maintain healthy rivers, lakes, streams, and estuaries in the future. Financial savings will certainly accrue to those parties that buy credits from others for less than the cost of implementing the pollution reductions themselves. Moreover, those that sell water quality credits will, presumably, do so only if the value of the trade is equal to or higher than their investment in the facilities or activities necessary to achieve the pollutant reductions.

*Credits* are simply an accounting mechanism to reflect the value of pollution reductions in terms of water quality benefits, not dollar costs. The differential monetary costs of implementing pollution reductions will vary substantially from situation to situation and over time. Costs are precisely what businesses, industries, and local governments will evaluate when considering trading—but they are not relevant to the environmental value of the credits in a trading program. The objective of a water quality credit-trading program is to facilitate economic exchanges that demonstrably reduce pollution and clean up impaired surface waters more quickly.

Ecology supports the concept of pollution trading markets that:

- Meet the requirements and objectives of Washington's water quality standards and the federal Clean Water Act.
- Promote cost-effective water quality protection and restoration.
- Result in water quality trades that are verifiable and fully enforceable.

Washington trading programs must also comply with the U.S. Environmental Protection Agency (EPA) trading policy, which recommends that state programs provide:

- Timely public access to information on trades.
- Public participation during program development and implementation.
- Mechanisms to monitor progress, evaluate program effectiveness, and revise the program as necessary.
- Legal mechanisms to facilitate trading.
- Clearly defined units of trade.
- Methods to quantify credits and address uncertainty.
- Compliance and enforcement provisions.
- Accountability for all trades.
- Assurance that NPDES permit holders meet their permit limits.

For additional information about water quality trading, see:
EPA's water quality trading page: water.epa.gov/type/watersheds/trading.cfm
EPA's trading policy: www.epa.gov/npdes/pubs/wqtradingtoolkit_app_b_trading_policy.pdf
EPA's *Water Quality Trading Assessment Handbook*:
water.epa.gov/type/watersheds/trading/upload/2004_11_08_watershed_trading_handbook_national-wqt-handbook-2004.pdf
Washington's Offset Rule: apps.leg.wa.gov/WAC/default.aspx?cite=173-201A-450

This document outlines the regulatory path for water quality trading under Washington Water Quality Standards and the Clean Water Act. This process is designed to develop trading programs that satisfy state and federal regulatory requirements (permit limits and TMDL load allocations). In some limited circumstances, a community may choose to develop a proactive and non-regulatory trading program to help them manage their long-term water quality needs. For example, a point source discharger may want to pay for nonpoint pollution control efforts to preempt the need for future impaired water listings and subsequent water clean-up efforts. In these situations, where state and federal law compliance is not a goal of the trading program, a community need not follow this process. However, it is important to note that trading programs that do not follow this process *will not* provide a regulated entity with any legal assurances or protections under applicable state and federal water quality regulations.

## For more information and to comment

Send comments or questions on this draft Framework by November 22, 2010 to:
Helen Bresler, Department of Ecology, Water Quality Program PO Box 47600,
Olympia, WA 98504-7600 or by email hbre461@ecy.wa.gov

# Introduction

## How trading works

- A *cap* or limit, typically determined through a total maximum daily load (TMDL) study, is placed on the total amount of pollutant that can be released from all discharge sources into a water body.
- Point sources of pollution receive a wasteload allocation that is converted to a permit limit.
- Nonpoint pollution sources receive a load allocation, which establishes the baseline that must be met before nonpoint credits that may be traded accrue.
- Point sources can meet their wasteload allocation (WLA) by:
  1. Meeting the permit limit based on the WLA through on-site actions, (for example, by reducing the quantity or improving the quality of discharge).
  2. Earning "credits" by implementing pre-approved nonpoint source pollution control measures. or
  3. Buying "credits" from other sources that have reduced pollutants below their own allocation.

## What is a credit?

- A unit of pollutant reduction usually measured in pollutant quantity (pounds) per unit of time at a point of compliance.
- Generated by a point source by over-controlling its discharge—going beyond reductions required by its WLA-based permit limit or its existing permit limit, whichever is more stringent.
- Generated by a nonpoint source from the installation of best management practices beyond those required to meet the most stringent load allocation applicable to that nonpoint source.
- The number of credits used by a point source buyer must be adjusted by a trading ratio.
  - Ratios adjust for the environmental impact of a pollutant discharge being moved from one part of a watershed to another, changes in pollutant form, and uncertainty.
  - Ratios can also be used to add environmental benefit, for instance by retiring a percentage of the credits to ensure a permanent environmental benefit.
- Nonpoint source credits and trading ratios must be measured or calculated from the same baseline used in the TMDL and must be consistent with the assumptions used to develop the load allocation.

## EPA guidance

- Participants must be located within the same watershed.
- The appropriate watershed size is determined by ability to establish equivalence of water quality impacts.
- No trading to meet technology-based limits.
- No trading to address toxics.
- No out-of-kind trading.
- Trading may not adversely affect water quality at an intake for drinking water supply.
- Surplus credits are created only when discharge is reduced **below** water quality-based limits or applicable technology-based limits, whichever is more stringent.

- Trading must not result in exceedance of water quality standards, or a violation of antidegradation requirements (no *hot spots*), or cap established by TMDL.
- Credits may only be used to attain more stringent effluent limitation than previous effluent limitations, in the life cycle of an individual permit. Clean Water Act prohibits backsliding on permit effluent limitations. See CFR 122.44(l).

### Elements of a credible water quality trading program

- Must define a common unit of credit, such as pounds of phosphorus per day.
- Credits should be generated and used within the same time period to comply with permit limits and prevent localized exceedance of water quality standards.
- Include methods of managing uncertainty such as using trading ratios, monitoring, modeling, and BMP efficiency estimates.
- Have mechanisms for compliance and enforcement—record-keeping requirements, certifications, inspections, and enforcement.
- Provide adequate public notice and trade transparency.
- Regularly assess results to modify and improve the program.

## Defining the trading universe

### Determining eligible trades

Ecology, with input from interested parties, will determine what types of trades will be eligible for each specific pollutant/watershed water quality trading program. Some of the trades that may be evaluated for each program include trades:

- Between point sources.
- Within a single entity, for example, a jurisdiction reducing its own nonpoint discharges to offset its point source discharge or a discharger trading between multiple outfalls from the same plant.
- Between point sources and nonpoint sources.
- Between nonpoint sources.
- Trading one oxygen-related pollutant for another, such as ammonia for phosphorus, if adequate information exists to establish and correlate impacts on water quality.
- Trading a pollutant for a water quality enhancement, such as increasing dissolved oxygen as a trade for reducing phosphorus.
- Trading one form of a pollutant for another form, such as total phosphorus for a soluble or non-soluble form, if adequate information exists to establish and correlate impacts on water quality.

### Identifying eligible BMPs for nonpoint trades

To decide which best management practices (BMPs) are likely to provide the most improvement, it is necessary to estimate how much pollution is coming from a watershed or from a specific land use and then to identify the BMPs most likely to address that pollution. It is a good idea to identify a specific, prioritized set that will be used for trading. They may be individual BMPs that may be selected from a list, there may just be one or two BMPs that are eligible, they may be required to be installed and used

in a specific order and/or in a specific combination. For instance, the decision may be to allow credit to be earned for using direct seed only if the producer also installs a stream buffer of a specific width and plant composition.

### Quantifying/estimating pollutant reductions

A standard methodology must be used to estimate the amount of pollution reduction expected from the implementation of eligible BMPs. Monitoring must measure actual reductions periodically and adjust, if necessary, the estimated reductions.

### Establishing trading ratios

Factors to consider when establishing a trading ratio:

- Technical and logistical uncertainty—will this solution actually work? Will it work at this location? Does the BMP estimating equation have a lot of uncertainty?
- Whether the credits are estimated or measured.
- Fate and transport of the pollutant.
- Distance between the pollutant source and the regulatory source—the locational ratio.
- Risk—likelihood of BMP failing or of implementer reneging.
- Temporal variability—does the BMP remove different amounts of the pollutant at different times?
- Time lag between implementation and full performance.

If the estimated reductions are expected to vary over time or will be difficult to measure, an uncertainty discount may be applied to the credits produced to ensure that the necessary amount of pollution reduction is achieved.

Another adjustment that may be used is a water quality equivalence ratio. This may be set to account for the different effects caused by pollutant discharges in different parts of a watershed. Some pilot trading projects have applied a simple 2:1 ratio to all trades. Others have used a mass balance model that accounts for inputs, withdrawals, and ground water infiltration.

Equivalence ratios will affect the financial attractiveness of trading.

Retiring credits—a certain proportion may be retired, which means that those improvements must remain in place forever.

## Proposing an alternative trade

A discharger proposing a trade not on the approved eligible trade list (determined by Ecology) is responsible for showing that it will actually offset a portion of the discharger's water quality-based effluent limit and meet all other trading requirements listed in the Introduction section. To demonstrate the effectiveness of the trade the discharger must use the following process:

## Project scoping—proposal and consultation

Proponent presents trading/offset study proposal to Ecology. Ecology provides initial consultation at conceptual stage and may reject the proposal at this stage. If Ecology agrees that the proposal has merit, it provides clear written feedback regarding the merits of the proposal, weaknesses that must be addressed, and items that must be included.

## Quality Assurance Project Plan (QAPP)

The proponent prepares a QAPP and submits it to Ecology for review and approval. The QAPP must meet Ecology's requirements, which can be found at
http://www.ecy.wa.gov/programs/eap/quality.html

A QAPP

- Lists the goals and objectives of a study.
- Identifies the type and quality of data needed.
- Describes the sampling and measurement procedures needed to acquire those data.
- Describes the quality control (QC) and assessment procedures needed to ensure that the study objectives are met.
- Describes the methods to be followed to achieve the requirements contained in the sections below entitled "Discharger Implements Offset" and "Monitoring."

The completed QAPP must be approved by Ecology before the proponent begins collection of new data or any other work on the study.

## Study requirements

- Address all of Ecology's comments and concerns identified in the scoping consultation.
- Description of the management practices and/or technologies proposed to achieve the pollutant reduction and scientific evidence that use of those practices or technologies will actually result in that reduction.
- Determination of the net reduction in pollutant loading to be achieved by the proposed action, considering all relevant environmental influences (natural or otherwise), including seasonal variation in loading, lag times between installation and achievement of pollutant reduction, uncertainty, and other factors.
- Demonstration through modeling or equivalent actual situations that the reduction will be achieved at the compliance point.
- Demonstration that the pollutant reduction can be measured at both implementation and compliance monitoring locations, or a proposed method to estimate the pollutant reduction.
- Provide design detail at a level that can be field checked (if relevant).
- Implementation milestones with associated timelines.
- A post-implementation monitoring plan that examines implementation effectiveness and the effect of the offset, in terms of water quality, at the compliance location. The plan must propose an analysis method describing how the monitoring data will be evaluated, over time, to determine whether the offset (and associated offset implementation method) have achieved the load reduction. The analysis must consider pollutant variability.

- A date for offset effect to be measurable at the compliance location.

When the study is complete, the proponent submits a draft report to Ecology for review. Ecology determines whether all elements initially required are present and considered competently. Ecology may approve the report or return it with comments that are to be addressed before final approval.

### Ecology determines offset

Once the study is approved, based on study report findings and any other supporting data, Ecology determines the amount of credit that will be allowed for the proposed action. Determination includes:

- Finalizing the estimation equation that will be used.
- Setting baseline for nonpoint sources to achieve before they can trade.
- Establishing trading ratios.

## Implementing the trade/offset

### Implementation requirements

- Implementation of the offset/credit for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action.
- Point or nonpoint source pollution controls must be secured using binding legal instruments between any involved parties for the life of the project that is being offset. The proponent remains solely responsible for ensuring the success of offsetting activities for both compliance and enforcement purposes.

### Ecology issues NPDES permit

- NPDES permit requires use of best technology dischargers can achieve.
- NPDES permit is written to allow trading for portion of the WLA-based effluent limit that goes beyond best technology dischargers can achieve.
- Credits are linked to NPDES permit. Dischargers will report raw sampling results, as well as trade-adjusted results, on their monthly DMRs. The trade-adjusted results must meet their effluent limits.

The NPDES permit establishes the point source effluent limit and allows the use of approved credits to make up the difference between the best effluent technology can achieve and the effluent limit. By issuing the permit, Ecology presumes that the total of the permit holder's own discharge and any credits claimed to meet the TMDL wasteload allocation are in compliance with state water quality standards, provided that the permit holder adheres to all conditions of the permit and any other trading requirements. This presumption may be overcome by evidence that the practices providing credit are found to be not effective or not adequately implemented or maintained.

### Permittee implements offset

- To ensure credits are accrued and used in the same time period, the discharger must certify each month that offset activities/technologies are in place, being operated and maintained correctly, and that pollutant reduction associated with the action is being achieved.

- Ecology may conduct periodic inspections, including but not limited to visual inspections, and water quality monitoring, at any time during the life of the offset.

### Monitoring

- For point source discharges undergoing technology-based measures, Ecology may verify (pre and post-implementation) the magnitude and quality of discharge at end-of-pipe.
- Participant conducts monitoring as established either through the offset study report or alternatively, through a post-TMDL monitoring plan. Monitoring results and any additional reporting required by Ecology to document the offset are produced and submitted to Ecology monthly.
- Ecology oversees overall TMDL compliance monitoring, which accounts for the cumulative loading including the point and non-point sources at the critical location designated by the TMDL.

### On-going credit accounting

Any trading program must use an established credit accounting system or establish its own to ensure that credits are accrued, used, and tracked to ensure compliance with NPDES permits and Washington's water quality standards.

### Credit expiration/retirement

Approved credits will expire under the following circumstances:

- If they become actions required by a permit, by a TMDL load or wasteload allocation or TMDL implementation plan, or by policy regulation.
- If the BMPs by which the credits are accrued are shown to be ineffective or less effective than originally expected.
- If the BMP is removed.

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April 20, 2011

TO: Stakeholders interested in Water Quality Trading Framework

FROM: Kelly Susewind, P.E., P.G.
Water Quality Program Manager

RE: Responsiveness Summary on the Water Quality Trading Framework

I have attached the summary for the Draft Water Quality Trading Framework paper that went out for public review in the fall of 2010. The Water Quality Trading Framework will continue to be a living document (it will not be finalized) as we work through the trading program that we are developing in Spokane.

One of the challenges in developing this responsiveness summary was how definitive to be on specific issues since we are engaged in a "real time" trading program development process. As you read through these responses, please realize that some of these issues are being actively discussed and challenged. As a result, this responsiveness summary might change over time.

If you have any questions, please contact Helen Bresler at HBR461@ecy.wa.gov, or at (360) 407-6180.

Attached: Water Quality Trading Framework Responsiveness
Publication No. 10-10-064*

*updated publication number March 2018

DEPARTMENT OF
ECOLOGY
State of Washington

# Draft Water Quality Trading/Offset Framework

*Summary of Comments and Response to Comments*

April 2011
Publication no. 10-10-064

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# Response to Comments on
# Draft Water Quality Trading/Offset Framework

## General comments on trading

**1. Idaho Conservation League.** We do not object to the concept of trading as long as the trading framework and specific trades meet rigorous standards.

*Response: Comment noted.*

**2. Avista**. The Draft Framework contemplates a number of decisions that must be made before trading can begin, including the types of projects that can generate credits, the methodologies used to calculate the amount of credit assigned to a pollutant reduction project, and how monitoring to document credits will be incorporated into existing models. Since these decisions will have a major impact on the feasibility of the trading program, Ecology should not make them in isolation. We think it is critical that Ecology consider input from the parties who will participate in the trading programs, including entities that receive wasteload allocations or other responsibilities based on a TMDL.

*Response: Ecology will make decisions determining eligible trades as part of the design process for each individual trading program. These decisions will be made using input from the local implementation advisory committee. We are working through these issues right now as part of the Spokane River DO TMDL water quality trading program. These decisions are also part of Ecology's determinations about what is required to meet NPDES permits, which go through a public review process.*

**3. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. We appreciate the invitation to comment on the proposed Trading Program. However, we find the proposed Trading Program to be lacking in several important areas. As set forth in the comments below, the Trading Framework falls short of meeting the legal requirements of the Federal Water Pollution Control Act, 33 U.S.C. §§1251 et seq. ("Clean Water Act" or "CWA") in a number of ways and does not provide reasonable assurances that the water quality standards for oxygen-depleting pollutants will be met. See 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i). As KEA, Spokane Riverkeeper and The Lands Council have explained throughout this process, the Clean Water Act is silent on the issue of nutrient trading as a means to meet National Pollutant Discharge Elimination System ("NPDES") permit limits, and the only way the groups will approve of this process is with concrete evidence that water quality improvements will and are occurring in Lake Spokane.

*Response: The framework document itself cannot provide assurance that a specific water quality trading program will achieve compliance with the Clean Water Act and the state water quality standards because it simply provides the steps that must be followed to establish an individual trading program. However, we are also following EPA's trading policy and EPA's other guidance documents that provide support and direction on designing water quality trading programs that*

*are consistent with the requirements of the Clean Water Act. EPA's guidance materials state that "implementation of water quality trading is still governed by existing requirements of the Clean Water Act and EPA's NPDES implementing regulations." The Spokane trading program must be designed to meet the wasteload and load allocations of the Spokane River DO TMDL. Trading will only be allowed if there is reasonable assurance that the trades will be measurable and TMDL targets will be met after advanced treatment technology is installed.*

**4. Spokane Tribal Natural Resources.** "What is a credit? Generated by a point source by over-controlling its discharge-going beyond reductions required by its WLA-based permit limit or its existing permit limit, whichever is more stringent." (Page 7). The Department opposes this type of credit because it establishes in essence a right to pollute that can be sold. In short, if dischargers are able to discharge less than their permit limits or waste load allocations then those allocations or limits should be reduced. The Department is very concerned because the margin of safety is fragile at best in the Spokane River Dissolved Oxygen TMDL, and if oxygen-depleting pollutants can be reduced by a discharger then that should not allow another discharger the ability to exceed their WLA or permit limits by purchasing a credit.

*Response: We understand this point of view. However, a TMDL establishes the cumulative amount of a pollutant that may legally be discharged to a water body and divides it among the contributing sources. If one of those sources can discharge less than its allocated share, there is no legal mechanism that allows the state to require the source to discharge at that lower level. The Clean Water Act does, however, have anti-backsliding provisions, which require that a discharger may not be given less stringent effluent limits in subsequent permits.*

**5. Pierce County**. As a strong supporter of water quality trading, Pierce County is encouraged that Ecology intends to establish a trading program in Washington State. We believe trading offers the potential to achieve better water quality benefits quicker and at lower overall costs. In order to realize those benefits, we would like to see Ecology encourage trading by providing certainty to project proponents and to facilitate early actions. We may be willing to participate in a pilot trading program to help flesh out Ecology's draft framework and serve as an example for application throughout the state.

*Response: We are not certain what providing certainty to project proponents means. Each individual trading program must be designed to address the specific pollutants and specific dischargers in a watershed. It is not possible to promise that trading will work for every discharger in every situation or to "facilitate early actions" if what the commenter means is that Ecology would provide assurance that those early actions would result in NPDES permit compliance or would obviate the need to do a TMDL. For these reasons, Ecology's trading framework does not apply to pre-TMDL trading. EPA's trading policy allows pre-TMDL trading, but requires analysis that shows the trade will not worsen water quality but instead will make significant progress toward meeting water quality standards. Groups anticipating pre-TMDL trading should follow EPA's policy, and should understand that the result of this kind of trading may not achieve compliance with water quality standards.*

*This framework serves as a general recipe for developing a water quality trading program when a TMDL is in place and dischargers in the watershed are interested in participating in a trading program. It should also be noted that trading is completely voluntary.*

**6. Pierce County.** The first paragraph of the cover letter states that the framework document "is meant to serve as a 'regulatory recipe' if an area is interested in developing a water quality trading program…" This seems to suggest that Ecology expects individual dischargers or jurisdictions to take the lead in developing trading programs. Will Ecology actively encourage and support the development of trading programs?

*Response: Ecology's Water Quality Program will lead development of water quality trading programs being designed to meet the requirements of TMDLs, NPDES permits, the Clean Water Act, and state water quality standards. Ecology supports development of these programs only when there is broad support from watershed stakeholders because designing a successful water quality trading program is difficult, costly, and time-consuming, and may not be successful or necessary (because it's voluntary) even after all the design work is done.*

**7. Pierce County.** The second paragraph [of the cover letter] states that Ecology did not want to create another detailed guidance document, but then goes on to state that Ecology "sees the need to be explicit about the steps needed…" Pierce County believes that explicit procedures and criteria are essential to a viable trading program. Therefore, we recommend that Ecology establish general procedures based on the EPA guidelines and the Idaho and Cherry Creek (Colorado) examples, and work with trading proponents to develop the specific procedures and criteria early in the development of each program.

*Response: Ecology's intention with the statewide water quality trading framework is to establish the general guidance and steps to follow in developing individual water quality trading programs. Ecology will lead development of water quality trading programs in individual watersheds in which trading may be needed to achieve compliance with TMDLs and NPDES permits and there are stakeholders willing to try water quality trading.*

**8. Pierce County.** The draft framework document states that Ecology will determine the amount of credit that will be allowed for the proposed actions. As noted in preceding comments, Ecology needs to establish the specific criteria and procedures it will use to judge estimation methods, set baselines, and establish trading ratios, so trading proponents can determine whether a given trade is likely to be viable before spending substantial time and money developing proposals, preparing QAPPs, conducting studies, and preparing reports.

*Response: In general, a TMDL will set the baselines to be used when establishing potential credits for water quality trading. The methods of estimating credits, establishing trading ratios, etc. will be adopted as part of the design of an individual trading program. Each watershed in which there is interest in or a need to develop a water quality trading program will have a number of unique issues that stakeholders must consider as they develop a water quality trading program. This is why Ecology is developing a general water quality trading framework to be used statewide. Specific requirements for each individual water quality trading program will depend on the characteristics of the individual watershed, the pollutants being addressed, and the requirements of the TMDL.*

**9. Washington State Department of Transportation**. WSDOT is supportive of a water quality trading program in Washington. In the future, we may want to participate in the trading program under our NPDES Municipal Permit's TMDL implementation requirements. However, we are

concerned with relying on Waste Load Allocations (WLAs) as an indicator of compliance and a baseline for the trading program, as it applies to TMDLs. In our experience, many TMDLs are developed lacking stormwater data. In the absence of data, various methods and models are used to predict stormwater contributions. Many times, the models used are based on generic impervious cover estimates and pollutant concentration values that may not be representative of Washington highways. WLAs are assigned to WSDOT based on these generic methods and models. We are concerned that these potentially erroneous values (WLAs) will be the baseline of the proposed water quality trading program, as it applies to TMDLs.

We understand this document was written in general terms to provide a framework for trading that may be implemented under many different permits or programs. However, to provide more clarity, we suggest adding sections to the document that would provide specific guidance to the different audiences on how trading would/could apply to them. Suggested audiences include: NPDES Municipal Stormwater permittees, NPDES Industrial permittees, non-point sources who are not permitted under NPDES, and NPDES General Construction permittees (if trading applies to that permit as well). As it is, this document is unclear exactly who trading will apply to and how it will help/affect permit compliance and their overall programs.

We also suggest adding a glossary to define some of the terms used in the document that can be confusing or seem to be used interchangeably. Some examples are: effluent limitation, water quality standard, WLA, load allocation, offset, best effluent technology, credit earner, credit buyer, discharger, proponent, and participant.

*Response: TMDLs are the best information we have about the loading capacity of a water body, and they provide the basis for the effluent limits in NPDES permits. The TMDL places a cap on the amount of a pollutant that may be delivered to a water body, and gives individual wasteload allocations to all of the point sources, including those covered by stormwater NPDES permits, which is what provides the impetus for water quality trading. We are aware of the difficulty in measuring stormwater discharges. Nevertheless, a TMDL's load and wasteload allocations will always be used as the basis for a water quality trading program. As part of an individual trading program, NPDES municipal stormwater permittees that wish to pursue trading will, as a first step, need to determine their individual contribution to the TMDL stormwater WLA, which will usually be the combined loading from all permittees.*

*It is not possible to provide guidance about how water quality trading might apply to every possible discharger. Whether or not water quality trading might be used by a discharger will be determined by the specific situation in an individual watershed, the load and wasteload allocations in the applicable TMDL, the difficulties in controlling the specific pollutant, etc. EPA's Water Quality Trading Assessment Handbook is a very useful tool to help stakeholders determine if water quality trading is the right tool for their circumstances. Ecology's intention with the statewide water quality trading framework is to establish the general guidance and steps to follow in developing individual water quality trading programs, not to answer every possible question that might arise about water quality trading. We have written a glossary, which will be attached to the final version of the water quality trading framework.*

**10. Washington State Department of Transportation**. Page 7, "Ecology issues NPDES permit," 151 paragraph, 2nd sentence: "By issuing the permit, Ecology presumes that the total of

the permit holder's own discharge and any credits claimed to meet the TMDL wasteload allocation are in compliance with state water quality standards, provided that the permit holder adheres to all conditions of the permit and any other trading requirements." It is our understanding that meeting a WLA is not the same as, or presumed the same as, meeting water quality standards. Our understanding is that if all point sources within a TMDL meet their WLAs, and all nonpoint sources within a TMDL meet their LAs, then water quality standards are presumed to be met in the water body for which the TMDL is established. Our understanding seems to contradict the cited statement.

*Response: The commenter is correct that a TMDL uses the cumulative loading capacity of a water body to set a maximum load of a pollutant that it can receive and still meet standards and to divide that load among all the dischargers. If all of those dischargers meet their load and wasteload allocations, then water quality standards will be met. However, when Ecology issues a permit, that permit is only for the portion of the wasteload allocated to that discharger, and that discharger is considered to be in compliance with state water quality standards if all permit conditions are being met.*

**11. Washington State Department of Transportation**. This document was written to address water quality trading as it may apply to various audiences. As written, it is not clear how trading would/could apply to each audience and who is responsible for different elements of credit trading (monitoring, operation and maintenance of BMPs, etc.). We would like the opportunity to review and comment on this document again after our comments and questions have been addressed.

*Response: Ecology's intention with the statewide water quality trading framework is to establish the general guidance and steps to follow in developing individual water quality trading programs. Questions about who might want to buy or sell credits and how trading might work in a specific situation will be answered as part of the design of individual water quality trading programs. Right now we are working on developing a water quality trading program to help implement the Spokane River DO TMDL.*

**12. American Farmland Trust.** We very much appreciate that the Washington Department of Ecology has undertaken to produce a policy framework for water quality trading in our state. Such a framework is badly needed. Its continued absence would have been a significant deterrent to local communities who might wish to take advantage of the much needed benefits of water quality trading – both environmental and financial. Thank you for moving ahead with this. And thank you for providing the opportunity to comment.

As you know, we at American Farmland Trust have been working for some time to encourage credible trading programs here in Washington and throughout the county. Water quality trading offers the opportunity for communities to meet and exceed water quality standards (whether there is a TMDL yet in place or not) while also improving environmental quality in other critical regards. It also helps to keep rural agricultural lands in farming and out of development – itself a highly desirable environmental goal. If, however, the rules we create make responsible, credible trading impractical, the potential for these immensely valuable benefits will evaporate. So it seems well worth the struggle to design a trading system that can credibly and effectively protect and improve water quality while also reducing social costs and achieving these other valid social goals.

*Response: Comment noted.*

**13. American Farmland Trust**. The overview section takes pains to make a strong statement (p.1) that the purpose of trading is NOT financial gain. But it seems unclear why this language is needed. And the intent is a bit confusing considering that the overview also clearly acknowledges that one of the valid objectives of trading is cost savings – a particularly critical recognition in the water quality trading arena where there is frequently a dramatic difference in financial cost between meeting water quality standards using technology infrastructure and meeting them using watershed restoration through BMPs implemented by farmers and ranchers.

Perhaps it might be sufficient simply to state that even though cost savings are a valid objective in designing rules for trading, the ultimate outcome must result in fully and credibly meeting clean water standards and this that ultimate outcome cannot be compromised by reason of cost.

*Response: The draft framework makes the statement about financial gain to make the point that the purpose of water quality trading is not to get more money to implement nonpoint best management practices. The purpose of water quality trading is to allow facilities facing higher pollution control costs to meet their regulatory obligations by purchasing environmentally equivalent (or superior) pollution reductions from another source at lower cost, thus achieving the same water quality improvement at lower overall cost. The facilities seeking to achieve compliance may or may not be interested in trading with nonpoint sources, and it is not Ecology's objective to ensure that point to nonpoint trades take place. Rather our objective is to achieve compliance with the Clean Water Act and state water quality standards in the most efficient and cost-effective manner. Ecology will define the regulatory requirements to be met, will work with stakeholders to design a trading program for a specific watershed, and individual dischargers will determine whether or not trading will work for them and if so, what kinds of trades they wish to make.*

**14. Northwest Pulp and Paper Association.**

NWPPA Supports the Draft Water Quality Trading Framework

NWPPA supports the idea that the guidance document is a summary of the steps needed and the role Ecology will play but that the document primarily relies on existing EPA guidance.

EPA Guidance does not allow trading to address toxics. This means that trading will be limited to address conventional pollutants such temperature and nutrients that cause depressed levels of dissolved oxygen. As the Spokane Dissolved Oxygen TMDL (March 2010) nears implementation, trading will be a helpful option.

While this is a good start, NWPPA is concerned that Ecology will need a larger more comprehensive strategy to provide additional mechanisms to address issues of impaired waters in the future.

Ecology Needs a More Comprehensive Strategy to Address Impaired Waters

Ecology needs to commence long-term planning to address the fact that the state will have more water bodies listed as impaired waters in the future, even where actual water quality remains the same or shows improvement. Additional listings of impaired waters will of course occur if water quality degrades below water quality standards. However, additional listings will also be driven by two factors: (1) Ecology will ultimately have more stringent water quality standards that

incorporate higher fish consumption rates of native Americans; and (2) Analytical detection methods will continue to improve and many substances, toxic and conventional, will be measurable that are not measurable today.

With three decades of controls of point sources, most of the "new" water quality listings due to the two factors cited above will involve substances that are ubiquitous in the environment. These substances may either be naturally occurring or human-caused. Arsenic is an example of naturally occurring earth metal that is ubiquitous in Pacific Northwest surface and groundwater and is present in many locations at levels that exceed water quality standards. With new more stringent water quality standards likely to be adopted in the near future, most Washington waters will be many times over the arsenic criteria. A similar situation will exist for other naturally occurring earth metals. PCBs are an example of a man-made substance that has become ubiquitous in Pacific Northwest waters at very low levels but at levels below the detection limits of the most commonly used EPA approved methods. PCBs will become detectable virtually everywhere using the new methods EPA is in the process of approving. Mercury is an example of a substance that will likely exceed water quality standards in the future and is both a naturally occurring earth metal and is also present due to long-range air deposition from combustion sources such as coal-fired power production in China.

The point of these examples is that although the trading guidance is a good first step, Ecology needs a long-term strategic plan to deal with very different water quality issues of the future. Addressing the water quality issues of the future such as those cited above will be difficult given that feasible technology may not exist to remove extremely low levels of trace contaminants. TMDLs with a primary focus on point sources will yield diminishing returns.

Ecology should commence a comprehensive long-term strategic process to review and develop existing mechanisms under the federal and state clean water acts to address these issues. For example, Ecology should include the following mechanisms in a comprehensive long-term strategic plan:

Ecology should commence rulemaking to implement flexible implementation mechanisms allowed under the federal clean water act, for example:

Use state discretion to reduce regulatory risk levels (now 10□□) where naturally occurring earth metals exceed this level.

Articulate guidance and commit to expeditious processing of any Use Attainability Analysis or site-specific water quality standards revision petitions/applications that might be received. For example, EPA recently adopted new rules for the state of Florida that allow flexible site-specific standards. EPA announced in November 2010:

"EPA is also announcing a flexible approach for deriving federal site-specific alternative criteria (SSAC) based upon stakeholder submission of scientifically defensible recalculations of protective levels that meet the requirements of CWA section 303(c). This allows for case-by-case adjustments depending on local environmental factors while protecting water quality. Governments or other stakeholders can seek site-specific consideration in cases where water bodies have been extensively assessed by the State and local communities and effective measures are in place to reduce nutrient pollution. Existing

or new Total Maximum Daily Load (TMDL) targets that differ from EPA's final criteria can be submitted to EPA by Florida for consideration as new or revised WQS and will be reviewed under this SSAC process."

http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm

2. Ecology should commence rulemaking to implement mechanisms currently authorized by the state legislature, for example:

RCW 90.48.605 provides: The department shall amend the state water quality standards to authorize compliance schedules in excess of ten years for discharge permits issued under this chapter that implement allocations contained in a total maximum daily load under certain circumstances. Any such amendment must be submitted to the United States environmental protection agency under the clean water act. Compliance schedules for the permits may exceed ten years if the department determines that: (1) The permittee is meeting its requirements under the total maximum daily load as soon as possible; (2) The actions proposed in the compliance schedule are sufficient to achieve water quality standards as soon as possible; (3) A compliance schedule is appropriate; and (4) The permittee is not able to meet its waste load allocation solely by controlling and treating its own effluent.

RCW 90.48.422(2) provides: "When a water quality standard cannot be reasonably met through the issuance of permits or regulatory orders issued under the authority of this chapter, the department may use voluntary, incentive-based methods including funding of water conservation projects, lease and purchase of water rights, development of new storage projects, or habitat restoration projects in an attempt to meet water quality standards."

*Response: Many of these comments are related to potential changes to our Surface Water Quality Standards, and will be addressed in our responsiveness summary on the triennial review standards changes.*

**15. Washington State Dairy Federation**. In studying these trading programs we see a strong potential to achieve very positive changes. The first thing that jumps to mind is a need to provide both the buyers and the seller ability and flexibility to be creative and experimental in reducing the cost while increasing the ability to reduce loading. We suggest a policy from your shop of encouraging pilot scale innovation efforts to refine a trading program. We all can learn and see which ideas, if piloted, will work via a trading program and which fall short.

Let me give an example; Dairy producers work on the non point-side of the world; both permitted and non-permitted dairy farms are expected to have no discharges from their operations. That being said we see efforts in the Chesapeake to advance and encourage nitrogen and phosphorous reduction technology being driven by funding from point sources as a win-win-win scenario. Obviously there needs to be certification in the trades and verifiable reductions in the ecosystem loads of these nutrients. Yet, there is tremendous potential to save STP construction costs for small load removals when compared to bmp and technology adoption on farms.

*Response: A point source discharger decides to purchase credits because the cost to do so is lower than the cost to install advanced technology to meet an effluent limit in a NPDES permit.*

*Meeting a specific permit limit is required, so that is not the time to be experimental about whether or not the credits being purchased will actually be generated. If dischargers of nonpoint pollution want to prepare for the possibility of generating credits for sale, they should begin the work now to quantify what can be achieved by different technologies. However, it should be noted that Ecology considers the most logical pollutants for trading are phosphorus, nitrogen, other oxygen-related pollutants, and sediment. We will consider trades involving temperature, although the lengthy time lag to produce shade may prohibit temperature trades in many watersheds. Toxics and fecal coliform may not be traded.*

**16. City of Yakima and Yakima Basin Point Source Group.** The City of Yakima and the Yakima Basin Point Source Group support a more sustainable approach to TMDL implementation and trading that relies on green infrastructure (floodplains, riparian zones, wetlands, healthy forests, and carefully managed stream flow) replacing the need to over-invest in grey infrastructure (energy intense cooling towers, concrete structures, levies).

The loading capacity of the Yakima River related to dissolved oxygen, pH and temperature is limited by habitat and stream flow related parameters equally, if not more than it is by nutrient and temperature loading. In addition, the most severely impaired segments of the river have internal loads of nutrients unrelated to practices conducted over the last decade. The internal load is more a factor of ecosystem services loss than pollutant loading. So, a solution driven by the "typical" technology limited controls may not be effective at improving these water quality parameters.

*Response: Comment noted.*

**17. City of Yakima and Yakima Basin Point Source Group**. On page 4, the document uses the heading "Defining the trading universe." The cliché use of the work "universe" should be corrected to follow the agency's "Plain Talk" guidance.

*Response: Comment noted.*

**18. City of Yakima and Yakima Basin Point Source Group**. This guidance suggests that Ecology will oversee each step of market development and implementation even at the individual project level. The scale and complexity of the needed ecosystem services restoration and nonpoint reductions in the Yakima River are very large compared to the resources available at the state agency level. Markets should be developed that rely on local, readily available infrastructure and expertise to establish markets, design eligibility requirements, register trades, and validate credits.

*Response: Ecology has no interest in developing and administering a "market", although we do recognize that TMDLs developed by us do indeed create interest in trading. Our interest is in ensuring that an individual water quality trading program is designed to achieve compliance with the TMDL developed for the watershed, the Clean Water Act and the state water quality standards. Ecology has an important role in ensuring that this happens. For example, Ecology needs to establish the location-based trading ratios to make sure the credits being traded are environmentally equivalent. Ecology also must ensure that the credit being traded is verifiable by the point source buyer and Ecology (when it audits the trade). The role Ecology doesn't want to take is matching buyer and seller, writing or reviewing the private trade contract, or setting the credit price.*

*Ecology will always solicit input from local stakeholders when designing a water quality trading program. However, because water quality trading must result in compliance with NPDES permits, and because Ecology issues those permits, the Water Quality Program will decide what kinds of trades will be eligible in a watershed, how credits will be calculated, trading ratios, etc. Participants in trading may decide how to track credits, register trades, and other issues related to the actual buying and selling of credits, although these systems must be designed so the public may easily verify that NPDES permit limits are being met.*

## "Ecosystem services" and water quality trading

*Summary response: The comments in this section focus on the possibility of broadening water quality trading to include many "ecosystem services," such as wildlife habitat. If groups are able to create markets that will result in ecosystem improvements, Ecology would encourage them to do so. However, the purpose of water quality trading and the draft framework document is to provide a path to compliance with TMDL wasteload allocations and NPDES permit effluent limits when a point source discharger finds that water quality trading might be cost-effective.*

*Water quality trading is not mentioned in the Clean Water Act, yet EPA supports it because it believes water quality trading can be designed and conducted in a way that is consistent with the Clean Water Act. How that can be done is described in EPA's Water Quality Trading Policy, issued January 2003 and the Water Quality Trading Toolkit for Permit Writers, issued August 2007. EPA also acknowledges in these guidance documents that some pollutants are not suitable for trading, such as persistent bioaccumulative toxics, but will consider some others on a case-by-case basis. It does not discuss elements suitable for trading other than pollutants for which a TMDL would be developed. It is not possible, for instance, to trade salmon habitat for phosphorus. It is, however, a good idea to design water quality trading programs in which the BMPs determined eligible to generate credit in a watershed provide multiple environmental benefits in addition to reducing the TMDL-related pollutant that a point source can use to meet its permit limit*

*Because the purpose of water quality trading is to meet TMDL wasteload allocations and/or NPDES permit limits, it is not possible to delegate the design of a water quality trading program to a local group. That would be equivalent to delegating Ecology's NPDES permitting authority. However, every water quality trading program must be watershed and pollutant specific, must have the input of watershed stakeholders, and must be designed to be transparent so that citizens can easily understand how credits are being generated and used and see that permit limits are being met. Currently we are working with a large group of stakeholders in Spokane to design a specific water quality trading program for their watershed.*

*If the purpose of "ecosystem services" trading is not to meet a regulatory requirement, but simply to improve watershed conditions, then local groups may set up any system they wish. This sort of trading system might even improve water quality conditions enough that standards are met. However, if a TMDL is done in the watershed at a later date, there is no guarantee that the "ecosystem services" that have been bought and sold will result in compliance with the TMDL and with subsequent NPDES permit limits.*

**1. American Farmland Trust**. In the overview pages, could the Department recognize some of the above ancillary benefits of trading? Perhaps there could be a few sentences describing the multiple ecosystem services often resulting from water quality BMPs implemented by nonpoint sources. And perhaps there might be mention of the possibility that efforts to meet water quality standards could be integrated into other environmental protection efforts as well. As we know, point to non-point trading (unlike point-source infrastructure investments) can provide much more in environmental benefits than just reduction in a specific water quality pollutant. For example, the BMPs used can also provide aquifer recharge and relief from flooding (both of which have their own attendant water quality benefits). They can also provide wildlife habitat & migration corridors. They can sequester carbon. And they can provide ancillary water quality improvements for pollutants that may not be directly involved in a permit or in a TMDL (for example, a BMP targeting nitrogen can also reduce sediment or phosphorous or improve groundwater, etc.). This is not to mention the considerable environmental advantages of keeping our rural lands rural – a desirable outcome that the trading discussed in this Draft Framework could greatly aid.

Certainly we realize that the Department's charge in protecting water quality and in meeting the requirements of Federal and State clean water laws is a heavy one. And clearly, the Department must focus on that priority. But where there are possibilities for achieving substantial additional environmental and other social benefits as well, it also seems that we ought to consciously and expressly acknowledge them so that our policy product will be more likely to help make them happen where that is possible.

*Response: We agree that different types of trading can result in multiple environmental benefits. This framework is specifically and narrowly designed to address water quality trading through the regulatory mechanisms of the Clean Water Act and state water quality standards. See summary response for this section.*

**2. Yakima Basin Fish and Wildlife Recovery Board**. In the Yakima Basin there is growing interest in the Yakima Basin in the development of an Ecosystem Services Market that would create trading opportunities in a variety of "credits", including temperature, salmon habitat and floodplains. The market which has been envisioned by the local Yakima Ecosystem Services (YES) group would involve local stakeholders throughout the basin, incorporate science effectively, and create incentives for restoration. The YES group has been actively collaborating with the Yakama Nation, the Department of Ecology and other local entities to apply for grants funds to begin work on a floodplain currency.

The Draft Water Quality Trading Framework presented by the Department of Ecology seems to set some reasonable ground rules for the development of a specific type of market ("pollution trading"). The framework outlines important definitions and guidelines for a market that is created with the goals described in the introductory letter (e.g. specific to the Spokane basin, and tied to implementation of a TMDL).

However, staff from the YBFWRB, and other members of the YES group are concerned that the proposed trading framework could impose undue limitations on the ability of other areas around the state (such as the Yakima Basin) to create locally-adapted market systems. For example efforts to use markets to address nutrient issues in the Yakima will need to create incentives to reduce inputs (as envisioned in these guidelines) along with incentive to increase the ecosystem's

buffering capacity (something not addressed in these guidelines). We envision working closely with the Department of Ecology as the Yakima Ecosystem Services Market proposal is developed, but note that not all aspects of this proposal will fit within the specific guidelines presented in this draft framework.

*Response: See summary response for this section.*

**3. South Central Washington Resource Conservation and Development Council**. We appreciate the opportunity to comment on the "Draft Water Quality Trading Framework", recently released in September. As you know, water quality issues are of great concern in the Yakima Basin. Our organization prides itself on increasing local collaboration with many organizations and natural resource staff located here in the Yakima Basin, including on issues of water quality and quantity.

One of our most recent efforts has been to provide assistance in the formation of a collaborative group known as the Yakima Ecosystem Services (YES) Group (please see attachment for more information). This group is made up of several organizations and agencies within the Yakima Basin who are working proactively to explore and eventually create an ecosystem services market in the Yakima Basin that will address water quality as well as floodplain and salmon habitat. We strongly believe that a locally led effort, such as this one, will yield the necessary tools to effectively and sustainably improve water quality as well as open the door for other basins to develop similar, locally led efforts. We believe an Ecosystem Services Market will provide the incentives that will protect and increase cost-effective "green" infrastructure, such as floodplains and riparian habitat, instead of forcing the continued increase of costly and less effective "grey" infrastructure. We feel the continued use of concrete and steel solutions is unsustainable and does not adequately replace healthy ecosystem functions.

We are disappointed that the "Draft Water Quality Trading Framework" released by Ecology does not mention ecosystem services and does not encourage locally led efforts to create water quality trading goals. We feel that to meet our water needs, the role of the Ecology is important, but what is more important is the involvement and buy in of our local communities. For watershed level water quality goals to succeed, these efforts must be made with a bottom up, not top down, approach. Ecology should be taking its lead from the local communities and not putting up barriers to local innovation. Without local involvement, we will be left with regulations that are not only unrealistic, they will result in the continued use of increasingly expensive and inadequately artificial solutions, while simultaneously allowing for the continued loss of our natural areas - the suppliers of ecosystem services. The draft, as it is currently written, will severely impede the collaborative efforts of the YES Group.

We also hope that Ecology will work with the local communities of the Yakima Basin on all TMDL development with complete transparency and inclusion.

Please reconsider the language in your document, and make sure it allows for, and strongly encourages:

Local involvement and complete transparency in all water quality regulatory activities;

Local innovation to create tools, such as environmental services markets, that give local landowners and stakeholders direct involvement in water quality improvements;

Locally led communities' efforts to determine water quality goals and trading guidelines.

We strongly urge Ecology to redraft guidelines that include the above and encourages, not hinders, local knowledge and innovation.

*Response: See summary response for this section. We are deeply committed to working with local stakeholders on water quality trading programs. Local support and a desire to engage in water quality trading by the point source discharge community are critical to the success of any water quality trading program. We are currently working in the Spokane River watershed to develop a Spokane water quality trading program and we are ready to work with stakeholders in other watersheds that see water quality trading as an essential need for meeting TMDL waste load allocations.*

**4. Willamette Partnership**. Eligible practices and trades—Aware that an ongoing study is identifying sources of nonpoint phosphorus reduction, we hope that eligible practices are tied to holistic ecosystem recovery goals. Many stakeholders may have suggestions about what these goals are and what kinds of actions they can do to help achieve them.

Given that watershed recovery goals are often defined locally, we hope that local stakeholders in other emerging markets will be able to articulate eligible actions for trades in their watershed in cooperation with state and local DoE staff. For example, restoring in-stream flow can improve dissolved oxygen, temperature, and other beneficial uses. Riparian forests also provide a range of benefits to water quality and other beneficial uses.

*Response: See summary response for this section. All actions identified as eligible trades in an individual water quality trading program must be shown to address the specific pollutant or pollutants for which the TMDL set load and wasteload allocations, and must be shown to reduce loading of the pollutant during a specific timeframe. Actions that meet these criteria are likely to be identified as eligible for water quality trading.*

**5. Chelan PUD**. Chelan PUD suggests that trading should not be limited to pollutant wasteload reductions, but rather should include all activities that would provide the same improvement to water quality as a pollutant wasteload reduction.

*Response: See summary response for this section.*

## Pollutants that may be traded

*Summary Response: Ecology considers the most logical pollutants for trading are phosphorus, nitrogen, other oxygen-related pollutants, and sediment. We will consider trades involving temperature, although the lengthy time lag to produce shade may prohibit temperature trades in many watersheds. Toxics and fecal coliform may not be traded. Fecal coliform has the potential to cause localized public health impacts that trading could intensify. Toxic pollutants can*

*accumulate in stream sediments, creating toxic "hot spots", a problem that could be exacerbated by trading.*

**1. Pierce County**. The draft framework document mentions that nutrients and oxygen-related pollutants may be deemed eligible. Many water bodies in Washington are "polluted" by excess temperature and fecal coliform bacteria. Does Ecology plan to allow trading to address temperature and fecal coliform problems?

*Response: See summary response for this section.*

**2. Washington Department of Transportation**. Please clarify what pollutants will/may be eligible for the trading program.

*Response: See summary response for this section.*

## Pre-TMDL trading

*Summary response: Ecology's water quality trading framework is intended to address trading in the context of achieving compliance with TMDL wasteload allocations and the subsequent effluent limits in NPDES permits. Ecology cannot guarantee that pre-TMDL trading will result in compliance with water quality standards. We understand that it is possible to design a pre-TMDL trading program (see summary response to "Ecosystem Services" section) and to achieve environmental results by doing so. However, without the "cap" on the amount of a pollutant that a water body can receive and the assignment of responsibility for that pollutant in the form of wasteload and load allocations that are provided by a TMDL, it is extremely difficult to know exactly what actions or what quantity of those actions would achieve compliance with water quality standards. This can make pre-TMDL trading a risky investment.*

*To minimize the risk, any discharger intending to try pre-TMDL trading should follow EPA's trading policy. Also, Ecology expects the discharger to invest in the necessary analysis to show that the proposed trade is not delaying achievement of water quality standards or the implementation of a TMDL, as well as showing measurable reductions that deliver significant progress toward achieving water quality standards and additional environmental benefits.*

*It would be fantastic if pre-TMDL work could result in a water body actually attaining compliance with water quality standards. The necessary requirement for removing the water body from the impaired water list would be sampling according to our impaired water body listing policy, Water Quality Policy 1-11.*

**1. American Farmland Trust.** P. 2: There is very little in this Draft Framework that would be encouraging for communities potentially interested in pre-TMDL trading. Trading before the implementation of a TMDL represents a real opportunity to get early improvements, perhaps to actually achieve water quality standards without the need for a TMDL, and to get communities fully engaged in trading before it may be strictly required by law. Perhaps there might be more discussion of these possibilities and how they might work.

Instead, the discussion of pre-TMDL trading in the overview (P. 2) actually seems pretty negative – referring to "some limited circumstances" when a community might choose to be proactive. Surely there are more than a few rare occasions when proactive community efforts can be worthwhile. And near the bottom of page 2, the overview actually uses a double negative to apparently, but unnecessarily, emphasize the point that compliance with the process outlined in the Draft Framework is required (pre-TMDL) if a permittee is to later use its activities in complying with their legal requirements.

*Response: See summary response for this section. It should be noted that trading is strictly voluntary. The water quality trading framework document is not intended to be used when there is no TMDL. Following the framework document will not guarantee compliance if a TMDL is produced later.*

**2. Pierce County**. The draft framework document states that approved credits may expire "if they become actions required by a permit, by a TMDL load or wasteload allocation or TMDL implementation plan…" As noted in the cover letter and on pages 2 and 3, Ecology sees TMDLs as the main drivers for trading. Please clarify.

*Response: See summary response for this section. Credits are not necessarily permanent and Ecology cannot guarantee that they will be. Generally, while a water quality trading program is in effect and is being successfully implemented, the credits generated and traded will remain in effect. However, there are specific circumstances in which credits must expire.*

If nonpoint best management practices being used to generate credit were to become required by a permit, for instance if the federal CAFO permit were revised to require implementation of specific farm practices.

If implementation of the TMDL in place is not successful and a new TMDL with a new implementation plan were established.

If a more stringent technology-based limit is established for the pollutant being traded.

**3. Washington State Department of Transportation**. Page 3, "How trading works": This section implies the trading program applies only to TMDLs. Suggest breaking down "how trading works" for each group that trading may apply (i.e. industrial permittees, TMDL stakeholders, etc.). For TMDLs where credit trading is allowed, please clarify whether stakeholders can choose to opt-out of the credit trading program. Suggest adding some text to clarify if the trading program will be completely voluntary.

*Response: See summary response for this section. It is not possible to describe every group that might be able to generate or purchase credits in the statewide framework because the potential participants in a trading program will be watershed and pollutant specific. A TMDL will place a "cap" on the amount of a pollutant that may be discharged to a water body and will assign a specific wasteload allocation to each point source discharger and load allocations to nonpoint dischargers. At that point, dischargers may begin to identify themselves as potential credit generators and sellers or as credit purchasers. However, participating in trading is completely voluntary. Those choosing not to trade will presumably do so because they are able to comply with their wasteload allocation and permit limit through their own technology improvements.*

## Trading between point and nonpoint sources

**1. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council.** As explained throughout this process, the environmental groups are wary of nutrient trading between point and non-point sources, and therefore these comments focus on trades between those partners.

EPA and Ecology cannot point to another program in the Country that successfully reduced nutrients in a watershed based on a trading program between point and non-point sources. The uncertainty of using Best Management Practices ("BMPs") as the focal point of reducing pollution, given the Spokane Watershed's unique ecology, requires monitoring prior to determining compliance with NPDES permit limits. Therefore, Ecology should require at least two year's worth of monitoring prior to the expiration of the dischargers compliance schedule to demonstrate the exact pollutant reduction.

A comprehensive, enforceable, and scientifically based plan for pollution elimination is the only mechanism that KEA, Spokane Riverkeeper and the Lands Council believes will lead to the clean up and protection of the Spokane River and Lake Spokane. In order for KEA, Spokane Riverkeeper and The Lands Council to agree to the Trading Program they need a clearly defined plan to ensure that BMPs and corresponding ratios are scientifically defensible and are implemented and ground-truthed to guarantee their use and effectiveness. They need to see clear requirements to ensure transparency, compliance, and enforcement. Finally, the environmental community needs to see a framework that does not merely reallocate pollution, but has an immediately actionable plan to reduce oxygen depleting pollution in the Spokane River.

*Response: Ecology agrees with these objectives. As part of the design of the Spokane DO TMDL water quality trading program, we will set the monitoring requirements to determine compliance. Monitoring requirements will be at least as stringent as would be required if there were no trading program, since Ecology is interested in monitoring effectiveness of the implementation of the TMDL with or without a trading program in place. Nonpoint BMPs will not be approved for trading unless evidence exists that the BMP is effective and we have a method for measuring or estimating the phosphorus reduction we are likely to achieve in the Spokane watershed. After that, we will have to verify that the BMP was installed and is being maintained properly, which becomes an enforcement issue with the point source purchasing the credit. It is also good to keep in mind that purchasing credits is unlikely to be the entire means of complying with a wasteload allocation or permit limit, but is rather an option for obtaining the last few increments of reduction.*

2. Pierce County. The draft framework suggests that trading can reduce costs and provide a mechanism to reduce loads from non-point source (NPS), which are not regulated under NPDES. The framework should note that water quality trading can also:

Achieve early pollutant reductions

Act as incentive for voluntary reductions over and above what would otherwise be required

Offset future discharge of pollutants

Achieve greater environmental benefit, including habitat improvements

Combine ecological services for multiple benefits, including habitat improvements

*Response: Comment noted.*

**3. American Farmland Trust.** The Draft Framework seems, generally, to reflect a significant implied bias toward requiring permittees to achieve load allocations and water quality using on-site technological solutions, pretty much regardless of cost, unless the use of technology is plainly and entirely impossible. This seems surprising in that one might presumably not expect to see, from our Department of Ecology, a preference for complex technology over watershed restoration through BMPs.

The use of technological fixes for reducing pollution is, of course, at the heart of water quality law. And technology has, without doubt, taken us a good way down the road toward clean water. So perhaps there is a sense of confidence in technology born out of familiarity. But given the magnitude of the nonpoint issues we face, clearly future solutions must increasingly focus on reducing nonpoint source pollution. Water quality trading creates an opportunity to begin achieving meaningful nonpoint control and it would seem that we should welcome and make the most of this opportunity.

Perhaps, too, the Department lacks confidence in the effectiveness or the certainty of BMPs as a tool to achieve genuine, credible, and reliable reductions in pollution. Indeed, one of the advantages of giving trading a try is that doing so will quickly remove such doubts – one way or the other.

As for the effectiveness of trading, we at AFT are thoroughly convinced that properly designed, modeled, and implemented BMPs can be highly successful at eliminating pollution. There a great deal of research on most of these BMPs and some 60 years of experience with them upon which to draw in understanding their impact. So we ought to be able to act with a good deal of prior knowledge about those impacts and confidence in the outcomes.

As for the certainty of pollution reductions, BMPs, also seem a much better bet. The use of credit pooling and the purchase of excess credits from a large number of landowner participants can easily guarantee that there will be no real possibility of even a minor lapse in credit production. Can one truly say the same for a single large technological infrastructure facility that depends on constant maintenance, reliable staffing, a steady (and substantial) supply of electricity, etc.? Even a brief failure of such a facility can result in a massive discharge to the waters of the state. We at AFT believe that watershed restoration is a much safer, more reliable, certain, and publicly responsible answer.

*Response: Ecology disagrees that the trading framework reflects a bias toward technology-based fixes. What it does reflect is Ecology's responsibility, as the state's water pollution control agency, to ensure that state water quality standards are met. The wasteload allocations in a TMDL and the effluent limits in permits are requirements designed to protect water quality, associated beneficial uses, and public health. Ecology's role is to ensure that those objectives are achieved. If point source dischargers in a watershed decide that water quality trading may help*

*them to meet their water quality-based effluent limits, then Ecology must ensure that any trading program set up will actually result in compliance. Trading is voluntary, so only dischargers can decide whether it will be beneficial to them to trade. Because the purpose of water quality trading is to meet the wasteload allocation of a TMDL and/or the effluent limit in a NPDES permit, it is not acceptable to "try" trading nonpoint BMPs for point source technology to see if it will work. It is necessary that it does work. It is also important to note that there are several difficulties in establishing credits for nonpoint improvements. For instance, their effects are often very difficult to measure; some management practices reduce pollution for only certain times of year, which may not correspond to when credits are needed; some practices require on-going and regular maintenance; some will work only for a particular crop or farming practice that a farmer may not want to commit to implementing beyond one growing season.*

**4. American Farmland Trust.** Point source controls have succeeded in great improvements in water quality over the past 30 years. But we now (perhaps thanks to these controls) face a different world than the one that existed in the 1970s. Nonpoint pollution (in which agriculture plays a substantial role) is the overwhelming contributor to today's water quality problems. Yet our success at regulating nonpoint is little better today than it was 40 years ago.

When the Department of Ecology submits its TMDLs for approval by USEPA, it must present plans that offer reasonable certainty, not just in the point source controls it will require, but also in the achievement of nonpoint source load allocations as well. Given our poor record of success with regulating nonpoint, and given our similarly poor record of success using traditional "cost share" "incentive" programs and relying on the typically uncertain funding they offer, one must ask: How can either the Department of Ecology or USEPA truly and honestly argue or conclude, with any reasonable certainty, that those promised nonpoint load allocations will actually be achieved? What earthly sense does it make to present a plan that might offer near absolute certainty in point source controls, but almost none for nonpoint?

As discussed above, trading can result in pollution reductions in excess of those needed to reach the actual load allocation in a watershed – point and nonpoint. And it can make that happen much sooner than might otherwise be possible. It also offers considerably greater prospects of success than traditional nonpoint programs. Unlike traditional "cost share" programs, trading pays (above baseline) for the full cost and value of the BMPs farmers will implement – assuring that a likely large majority of them will take an interest and want to participate. This is quite different from relying on the small minority of landowners who typically participate in "cost share" programs which require the landowner to pay a significant portion of the cost themselves. Moreover, because trading typically saves the NPDES permittee substantial expense, we know the funding will actually and readily be available. This is quite unlike the dependence on uncertain public appropriations required for publicly-funded "incentive" programs.

Moreover, we are to be reasonably certain our nonpoint strategies will be successful, we need also to have confidence that our communities now and in future will support them. If, for example, our strategy relies upon future nonpoint regulations, we need to account for the likely resistance that approach may engender both to the rules themselves and to the funding needed to enforce them. Trading, on the other hand, is popular. It actually saves the community money. It can produce a multitude of benefits beyond just the pollution reductions it will provide. It does not require the adoption of new rules – the authority is already in place - but even if new rules were needed, one

could count on community and political support. For nonpoint pollution, trading, like incentives, also offers one very large advantage over regulations in that it can enlist landowners in making affirmative improvements on their properties rather than simply preventing them from causing harm.

Given our history of failure with addressing nonpoint using our current tools (regulatory and cost-share incentives), and given the promise offered by trading, it would seem we should be actively seeking out new opportunities to use it, not closing them off. If that is one of the purposes for this new Draft Framework, it would be useful if it could mention some of these advantages. That additional understanding might be useful for communities which, in future, might consider using it.

*Response: In doing research across the country related to the success of water quality trading programs to meet the Clean Water Act, we did not find many programs that were anywhere near as robust as is suggested by these comments. We agree that there is a poor record of solving water quality problems through use of traditional agricultural cost-share programs. Ecology's own efforts to use enforcement tools on agricultural polluters are largely successful, but there is often a political backlash when we use them.*

*When Ecology produces a TMDL, it must assign pollutant reduction responsibilities to the sources that discharge them. Washington's Water Pollution Control Act prohibits nonpoint sources from discharging pollutants to waters of the state. In these comments, American Farmland Trust acknowledges that one of the largest sources of nonpoint pollution is agriculture. Under Ecology's vision for a water quality trading program we are recommending that the agriculture polluters be held accountable for their pollution, and are not allowed to generate credits to sell until they have met this responsibility. These comments suggest that we place all responsibility (nonpoint and point source) on the point source generators as a way to generate more activity in the market, but it's unclear why point source dischargers would want to take responsibility for pollution that they neither generate nor discharge. We also believe that individuals (point or nonpoint) should be responsible for only the pollution that they generate.*

*We are not sure why this commenter believes that the draft trading framework is "closing off" opportunities to trade. The framework enables trading between point and nonpoint sources by requiring certainty that the nonpoint sources are actually generating credits above what they are required to do.*

**5. City of Yakima and Yakima Point Source Group**. "Trading can provide a fund source for nonpoint pollution controls in addition to the currently available fund sources": Pg2 para 2

This may be better stated as:

Costs of environmental compliance are inevitable and necessary. Trading can allow smarter distributions of these costs and be a source of incentive for a greater environmental gain. The City of Yakima Wastewater Division has made and is planning to make large investments in sustainable practices at its facilities. This includes:

New sewer collection lines that allow lower consumption of electricity at lift stations.

Installation of a grease receiving station, anaerobic industrial waste treatment system and biogas fired biosolids dryer that will optimize the use of on-site generated energy and reduce our carbon footprint on and off-site.

Installation of aeration basin mixers that will reduce our phosphorus discharge up to 80%.

Use of a struvite recovery process that will reduce our phosphorus and nitrogen loading in recycle streams, and thereby, reduce energy consumptions and effluent phosphorus.

Large scale floodplain and side channel restoration at the Yakima Regional Wastewater Facility site in the Yakima River.

*Response: Comment noted. The improvements that the City of Yakima describes in this comment will have a variety of environmental benefits and cost savings.*

**6. Evergreen Funding Consultants.** I believe that water quality trading may be the best solution to some of the most pressing water quality problems in Washington. A quick scan of the Department's 303(d) list data indicates that most watersheds in the state have issues with nutrient enrichment, low dissolved oxygen, or high temperature that are symptomatic of nonpoint source pollution. Most nonpoint pollution originates on farm fields, residential lots, and in road runoff, sources that are for the most part unregulated and, except in particularly egregious cases, unregulateable. Attempts to address these problems through landowner incentives and stormwater utility fees have been chronically under-funded. And so, over time, the list of nonpoint-impaired water bodies continues to grow.

At the same time, efforts to remedy nutrient and temperature pollution by ratcheting down on point-source polluters have led us down a path of far higher costs and diminishing incremental returns. Addressing nutrient, DO, and temperature problems exclusively through technological fixes seems to be leading us to some "no expense spared" solutions like widespread tertiary treatment for wastewater, which could double or triple wastewater costs.

Our studies of water quality trading programs elsewhere in the United States (performed on contract to USDA and the Washington State Conservation Commission) indicate that best management practices on farms and other rural and suburban property are a proven, dependable option for controlling nonpoint source pollution at its source. In addition, economic analyses indicate that costs for nonpoint source control of nutrients and temperature can be far lower than for equivalent control through point-source treatment options. This suggests that point/nonpoint trading has tremendous potential in the many areas of Washington State that suffer nutrient, dissolved oxygen, and temperature problems.

Given this promise, I'd like to see an open-door policy at the Department of Ecology for new proposals for water quality trading, including development of new regional trading programs.

*Response: See responses to items 3 and 4 in this section. We agree that getting effective BMPs in place on agriculture lands is a good way to control nonpoint pollution. The draft water quality trading framework is specifically designed to provide a recipe for water quality trading in other parts of the state where a TMDL is in place and is being implemented.*

## Meeting load allocations

*Summary response: Ecology understands the difficulty implicit in the requirement that nonpoint load allocations are met before any credits may be generated. However, if achieving compliance with water quality standards in a watershed requires both point and nonpoint source reductions, there is no escaping the fact that the nonpoint dischargers must achieve their required reductions before there are any extra credits to sell. If credits are given for nonpoint reductions before the load allocation is met, the result is that the point sources are paying for the nonpoint sources to meet their load allocation, but the wasteload allocations are not being met. This will not work. EPA's guidance is also quite clear that credits may not accrue for either a point source or a nonpoint source discharger until TMDL load and wasteload allocations have been met. Ecology has discussed three possible ways to achieve this.*

1. *Wait until allocation percent reductions are met,*
2. *Specify BMPs that must be employed to meet the reduction and give credit for going beyond those BMPs,*
3. *Establish discount ratios for any BMPs applied prior to meeting percent reduction.*

*Another way to ensure that nonpoint credits could accrue immediately would be to assign all of the responsibility for reducing a pollutant to the point sources and none to the nonpoint sources. This would, however, significantly decrease the wasteload allocations for the point source dischargers and would effectively make the point source dischargers responsible for addressing pollution that they do not generate or discharge.*

**1. City of Post Falls.** Third bullet, first section, page 3: philosophically, the requirement to meet the nonpoint source load allocations before any point source credit can be achieved creates uncertainty for participants and would be a disincentive for point sources doing anything in the nonpoint arena. Specific projects, funding sources and responsible parties for meeting the TMDL tributary reductions must be identified.

*Response: See summary response for this section. Specific actions that could be used to generate credit are identified as part of the design of a watershed's water quality trading program. We are in the process of designing a water quality trading program to help implement the Spokane River DO TMDL.*

**2. Idaho Conservation League**. Your framework states "Nonpoint pollution sources receive a load allocation, which establishes a baseline that must be met before non-point credits that may be traded accrue" (Page 3). We support this notion because it mandates TMDL compliance in advance of trading. Further it ensures that all non-point sources are doing their obligatory reductions prior to some additional BMP project that could be used for a credit.

*Response: See summary response for this section.*

**3. Spokane County**. In the third bullet under "How Trading Works", requiring that a baseline of non-point source control be achieved before any credits can accrue for a trade is a significant barrier to funding on non-point source pollution. Unless Ecology funds the non-point source control program necessary to accomplish the baseline reductions, it is not apparent how these non-point sources will be remedied. It would provide a tremendous incentive for parties seeking a

trade to fund non-point source pollution, if they could get a credit from the beginning. This is going to be an especially challenging issue in the tributaries of the Spokane River, in which very ambitious baselines for non-point source control have been identified in the Spokane River DO TMDL. We would encourage Ecology to examine this part of the policy carefully to determine if there is a more effective way to implement the DO TMDL in this watershed.

*Response: See summary response for this section.*

**4. Avista.** The third bullet under "How trading works" states that "nonpoint pollution sources receive a load allocation, which establishes the baseline that must be met before nonpoint credits that may be traded accrue." We assume Ecology included this statement to implement another provision of the Draft Framework, the notion that credits cannot be given for actions that are already required by a TMDL load allocation (p. 8).

However, we think this statement fails to make an important distinction between load allocations and waste load allocations. Waste load allocations apply to specific sources, such as a single discharger. On the other hand, at least in the DO TMDL, load allocations apply to entire water bodies, such as rivers or creeks. This means that load allocations do not apply to particular nonpoint pollution sources. For example, the DO TMDL assigns load allocations to the Spokane River tributaries. While there may be several discrete nonpoint sources on each tributary, the DO TMDL obligation to decrease discharge does not require action by any specific nonpoint source. Instead, the pollutant reduction required by the load allocation is to come from the tributary as a whole.

This is important, because it means that individual nonpoint sources are under no obligation to reduce their discharge. Those individual nonpoint sources should therefore be able to generate credits for trade, even before the tributary's overall load allocation is met. We believe the statement made in the third bullet—that load allocations must always be met before nonpoint credits can accrue—should be revised accordingly; otherwise it is not likely significant improvements will ever occur in the tributaries.

We understand there may be a concern about potential double-counting of pollutant reductions within a tributary—that is, a concern that the reductions associated with the trade must occur in addition to the reductions required under the load allocation. However, we believe that the credit accounting system described in the Draft Framework will ensure that no double-counting occurs.

*Response: Ecology disagrees with the assertion that because a nonpoint load allocation might apply to an area of a watershed instead of to a specific discharger, that means that no one is obliged to reduce their discharge. Washington's Water Pollution Control Act prohibits all dischargers from polluting waters of the state, which means that all of the nonpoint dischargers bear a portion of the responsibility for meeting a load allocation. It would be inappropriate for Ecology to issue a TMDL that assigned a pollutant reduction responsibility to nonpoint sources if those sources did not share responsibility for achieving the reduction. If the nonpoint sources actually had no responsibility to reduce pollutants in a watershed, the only logical thing to do would be to assign all of the pollutant reduction responsibility to the point sources.*

*The worry in this situation is about the possibility of allowing larger discharges from point sources because they have bought credits from nonpoint sources before the necessary nonpoint reductions have been achieved. The effect of this is that neither the wasteload nor the load allocations of the TMDL are being met.*

**5. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. Non-point Source Entities Must Achieve a Baseline of Compliance before being Eligible to Trade. In keeping with the requirements in the DO TMDL, and what the parties all understood the process to include, we reiterate that the Trading Program must require non-point sources to meet a baseline threshold of reductions before they can trade credits. The tributaries all have minimum reductions that must be met prior to allowing dischargers to trade with entities on those waterbodies. That practice must be upheld to encourage the implementation of conservation practices and allow flexibility in order to ensure that a variety of agricultural producers are eligible for trading.

**Recommendation**: The DO TMDL model is based on reductions from all sources, especially the tributaries, and a discharger should not be allowed to discharge excess pollution until the tributary has met the reduction requirement. If a net reduction of oxygen depleting pollutants in Lake Spokane is the goal, the tributaries must meet their reduction requirements before they are eligible to enter the trading market.

*Response: See summary response for this section.*

**6. Willamette Partnership.** Nonpoint Baselines—We are supportive of the two possible strategies articulated at the September 22nd meeting to address the requirement that "Nonpoint pollution sources receive a load allocation, which establishes the baseline that must be met before nonpoint credits that may be traded accrue," being (1) some BMP or other requirement for seller eligibility or (2) some percentage of credit sales going toward the nonpoint load. We advocate for whichever encourages the most nonpoint participation; possibly a hybrid such that good stewards that have already implemented baseline BMPs do not need to have a percentage of credit sales subtracted.

*Response: See summary response for this section.*

**7. American Farmland Trust**. P. 3: The third bullet in this section seems to say that an entire non-point source watershed or community must meet its collective nonpoint load allocation before any trading can be credited. If this is the intent, it is a major and highly counterproductive barrier to any possibility of trading. As is mentioned above, it seems unlikely that most of these communities will in fact ever succeed in achieving their nonpoint load allocation using current traditional tools (see the discussion of reasonable certainty, above). And even if they do, it seems likely that it will take a good long time to get there – during which time water quality standards are not being met and trading will not be possible. This highly punitive provision will simply prevent trading from becoming available to those landowners in such a watershed who are actually able to help and who might be willing to do so if allowed to trade their excess performance with interested permittees.

Why would one refuse to allow the sale of and credit for water quality benefits generated by an individual farm landowner in a watershed to the extent that those benefits are clearly above that

landowner's share of the collective community responsibility? Wouldn't it be better to simply assign an appropriate share of the full nonpoint community's allocation to each participating individual landowner seeking to sell credits? One could consider their share of the total acres, the nature and proximity of their land, the type of agriculture, or other factors that might reflect that landowner's share of the full community allocation. This would then be treated as that landowner's individual baseline above which trading would be allowed. Or, one might simply establish a baseline of practices that would meet the allocation if all those in the nonpoint community used them. Then allow any individual landowner who implements those practices and then exceeds them to sell the excess.

*Response: See summary response for this section.*

**8. Evergreen Funding Consultants**. I'd suggest a reconsideration of the requirement that nonpoint sources meet their entire load allocation before being eligible to trade. While I understand the logic of this position, it seems very unlikely that farmers and other rural and suburban landowners will initiate practices voluntarily and on their own dime that will get them up to the baseline simply because they will have access to market income above the line. If we really want to incentivize early progress on water quality improvements, we have to figure out a way to give underperforming players access to the market.

One option that may make sense is to provide public incentive money for work up to the baseline and access to market income above the baseline, but do so under a single contract with the credit producer. Another option is to deliberately set the initial baseline low to encourage immediate action, then ratchet it up over time to the load allocation or even higher. Existing trading markets operating with low baselines (notable the Greater Miami program) indicate that the Department has more latitude in setting baselines than may appear.

*Response: As we implement the water quality laws in Washington State, we do so in a manner that makes point source polluters and nonpoint source polluters responsible for the pollution they generate. Setting an artificially low baseline for the nonpoint sources has the effect of placing responsibility on point sources for pollutants they do not generate or discharge. As for using public money to get nonpoint sources up to the baseline, there is probably not enough public money to do this. Also, we've had agricultural cost-share programs in place for years, and they have failed to accomplish this.*

## Definitions

**1. Avista**. There continues to be confusion over the terms "trade," "offset," and "credit" as used in the Draft Framework. The terms apparently refer to three distinct concepts. As we understand it, a "credit" is a unit of pollution that can be "traded" for use as an "offset." If our understanding is correct, the definitions of "offset" and "trading" do not make the differences between them clear. We suggest that Ecology revise the draft definitions to read as follows:

Offset: A reduction in pollutant discharge from a source, measured in credits, that is used to balance or compensate for pollutant discharges from a different source. Examples include water conservation, using phosphorus-free fertilizers, or reducing other pollutants with a similar impact on water quality. This term was included in the concept of "delta management" used in the TMDL.

Trading: The exchange of credits for use as offsets. Trading can be done pursuant to agreements with either point source or non-point source dischargers requiring reductions in pollutant discharges. This term was included in the concept of "delta management" used in the TMDL.

*Response: Ecology will edit the definitions and the water quality trading document to make the definitions clearer.*

2. Please clarify the difference between "earned credits" and "surplus credits." If they are the same, suggest using the same terminology for clarity.

*Response: Comment noted.*

## Ratios and managing uncertainty

**1. City of Post Falls.** Fourth bullet, second section, page 3: This bullet seems to imply that only point source buyers must adjust credits by some ratio. But later in the document there is discussion of trades between nonpoint sources. Wouldn't a trading ratio also apply to nonpoint to nonpoint, or point to nonpoint trades?

*Response: All credits, regardless of who the buyer is, must be adjusted by trading ratios. We will make this clear in the water quality trading framework document.*

**2. Spokane County**. In the third bullet under "Elements of a credible water quality trading program", it says "Include methods of managing uncertainty…" We agree that a reasonable margin of safety should be included in the determination of credits in a trading program to account for uncertainty. However, we are concerned that Ecology will include a margin of safety on each and every variable or assumption used in the determination of the credits. By doing that, the cumulative effect is to create a compounding of safety factors, and the result is an overly conservative estimate of the credit that should accrue. This comment applies to various references in the paper where trading ratios, locational ratios, pollutant transport, temporal variability, pollutant equivalency, and other computational factors are discussed.

*Response: Comment noted.*

**3. Avista.** The methods for managing uncertainty will presumably need to include the trading ratio, monitoring results, modeling results, and BMP efficiency estimates. This is a complex suite of tools, and we think it will be important not to incorporate unnecessary conservatism into the use of these tools. For example, Ecology should not discount trading ratios excessively based on concerns about uncertainty, especially since monitoring will show whether expected reductions actually occur. If actual reductions are higher or lower than expected, Ecology can adjust the credits to reflect what really happened. But there may be little interest in participating in the trading program in the first place if credits are set unreasonably low to account for uncertainty.

*Response: Comment noted.*

**4. Avista.** The fifth bullet under "Establishing trading ratios" states that one of the factors to consider when establishing a trading ratio is "Risk—likelihood of BMP failing or of implementer reneging." We disagree that the likelihood of a BMP failing or of an implementer reneging should be considered when establishing trading ratios. Doing so could unfairly deprive buyers and sellers of the full value of a trade based on only a possibility that the pollutant reduction will not occur. Besides, the Draft Framework includes other safeguards to ensure that credits cannot be earned if the predicted pollutant reductions do not occur. For example, under the heading "Credit expiration/retirement" on page 8, the Draft Framework states that approved credits will expire "If the BMPs by which the credits are accrued are shown to be ineffective or less effective than originally expected."

The last sentence states that "Retiring credits—a certain proportion may be retired, which means that those improvements must remain in place forever." We do not understand this concept. Please explain what it means to "retire" a credit; and example or two would be helpful.

*Response: Ecology agrees that trading ratios should not be used to address the risk of a BMP failing or of an implementer reneging, and will change this in the trading framework document. However, other trading programs have used BMP effectiveness ratios to adjust the value of BMPs, for instance, for a BMP that has been shown to be 60 percent effective at removing a pollutant. Private contracts between credit buyers and credit sellers should address the possibility of a BMP failing or an implementer reneging.*

*The concept of retiring credits is a part of most trading programs. A "retired" credit is one that may no longer be bought or sold, although the improvement that resulted in the credit being generated remains in place. One example would be the purchase of farmland to be returned to a natural state so that it no longer discharges phosphorus to a stream. A farmer might do this and sell the resulting credits until he wished to farm the land again, or a conservation group might buy the credits and retire them, meaning that the farmer might still own the land, but had to leave it in the non-polluting use. A more usual example is a trading program that requires a certain proportion of all traded credits to be retired. This works like a discount. If two point sources are trading, and the retirement ratio is 10 percent, then the purchaser must purchase 1.1 credits for every 1 credit it needs. This is a way to ensure an extra environmental improvement.*

**5. Willamette Partnership**. Managing risk and uncertainty--Eligibility criteria can be used to keep out high uncertainty projects. Questions like "Will it work? Will it work at this location?" (currently categorized as a factor of trading ratios) might be better addressed as eligibility criteria.

Recent studies suggest using tools such as contracts and insurance to transfer liability for project performance (not permit liability) from permittee to credit seller whenever possible. Permittees are willing to pay a higher price for increased certainty and restoration organizations have more capacity to see that additional projects get done to make up for project failure. Acts of God can be accounted for with a reserve pool of credits so that buyers need only to insure themselves against human caused project failure. This reserve pool can be built through trading ratios applied to each trade.

In order to be predictable, trading ratios should be either applied equally to all trades or be based on pre-defined criteria.

*Response: We agree with the comment about eligibility criteria. When each trading program is being designed, the specific BMPs eligible to generate credit in that program will be identified. Other BMPs will be allowed to generate credit only if it can be shown through a technical study that they will be effective and only after Ecology approval.*

*The idea of a reserve pool of credits is interesting. If what is meant by this is that a group of dischargers generating credits to sell are pooling their credits so that during a time period when credits are needed they can ensure that enough will be available even if one or two of them do not generate as many credits as expected, then this idea might be helpful. If what is meant is that credits would be banked, then this will not work because credits must be generated and used within the same time period.*

*It is interesting to note that a similar idea was discussed during the design of the Lower Boise River trading framework. In that situation, the idea of a credit pool, perhaps funded by its own BMP project somewhere, to use as insurance in case a credit seller failed to generate enough reductions was not appealing to the point sources. They said they didn't want to insure each other, and instead opted to "self-insure" by making sure they would have more than enough credits in their accounts every month.*

*Finally, the comment about trading ratios being applied to all trades equally is puzzling. Trading ratios are specific to a watershed and a pollutant, so cannot necessarily be based on pre-defined criteria. Ratios might be used to adjust for the following factors among others: location in the watershed and distance from surface water, fate and transport of the pollutant, temporal variability, whether credits are estimated or measured.*

**6. American Farmland Trust.** P. 5: Perhaps it might be useful to mention in this section something concerning the potential for credits to be pooled and aggregated. This is an important tool for assuring the absolute certainty of credit production. Mentioning it would help communities anticipate the potential for its approval as a means to create the needed certainty. Pooling could be a factor in reducing an otherwise onerous trading ratio.

*Response: Ecology agrees that pooling credits could help create certainty that adequate credits would be generated. We do not agree that it would change trading ratios because those are based on effectiveness of the BMP being used, land area to which it is applied, distance from surface water, location in the watershed, etc. The trading ratios would be applied prior to adding credits to a pool of credits.*

## Avista

**1. Avista**. We believe the trading program should be open to any entity with a legal obligation to improve water quality, including entities with obligations based on a TMDL. As you know, Avista has been actively involved in Ecology's development of the Dissolved Oxygen Total Maximum Daily Load for the Spokane River and Lake Spokane (DO TMDL). Avista's responsibility for improving DO in Lake Spokane is set out in Table 7 of the DO TMDL. However, since it does not discharge any DO-depleting pollutants, Avista has limited options for fulfilling its responsibility. Its preference, and that of Ecology, is to reduce nonpoint sources of nutrients to the lake (DO TMDL at p. 46 and C-9). To accomplish this, as well as to reduce other potential nutrient sources

to the lake, Avista should have access to the same trading opportunities that will be available under the Draft Framework.

As currently drafted, however, it is not clear whether Avista would be allowed to conduct trades under the Draft Framework because the document appears to be written only with dischargers in mind. For example, under the heading "How trading works," the Draft Framework, (p. 3) states that :

> Point sources can meet their wasteload allocation (WLA) by:
>
> 1. Meeting the permit limit based on the WLA through on-site actions, (for example, by reducing the quantity or improving the quality of the discharge).
> 2. Earning "credits" by implementing pre-approved nonpoint source pollution control measures, or
> 3. Buying "credits" from other sources that have reduced pollutants below their own allocation.

Within this context, there is no similar statement that an entity with a water quality improvement obligation—but no point source discharge—can earn or buy credits. Similarly, the Draft Framework suggests that only a point source discharger may propose alternative trades: "A discharger proposing a trade not on the approved eligible trade list (determined by Ecology) is responsible for showing that it will actually offset a portion of the discharger's water quality-based effluent limit and meet all other trading requirements listed in the Introduction section" (p. 5). The section of the Draft Framework that discussed implementation of trades seems to assume that a point source will always be involved (p. 7). Avista encourages Ecology to revise the Draft Framework to make clear that it applies not only to point source dischargers, but to any entity with a legal obligation to improve water quality.

*Response: Generally, point source dischargers are the purchasers of credits because they have specific permit limits that they are required to meet. In the Spokane River DO TMDL, Avista has a pollutant reduction responsibility even though it is not a point source discharger. In this situation, Avista has the same standing as the dischargers, and will be allowed to buy and sell credits, and to propose alternate trades, as if it were a discharger. This will be made clear in the trading program we are designing for the Spokane River DO TMDL. If Avista purchases credits, Ecology, Avista, and other stakeholders will have to invent a method to account for the credits, since, unlike the dischargers, Avista will not have a NPDES permit.*

*In theory, however, once a trading program is created and credits are being generated, there is no reason why anyone should not be able to purchase credits. For instance, a conservation group might want to purchase credits and retire them to achieve a permanent public benefit.*

## Idaho-Washington trading consistency

**1. City of Post Falls.** One of the stated EPA, DOE, DEQ directors' goals was to facilitate inter-state trading. The draft framework does not address that goal. How is WDOE going to integrate into a bi-state program with IDEQ?

*Response: Every water quality trading program in Washington must follow the statewide trading policy established by Ecology. However, each trading program will have elements that are unique*

*because each trading program will be addressing specific pollutants in a specific watershed. Items that will be specific to an individual trading program include the pollutants that may be traded, the approved BMPs that may generate credit, the trading ratios, and any other elements unique to the watershed. Because a unique element of the watershed included in the Spokane River DO TMDL is that it extends into Idaho, Idaho DEQ is part of the stakeholder group that will design the trading program for the watershed. The two states are also working together at a staff level to ensure that the requirements of both states are met. This will ensure that the trading program will work in both states and will allow interstate trading.*

## BMPs eligible to generate credit

**1. City of Post Falls**. What are the potential BMPs, projects, and sources of credits to which this program would apply?

*Response: BMPs eligible for trading must be identified as part of the design of an individual water quality trading program. In Spokane, Ecology, DEQ, and EPA, with the input of the TMDL Implementation Advisory Committee, will determine which BMPs will be eligible for trading as part of designing the Spokane River DO TMDL water quality trading program.*

**2. Avista**. The third bullet under "What is a credit?"states that a credit is "Generated by a nonpoint source from the installation of best management practices beyond those required to meet the most stringent load allocation applicable to the nonpoint source." We believe this statement is unnecessarily narrow. The reference to "installation of best management practices" may imply that credit can be earned only if a structural change is made is a pollutant-generating activity. However, actions other than structural changes can reduce pollution. For example, land currently used for farming could be taken out of production entirely. This would not involve "installation" of any best management practices, but would result in fewer nutrients being discharged to nearby water bodies. We believe any action that reduces pollutant discharge should be eligible to generate credits under the trading program, even if it does not require "installation" of best management practices, and the Draft Framework should clearly state this.

*Response: Ecology agrees with the comment about "installation" of BMPs, and will use the word "implementation" instead. It must be noted however, that the example used in the comment of taking land out of production, might or might not generate credit, depending on what the land was subsequently used for.*

**3. Avista**. The introductory sentence under "Determining eligible trades" states that "Ecology, with input from interested parties, will determine what types of trades will be eligible for each specific pollutant/watershed water quality trading program." How will Ecology's determination be communicated—through an order or some other final decision document? Will interested parties have an opportunity to dispute the determination?

*Response: Ecology's determination of BMPs eligible to trade will be part of the design of an individual trading program. Stakeholders will have an opportunity to make suggestions and comments as part of that process.*

**4. Washington State Dairy Federation**. What creates a trade-able credit either for a permitted source or other sources that want to reduce nutrient loads to create a trade-able credit...is it only reductions above the best control technology that can be achieved?

*Response: A point source may generate credits by reducing the amount of a pollutant it discharges below what is required by the effluent limit in its NPDES permit. For a nonpoint source, it's more complicated. A TMDL will set load allocations for nonpoint sources, and credits may not be generated until that load allocation is met. Figuring out how to meet the load allocation and whether or not nonpoint sources are able to generate credits is part of the design of an individual water quality trading program, and will depend on factors such as how large or small the load allocation is, how many nonpoint dischargers are covered by the load allocation, what pollutant is being addressed, etc.*

**5. Pierce County**. The document states: "Ecology, with input from interested parties, will determine what types of trades will be eligible for each specific water quality trading program." Developing a water quality trading program could entail substantial time and cost. Therefore, specific criteria should be available as soon as possible so proponents don't spend time and effort on trades that Ecology is likely to deem unacceptable.

*Response: The determination of eligible trades is watershed and pollutant specific, so it will be part of the design of an individual water quality trading program. Stakeholders will have the opportunity to work with Ecology as an individual water quality trading program is designed.*

**6. Washington State Department of Transportation.** Page 3, "How Trading Works," 4th bullet: Suggest adding clarification and/or include examples, of what "pre-approved nonpoint source control measures" may consist of. Please clarify if NPDES Municipal permittees could earn credits for implementing pollution prevention measures contained in NPDES Municipal Permits (e.g. Illicit Discharge Detection and Elimination, maintenance activities, etc.). Please clarify if credits could be earned for construction of stormwater stand-alone retrofits and BMP installation during new construction if in a TMDL area.

*Response: As part of the design of every water quality trading program, nonpoint BMPs eligible to generate credit will be identified. These are the "pre-approved nonpoint source control measures." It is not possible to answer the other specific questions posed by the commenter because those must be answered as part of the design of n individual water quality trading program, and will depend on the wasteload allocation assigned to stormwater permittees by the TMDL.*

**7. Washington State Department of Transportation.** Ecology doesn't have approved BMPs for some pollutants, such as fecal coliform. Please describe how trading will be implemented for these types of pollutants.

*Response: Ecology will not allow trading for fecal coliform. However, for each water quality trading program, BMPs eligible to generate credit must be identified.*

**8. Washington State Department of Transportation.** Please clarify whether the eligible BMPs will only be allowed for use by nonpoint sources, as stated in the title, or if point source

dischargers will be able to use the eligible BMPs too. If point sources will be able to use the BMPs as well, suggest removing "nonpoint" from the section heading.

*Response: The title refers to the fact that the BMPs address nonpoint sources of pollution. Stormwater BMPs are often "nonpoint" BMPs that are used to address both point source stormwater (if it is covered by a stormwater NPDES permit) and nonpoint stormwater (if it isn't). In any case, whether or not the kind of trade being proposed in this comment will be allowed will be determined during the design of an individual trading program when eligible trades are defined.*

**9. American Farmland Trust.** In identifying a specific, prioritized set of BMPs that will be used for trading, it would be useful if the Draft Framework were to include a process to take input on and ground-truth those BMPs with the farmers in that watershed. It will be pointless if we end up with BMPs that simply don't work for local farmers or that have drawbacks that aren't addressed – like the need for continual maintenance, for example.

*Response: The purpose of identifying BMPs eligible to generate credit is to choose those that are the most certain to achieve the necessary pollutant reductions. Farmers in the watershed who discharge pollution should participate in the eligible BMP identification process when we are designing an individual water quality trading program.*

**10. City of Yakima and Yakima Point Source Group**. In the first sentence after the sub-heading "Determining eligible trades" it begins "Ecology, with input from interested parties, will determine . . ." We believe that this should rather be stated as, "Interested parties, with input from Ecology, will determine what types of trades will be eligible . . ." It is more likely that locally developed and supported trading criteria will be successful than criteria developed by a state agency.

Regarding determination of eligible trades, it is important that local needs for water quality and ecosystem restoration drive the eligibility for trading. Although general concepts of water quality protection apply statewide, the diversity of water types in Washington is as varied as the climatic and ecological conditions throughout the state. These needs vary greatly even across a single watershed such as the Yakima. In addition, land uses vary considerably across the state, so a one size fits all approach to BMP prescriptions in a marketing guidance will not yield a useable marketplace. Local participation to determine market eligibility is a critical foundation of water quality markets.

Eligibility should also include consideration of watershed recovery goals. In Yakima, a major watershed recovery goal is floodplain restoration and flow restoration. Both of these goals substantially improve water quality and support salmonid restoration efforts without directly lowering pollutant loading.

We advocate for guidance that increases the highest probability for nonpoint source reductions and ecosystem restoration. With the very high loading of pollutants from nonpoint sources in the Yakima River Watershed and the great potential for restoring functioning floodplains, a marketplace that incentivizes the greatest pollutant reduction and ecosystem services restoration will be the most effective at restoring water quality.

*Response: A local jurisdiction may set up a trading program to achieve whatever goals it wishes. However, if point source dischargers wish to use water quality trading to meet the wasteload allocations in a TMDL and/or the effluent limits in a NPDES permit, then Ecology will determine what types of trades and what specific BMPs will be eligible.*

*Ecology's water quality trading framework is intended to address trading in the context of achieving compliance with TMDL wasteload allocations and the subsequent effluent limits in NPDES permits. Since the purpose of water quality trading is to meet TMDL wasteload allocations and/or NPDES permit limits, it is not possible to delegate the design of a water quality trading program to a local group. That would be equivalent to delegating Ecology's NPDES permitting authority. However, every water quality trading program must be watershed and pollutant specific, must have the input of watershed stakeholders, and must be designed to be transparent so that citizens can easily understand how credits are being generated and used and see that permit limits are being met.*

**11. City of Yakima and Yakima Point Source Group.** The paragraph under "Identifying eligible BMPs for nonpoint trades" provides no relative information to develop BMPs or specific expectations for the BMPs to meet. It should be deleted, and BMPs that reduce the necessary amount of pollution to create credits should be developed by locally emerging marketplace needs.

*Response: See response to # 1, above.*

**12. Chelan PUD**. Page 3, Introduction, How trading works – ADD the following to the end of this section, "4. Conditioning their discharge to achieve an equal or lesser impact to water quality compared to their assigned wasteload reduction."

*Response: Ecology disagrees that this change is needed. The situation described is covered in #1 in the "How trading works" section of the draft framework.*

**13. Chelan PUD**. Page 4, Defining the trading universe, Determining eligible traded – REVISE the sixth bullet point to read, "Trading a pollutant for a water quality enhancement, such as increasing dissolved oxygen, adjusting pH, or adding alkalinity as a trade for reducing phosphorus."

Page 4, Defining the trading universe, Determining eligible trades – ADD the following to the end of this section, "Relocate the discharge to a location in the watershed with greater assimilative capacity for the pollutant."

*Response: Ecology does not agree that these proposals necessarily meet the definition of water quality trading. We will consider them as we prepare subsequent drafts of the water quality trading framework and as we develop individual water quality trading programs.*

## Calculating pollutant reductions and credits

**1. Avista**. The fifth bullet under "What is a credit?" states that "Nonpoint source credits and trading ratios must be measured or calculated from the same baseline used in the TMDL and must be consistent with the assumptions used to develop the load allocation." We fully appreciate the

importance of establishing a sensible baseline, but this statement is not clear to us. Please explain what it means for source credits and trading ratios to be measured or calculated from the same baseline used in the TMDL, and what it means for those credits and ratios to be consistent with the assumptions used to develop the load allocation.

*Response: The purpose of using the same baseline and assumptions used to develop the TMDL is to ensure that credits calculated do not exceed the number of credits actually available. For example, if the TMDL assumed that the total load of a pollutant from a tributary was two pounds, implementation of pollutant controls for that pollutant in that tributary could not result in more than two pounds of credit, and in fact would have to be less than two pounds because it is usually impossible to remove every bit of a pollutant. Using the TMDL assumptions as the baseline also ensures that everyone has the same starting point for measuring reductions, so all dischargers are treated fairly and equally.*

**2. Avista**. One component of Ecology's Margin of Safety for the DO TMDL was establishing the baseline using 2001 conditions, which represented a low-flow, high temperature year (i.e., the 7Q10). Nonpoint source credits and trading ratios used to meet waste load allocations and other responsibilities under the DO TMDL will therefore be measured or calculated from 2001 conditions. Since it's likely that the assumptions used to develop the load allocation will change over time as new data become available, how will real-time data be meshed with the 2001 load assumptions? In other words, how will Ecology measure compliance with two separate data sources, one being real-time BMP effectiveness monitoring results and the other being the 2001 loading assumptions?

*Response: To give some level of certainty to the dischargers and Avista, Ecology anticipates using the assumptions and targets in the TMDL for the 10-year compliance period. After that, Ecology will adjust numbers based on monitoring data to see if we have reached compliance and to determine next steps if compliance has not been achieved. Real-time data will be collected, however, during the initial 10-year compliance period, but will not be used for determination of credits.*

**3. Pierce County**. The draft framework states that "Nonpoint source credits and trading ratios must be measured or calculated from the same baseline used in the TMDL and must be consistent with the assumptions used to develop the load allocation." Many TMDLs are based on limited data; however, if additional information becomes available after the TMDL has been established, Ecology should allow the new data to be used to develop and implement water quality trades.

*Response: See responses to #1 and #2, above.*

**4. Avista**. The first bullet under "Elements of a credible water quality trading program" states that a credible water quality trading program "Must define a common unit of credit, such as pounds of phosphorus per day." It may be appropriate to introduce other common units of credit for definition, such as pounds of other nutrients or pounds of dissolved oxygen.

*Response: Each individual water quality trading program will have to define the unit or units of credit it will use. For instance, at the November 3, 2010 Spokane River DO TMDL Implementation Advisory Committee Meeting, Ecology described three kinds of trades and the*

*currencies those trades would use. 1) between two point sources with the currency being phosphorus; 2) within a single entity at a single plant at the same discharge point with the currency being phosphorus, ammonia, or CBOD if equivalency can be shown; and 3) between a point source and a nonpoint source with the currency being phosphorus. It should be noted, however, that having more than one currency being traded adds another level of complexity to the water quality trading program.*

**5. Avista**. The first sentence under "Quantifying/estimating pollutant reductions" states that "A standard methodology must be used to estimate the amount of pollution reduction expected from the implementation of eligible BMPs." In view of the fact that there are literally dozens of methodologies that might be considered "standard," how and by whom will the "standard methodology" be selected or developed? It is also important to note that all methodologies do not work in all situations. For example, the CE-QUAL model provides a very precise and robust methodology for assessing the Lake Spokane, but cannot assess reductions at a given source miles up the tributaries. Will more than one methodology be available for use, given that the Trading Framework is for the entire State, which includes water bodies with myriad water quality concerns?

*Response: The designers of each individual trading program must choose the methodology or methodologies to use to estimate pollutant reductions expected for those actions for which an actual reduction cannot be measured. For instance, as part of the design of an individual trading program, the group would decide what estimating equation would be used for BMPs determined eligible to trade to determine how much credit they would generate. The equations will be based on research about the effectiveness of the BMP and our knowledge about how the BMP will function in the specific watershed.*

**6. Avista**. The second sentence under "Quantifying/estimating pollutant reductions" states that "Monitoring must measure actual reductions periodically and adjust, if necessary, the estimated reductions." This could be read to say that monitoring will adjust reductions, but in fact Ecology will need to adjust reductions based on the monitoring results. We suggest this sentence be rewritten so it reads "Periodic monitoring must measure actual reductions, and the monitoring results will be used to adjust, if necessary, the estimated reductions."

*Response: Comment noted.*

**7. Pierce County**. The draft framework states that a "Standard methodology must be used to estimate the amount of pollution reduction expected from the implementation of eligible BMPs." What does Ecology consider to be a standard methodology?

*Response: See response to # 5 above.*

**8. Washington State Department of Transportation**. Page 5, "Quantifying/estimating pollutant reductions," 2nd sentence: "Monitoring must measure actual reductions periodically and adjust, if necessary, the estimated reductions." As written, it is unclear who will perform this monitoring and for how long. Suggest specifying who will be monitoring to measure actual reductions (i.e. Ecology, the stakeholder trying to earn credits, or the credit buyer).

*Response: The statewide trading framework deliberately does not specify who will monitor. A credit purchaser is responsible for ensuring that adequate credits were generated and purchased to meet its permit limit, which may mean that the purchaser will perform the monitoring. However, it's also possible that as part of the credit purchasing agreement, the seller will perform the monitoring. This detail will be established in the development of an individual water quality trading program.*

**9. American Farmland Trust**. This section doesn't convey a lot of detail about how the Department of Ecology will go about estimating pollution reductions. If we are to assure public confidence in the use of trading while taking advantage of its legitimate potential, perhaps it might be useful to include a process for making sure the "standard methodology" referenced is peer reviewed as well as accepted by the regulatory agency.

*Response: See response to # 5 above.*

**10. City of Yakima and Yakima Point Source Group.** On page 3, under, "What is a credit?" the first bullet, "A unit of pollutant reduction is usually measured in pollutant quantity (pounds) per unit of time at a point of compliance."

Suggested language: "A unit of pollutant reduction that can be measured in pollutant quantity per unit of time within a defined area such as a watershed, reach, bay, lake etc…"

On the last bullet of the same section "Nonpoint source credits and trading ratios must be measured or calculated from the same baseline used in the TMDL and must be consistent with the assumptions used to develop the load allocation."

The adoption of guidance as stated in the above bullet point, would not take into consideration that in some watersheds, restored ecosystem services can increase the loading capacity of a river, and this would change the assumptions used to develop the load allocations.

*Response: Ecology disagrees that the suggested definition of credit is adequate for water quality trading. Since the purpose of water quality trading is to meet the load and wasteload allocations in a TMDL and the subsequent effluent permit limits, the point of compliance set by the TMDL defines the regulatory objective. This is where pollutant reductions achieved by water quality trading will be measured and it also serves as the reference point for the location-based trading ratios.*

*If we believe that a watershed has changed (for better or worse) so much that an existing TMDL no longer describes it accurately, then a new TMDL should be developed.*

**11. City of Yakima and Yakima Point Source Group**. The "Project scoping—proposal and consultation" provides Ecology overview of developing markets without guidance for supporting markets. Cooperation with scientific studies that consider innovative market development efforts is needed.

Ecology is ultimately responsible for setting Clean Water Act related goals such as TMDLs. The guidance document indicates that Ecology will determine the crediting protocols and offset limits

as well. This should be accomplished by local market development and be a determination based on the most benefit to water quality for the least cost. All viewpoints and opinions pertaining to crediting protocols and market valuations are relevant in a local marketplace. Ecology should maintain approval authority of markets, but not be responsible for resourcing the development of them.

*Response: The commenter is incorrect in claiming that the tasks of determining crediting protocols and offset limits are best left to "local market development." Water quality trading 's primary purpose is to achieve the successful implementation of the TMDL while doing so at less cost and creating an opportunity for accruing additional environmental benefits. The TMDL and its implementation are Ecology's responsibility, so therefore it is Ecology's role to establish the unit of trade and to review and approve the process and equations by which credits will be generated, the conditions under which credits may be used, and how compliance is determined. Those are proper government functions. However, the government doesn't need to establish and operate the market itself, in which buyers and sellers negotiate and complete their trades. That is what can best be left to stakeholders engaged in "local market development."*

**12. Chelan PUD**. Page 3, Introduction, What is a credit? – REVISE the first bullet point to read, "A unit of pollutant reduction usually measured in pollutant quantity (pounds) per unit of time at a point of compliance, or a change in the characterization or location of the discharge to achieve an equal or greater improvement to water quality as a unit of pollutant reduction."

Page 3, Introduction, What is a credit? – REVISE the second bullet point to read, "Generated by a point source by over-controlling its discharge – going beyond reductions required by its WLA-based permit limit or its existing permit limit, whichever is more stringent, or changing the characterization or location of the discharge to achieve an equal or greater improvement to water quality that would be achieved by a pollutant reduction."

*Response: The proposed revisions do not follow EPA's trading guidance or meet the Clean Water Act's regulatory requirements for TMDLs, NPDES permit limits, etc., with which the water quality trading program must comply.*

## Cross-pollutant trading

**1. City of Post Falls**. Fifth bullet, third section, page 3: What is meant by "out of kind" trading?

*Response: Out-of-kind trading, also sometimes called cross-pollutant trading, refers to trading one pollutant for another. In general, this is not allowed. However, oxygen-related pollutants are an exception when adequate information exists to establish and correlate impacts on water quality. Reducing upstream nutrient levels to improve a depressed in-stream dissolved oxygen level is an example of cross-pollutant trading. Ecology will add this explanation to the framework document.*

**2. Spokane County**. In the fifth bullet under "EPA Guidance", it says "No out-of-kind trading." This is ambiguous and should be clarified in the paper.

*Response: See response to #1 above.*

**3. Inland Empire Paper**. The DO TMDL loading capacity consists of the combination of three nutrients phosphorus, CBOD, ammonia that impact meeting the dissolved oxygen water quality standard. All three parameters have a degree of equivalency, and it is possible for a point or a non-point source to be higher in one or two of the three, if balanced by a decrease in the other one or two parameters. This concept is important in NPDES permitting and in the Delta Elimination Plan credits. To the extent that equivalency between parameters can be determined, permitting should allow for consideration of this relationship in meeting the final waste load allocations.

Attached is example of how Ecology has used the concept of pollutant equivalency by equating CBOD5 and Ammonia in the City of Everett's NPDES permit. The Snohomish River has a TMDL for BOD and Ammonia (because of a modeled dissolved oxygen concern). Since both the CBOD5 and the ammonia affect dissolved oxygen, the permit provided a mass limit for equivalent carbonaceous biochemical oxygen demand (5-day). Compliance with the mass load limit is determined by adding the CBOD5 in lbs/day to 2.1 times the Ammonia in lbs/day, where both the CBOD5 and the total ammonia are measured from the same daily composite sample (see page 9 of the permit for the Equivalent Carbonaceous Biochemical Oxygen Demand limit, and see footnote "e" on page 10 that explains how that limit works).

IEP requests that the concept of pollutant equivalency be considered as a permit modification for meeting permit waste load allocations. Pollutant equivalency should also be considered as a mechanism for reduction of non-point sources by relating potential sources of CBOD and ammonia to phosphorus.

*Response: This issue has been discussed at several Spokane DO TMDL Implementation Advisory Committee meetings. Ecology has said that it will consider this kind of trade if equivalency can be demonstrated. It will be considered a trade because the limits established in an NPDES permit would differ from the wasteload allocations set in the TMDL, and also because once a trading program is being used it is important that all trades are recorded and verifiable. However, if equivalency is established, and if the trade is limited to within a plant, it is a simple trade that is written into the NPDES permit.*

**4. Spokane County**. In the seventh bullet under "Determining eligible trades", it says "Trading one form of a pollutant for another form, such as total phosphorus for a soluble…". This appears to be a reference to the current study of biologically available phosphorus compared to total phosphorus in advanced wastewater effluent. We disagree that the trading program should also cover future knowledge gained regarding the responsiveness of water quality to the way that a pollutant is measured. If we learn that dissolved oxygen in the Spokane River is influenced by biologically available phosphorus, not total phosphorus, this information should be the basis for a revision to a NPDES permit, not require a credit and trade.

*Response: This section of the document gives examples of theoretical trades and does not refer to the bioavailability study currently being conducted. However, at the November 3, 2010 Implementation Advisory Committee meeting, Ecology said we believe that because the Spokane River DO TMDL wasteload allocations are for total phosphorus, assigning a new wasteload allocation based on bioavailable phosphorus would require a TMDL amendment. We will make a final decision about whether or not a TMDL amendment would be required after consultation with our legal counsel.*

**5. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. We are skeptical about the prospects of trading one pollutant for a different pollutant. The Draft Trading Framework page five title "Defining the trading universe" subheading "Determining eligible trades" proposes trading one oxygen related pollutant for another. We believe that trading one nutrient for another is unequal and will not alleviate the amount of Dissolved Oxygen in the water. The EPA has also provided guidance documents that point out that each pollutant affects every water body differently (http://www.epa.gov/npdes/pubs/wqtradingtoolkit_app_a_case_studies.pdf See A-40). We want to see verifiable science supporting the decision to allow trading between pollutants in the Spokane River. This science must reflect Spokane River specific tests to establish these trading ratios. We need to see results that demonstrate a reduction of Dissolved Oxygen in Lake Spokane, prior to the expiration of the discharger's compliance schedule to ensure that when the trades occur the discharger is in compliance with its NPDES Permit.

**Recommendation**: We recommend against developing a nutrient trading program that allows trading one oxygen related pollutant for another. The uncertainty in establishing exact ratio's is a waste of resources at this time, when the parties are still trying to determine whether trades of the same pollutant will reduce phosphorous in the watershed. The parties may revisit this issue as the Trading Program is developed, but Ecology should require dischargers to focus on trades between like pollutants.

*Response: See response to #3, above. The Spokane River TMDL is a dissolved oxygen TMDL, not a phosphorus TMDL, so it is possible that a reduction of one oxygen-related pollutant could logically be traded for an increase in phosphorus as long as equivalency in achieving the overall reduction goal of the TMDL can be shown and there are no adverse local impacts. The TMDL model could be used to determine whether or not this kind of trade would work. Ecology agrees that the initial focus should be on phosphorus trading only, since establishment of a cross-pollutant trading program is much more complicated. However, we do think that if the equivalency test can be met, a cross-pollutant trade within a plant is a simple trade that would be written into the NPDES permit.*

**6. Spokane Tribal Natural Resources**. "Determining Eligible Trades… Trading a pollutant for a water quality enhancement, such as increasing dissolved oxygen as a trade for reducing phosphorus." The Department is very concerned about this as an eligible trade and strongly opposes the example as an eligible trade. During and after the DO TMDL development the Tribe and EPA conducted modeling on the Lower Arm of the Spokane River with this scenario. The scenario set the discharged water of Long Lake at 8mg/l of dissolved oxygen and ran it through the model. Unfortunately, it became known that even with the increased oxygen the Tribe's waters continued to suffer from low oxygen because the water still contained high levels of TP and other pollutants. The input of DO only increased water quality for a limited stretch of the River and then the benefit dissipated. The Department does not oppose the general idea of this type of trade, but it concerns us that this was the example used.

*Response: Artificially increasing dissolved oxygen, if proposed, would likely come from Avista to meet its DO responsibility under the 401 Certification. It would be Avista's responsibility to show how artificial whole-lake oxygenation would meet its DO responsibility as defined in the TMDL, not with meeting downstream water quality standards. Avista does have some responsibility for*

*meeting Spokane Tribal standards from the tailrace, but this is a separate issue from its DO responsibility.*

*As described in the Spokane DO TMDL response to comments (Section M), the TMDL is not designed to meet the Spokane Tribe water quality standards, particularly with regard to ambiguities in the water quality standard established for the Spokane Arm. Modeling conducted by EPA for the Spokane Tribe shows that the 8 mg/L dissolved oxygen standard (whole volume) would not be met even if all sources of pollution were eliminated upstream of the Spokane Arm. The modeling also shows that while the standard would not be met, implementation of the TMDL wasteload and load allocations would substantially improve dissolved oxygen in the Spokane Arm. The most important factor in increasing DO in the Spokane Arm comes from reducing the sediment oxygen demand, which will happen over time once point source and nonpoint source phosphorus loads are reduced and dissolved oxygen is improved.*

## Wasteload allocations (technology v. water-quality based)

**1. Spokane County**. In the third bullet under "EPA Guidance", it says "No trading to meet technology-based limits." This is ambiguous, and should be clarified in the paper. For example, one of the reasons for trading is that it is more cost effective to trade that to spend an inordinate amount of money to implement technology to meet very stringent water quality requirements, as referenced in the second paragraph on Page 1.

*Response: Two kinds of limits are generally used in NPDES permits, technology-based and water quality-based. An example of a technology-based limit is secondary wastewater treatment. Once a technology-based standard has been established, all point sources subject to that standard must use that technology for treatment and may not use trading to meet that requirement. Water quality-based limits are generally established by a TMDL. It is conceivable that a water quality-based limit would require just what can be achieved through application of an otherwise required technology-based limit. However, if the water quality-based limit requires a higher level of treatment than can be achieved by using the otherwise required technology for the specific discharge, then the water quality-based portion (after technology is employed) may be achieved through water quality trading.*

**2. Spokane County**. In the first bullet under "Ecology issues NPDES permit", it says "NPDES permit requires use of best technology dischargers can achieve." This statement is ambiguous, and is contradictory with the statement on page one, where it appropriately says "Pollution trading can provide advantages in addition to reduced costs for water quality improvements." One of the goals of the trading program is to determine the appropriate balance between implementation of treatment technology versus implementation of other actions to improve water quality in the watershed. It may be that "…use of the best technology dischargers can achieve" is prohibitively expensive, and a poor use of our rate payers' investment. In some cases it may be a more effective use of financial resources to reduce non-point source pollution instead of installing technology that has a marginal reduction of the pollutant load. We recommend that this statement be clarified to include a reference to cost effective technology, not just "best".

*Response: TMDL wasteload allocations and NPDES permit limits are set to achieve compliance with water quality standards without regard to cost. As noted in the answer to #1 above, if a point*

*source discharger is subject to a technology-based limit, that limit may not be met through trading. If the discharger also has a more stringent water quality based limit, that portion of the limit beyond the technology limit may be met through trading. However, that is a decision the discharger must make.*

*Ecology will revise the language in the framework document to clarify this.*

**3. Avista**. The first and second bullets under "Ecology issues the NPDES permits" use the phrase "best technology" when describing dischargers' obligation to treat their wastewater before discharge. The first sentence below the bullet uses a similar phrase, "best effluent technology." Under Washington law, dischargers are not required to use "best technology" or "best effluent technology." Instead, they are required to apply all known, available, and reasonable methods of treatment (AKART) to their wastewater. Ecology should replace the phrase "best technology" each time it appears with "AKART."

*Response: See responses to #1 and #2 in this section.*

**4. Washington State Dairy Federation**. when is a permitted source eligible to buy a credit to fulfill a NPDES permit, the term at the end of the document says after the "best control technology that can be achieved"...this is a new term for me and not sure what it means... in my mind there is a reasonableness test here that sets a line... and the trade occurs across the line...

*Response: See responses to #1 and #2 in this section.*

**5. American Farmland Trust.** P. 7: This section states that the NPDES permit can only allow trading above the "best technology dischargers can achieve." We appreciate that the State of Washington must require use of that level of technology that is required under federal law. The hope is, however, that the standard suggested does not require greater use of costly and uncertain technology than is already required under the Federal Clean Water Act when less costly and more certain and effective trading regimes might be readily available.

*Response: See responses to #1 and #2 in this section.*

## Possibility of a bubble allocation for point sources

**1. Inland Empire Paper**. In 1989, the Spokane River Phosphorus Management Plan was adopted as a bi-state (Washington and Idaho) effort to reduce phosphorus contributions to the Spokane River. This plan set total phosphorus limits for each point source discharger to the Spokane River in both Washington and Idaho. IEP and Kaiser continue to operate under the "Spokane River Phosphorus Management Plan" also known as a "bubble" for aggregated discharge of total phosphorus.

Under the current plan, two industrial dischargers, IEP and Kaiser are given a monthly average aggregate limit (industrial bubble limit) and a specific individual limit. Under this scenario, one discharger would not have a permit violation of their individual limit as long as the industrial bubble limit is met. Specific language regarding this compliance plan from IEP's current permit is provided below:

**Spokane River Phosphorus Management Plan**

The daily average aggregate discharge for total phosphorus (as P) shall not exceed 16.5 kg/day (36.4 lbs/day) during the time period from June 1 to October 31 for Inland Empire Paper Company and Kaiser Aluminum & Chemical Corporation, Trentwood Works.

The daily average discharge for total phosphorus (as P) shall not exceed 11.2 kg/day (24.7 lbs/day) during the time period from June 1 to October 31 for Inland Empire Paper Company.

The Permittee will not be considered in violation of the daily average discharge limit contained in condition S1.A.3.b. unless the daily average aggregate discharge limit contained in condition S1.A.3.a is also exceeded for the same reporting period.

Innovative approaches such as the Spokane River Phosphorus Management Plan will be necessary for the success of the DO TMDL. IEP encourages Ecology to incorporate such measures into the Delta Elimination Plan. For DO TMDL compliance, IEP suggests extending the "bubble" concept to municipal NPDES permit holders, including Idaho, and broadening the scope to include the other regulated parameters CBOD and ammonia.

*Response: At the November 3, 2010 meeting of the Spokane River DO TMDL Implementation Advisory Committee, Ecology informed the group that it is willing to consider creating a bubble that would allow dischargers to aggregate limits on ammonia, total P, and CBOD to meet permit requirements. Ecology made it clear that a bubble limit would only be considered for point source to point source trading, and that it would be necessary to define liability if one entity fails to meet its limit. Ecology also pointed out that use of a bubble for Idaho dischargers is an EPA permit issue. We encourage the dischargers to look at this option and see if they can agree on a path forward using the bubble concept.*

**2. Kaiser Aluminum**. With respect to "point source bubbles" between multiple point sources related to multiple entities, the establishment of a bubble should also not be subject to the process that is outlined in the draft trading framework. While some of the same demonstrations that are a part of the draft trading framework may be required, the establishment of a bubble and the appropriate compliance demonstrations should remain a part of the discharge permit renewal processes for the participating entity's discharge permits. This would be consistent with the development of the existing Kaiser Aluminum/Inland Empire Paper bubble that exists in the 1997 issued discharge permits.

*Response: A bubble, or aggregate, limit is a form of trading. Because it is a form of trading, the same sort of water quality analysis necessary to support trading would be required for a bubble/aggregate limit. However, for a bubble/aggregate limit, no credits would be bought or sold, which simplifies this form of trading.*

## Required timing of offset for new dischargers

*Summary response: The commenters in this section are confused by the following requirement of Chapter WAC 173-201A-450, Water Quality Offsets: "The improvements in water quality*

*associated with creating water quality offsets for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action."*

*What it means is that any new or expanded discharge to a fully allocated water body that relies on trading or offsets to meet its limit cannot be authorized to begin discharging until enough pollution has been offset to meet the limit. As an example, in the Spokane River DO TMDL watershed, it applies only to Spokane County because the County's new plant will be the only new discharger. So, Spokane County must meet its limit upon initiating discharge. If an offset (trade) is required, it must also be in place upon initiating discharge. In this situation, existing dischargers are afforded a compliance schedule, while a new discharger is not.*

**1. City of Post Falls**. First bullet, Implementation requirements, page 7: This is confusing: "Implementation of the offset/credit for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action." How can a proposed action be proven and implemented in advance of it being acted upon?

*Response: See summary response for this section.*

**2. Avista.** The first bullet under "Implementation requirements" states that "Implementation of the offset credit for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action." This statement is unclear to us. We assume that an "action" is a discharge or other operation that affects water quality. Is that correct? How would this statement apply to an existing discharge or other operation that may affect water quality, such as a dam?

*Response: See summary response for this section. The section of Washington's offset rule quoted in this comment only applies to new or expanded dischargers, not to existing ones. In the Spokane watershed, this applies only to Spokane County, which intends to begin operating a new wastewater treatment plant. In this case, the county will have to show that it has offset pollutants it might be discharging above its limit to the Spokane River before it will be allowed to begin discharging. It does not apply to any of the other dischargers or to the existing Avista dams.*

**3. Washington Department of Transportation**. Page 7, "Implementation requirements," 1st bullet: "Implementation of the offset/credit for any proposed new or expanded actions must be demonstrated to have occurred in advance of the proposed action." Please clarify whether this section is describing the implementation of an alternative trade, or any trade. Please explain what is meant by "any proposed new or expanded actions (i.e. is this referring to new or expanded BMPs, new or expanded TMDL actions, etc.).

*Response: See summary response for this section.*

**4. American Farmland** Trust. The first bullet under "implementation requirements" on page 7 seems to require that a credit will not be allowed consideration in negotiations for an NPDES permit unless it has been implemented previously. If this reading is correct, this seems extraordinarily restrictive. In current practice, permittees are NOT typically required to construct and make their technological solutions operational prior to approval of a permit – why would one require this for nonpoint BMPs that will be used for the same purpose.

This is more than just a matter of timing. It would require the permittee to secure credit to pay for nonpoint BMP implementation before securing its approved permit, which is probably impossible or at least very difficult. And there is no apparent reason for this requirement, other than, perhaps, an unjustified confidence in the reliability of technology.

*Response: See summary response for this section.*

**5. Evergreen Funding Consultants.** I'd recommend reconsidering the recommendation that the implementation of the credit or offset project would need to happen prior to the "proposed action", which I take to mean the use of the credit to meet NPDES permit requirements. Inasmuch as most point-source treatment options would be implemented following the negotiation of NPDES permit conditions (and probably couldn't be financed otherwise), it seems to make sense to allow implementation of the nonpoint credit production after the fact as well. This would remove a significant impediment to community-driven trading proposals.

*Response: See summary response for this section.*

## NPDES permits and trading

**1. Spokane County**. The single largest and overriding concern that Spokane County would like to express is that we believe that Washington State already has WAC 173-201A-450, which authorizes and defines water quality offsets, and does not require a trading program to implement offsets. Under this authority, the equivalency of pollutants within a POTW should not require the cumbersome process that will be used for trading. Ecology has all of the tools necessary to regulate pollutant equivalency within a single POTW through permit conditions in a NPDES permit. Furthermore, equivalency within a POTW will not involve multiple parties and no contractual trades need to occur.

*Response: WAC 173-201A-450 is actually silent regarding whether or not a trading program is required, and in any case, Washington must comply with EPA's trading policy. Cross-pollutant trading is identified in EPA's trading guidance as a kind of trade. It is also necessary to consider cross-pollutant trading within a plant as a trade because the limits established in a NPDES permit would differ from the wasteload allocations set in the TMDL. However, if equivalency is established, it is a simple trade that is written into the NPDES permit.*

**2. Spokane County**. In the fifth bullet under "Determining eligible trades", it says "Trading one oxygen-related pollutant for another, such as ammonia for phosphorus,…". Pollutant equivalency within a single POTW should be handled through the NPDES permit process for that facility, not through the cumbersome trading program being proposed by Ecology. The trading program should be limited to those situations where more than one party is involved with the credits and offsets being proposed.

*Response: See response to # 1.*

**3. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. The Trading Program Lacks Oversight and Regulations for Trading within Entities. The Trading Program proposes the possibility of trading within entities without going into detail about what is

required for those entities to disclose. The concern is that nutrient trading within entities will go unmonitored by the public, or will merely be a program that an entity is already legally required to do by another statute or regulation. An entity should not be able to double dip and make a "trade" with itself unless it demonstrates a clear reduction of that pollutant, and that the reduction is outside additional regulatory requirements.

**Recommendation**: We want assurances that trading within entities will comply with the same requirements as trades between point and non-point traders, if applicable. We particularly want guarantees for enforcement, transparency, and contemporary trading, the same guarantees as explained in section A, B, and F of this comment letter.

*Response: See response to # 1. Ecology shares the concerns for enforcement and transparency, which will be required for individual trading programs in specific watersheds if they are developed.*

**4. Kaiser Aluminum.** With respect to pollutant equivalency at a single entity for a single point of discharge, the determination of equivalency should not be subject to the process that is outlined in the draft trading framework. While some of the same demonstrations that are part of the draft trading framework may be required, the establishment of equivalency and the appropriate compliance demonstrations should remain a part of the discharge permit renewal process.

*Response: See response to # 1.*

**5. Washington State Department of Transportation**. Suggest specifying which type(s) of NPDES permit is being addressed. It is unclear whether this section refers to NPDES industrial permits, general construction stormwater permits, municipal stormwater permits, or all NPDES permits. Included as a general comment above, suggest breaking down this section for each group that trading may apply (i.e. industrial permittees, TMDL stakeholders, etc.).

*Response: It is not possible to specify in the statewide water quality trading framework exactly what kind of point source discharger might be able to trade. This decision will be made when a water quality trading program is designed for a specific watershed.*

## Timing of credits

**1. Spokane County**. In the second bullet under "Elements of a credible water quality trading program," it says "Credits should be generated and used within the same time period…" In the case of the Spokane River for dissolved oxygen, the modeling work done by EPA and Portland State University has clearly demonstrated that phosphorus loading in the early spring (February and March) has a significant effect on dissolved oxygen in Long Lake during the remainder of the TMDL season (June-October). Therefore, it is clear that offsets of P in one time period can have a demonstrable benefit on dissolved oxygen during other time periods. The paper should be clarified to allow for this, if demonstrated through use of the model.

*Response: To ensure that water quality standards are being met, credits must be generated and used within the same timeframe. At the September 22, 2010 Spokane River DO TMDL Implementation Advisory Committee meeting, Ecology said that since the Spokane DO TMDL uses*

*seasonal averages, Ecology would try to allow trading within those same seasonal periods if modeling shows that this will work. If wasteload allocations are modeled for additional months and are shown to be equally protective of Lake Spokane DO, Ecology will consider this a form of intra-plant trading and would modify NPDES permits accordingly during the first permit cycle. Ecology will decide whether or not this will require a TMDL amendment after consultation with our legal counsel.*

**2. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. The Trading Program Must Require Trades to Occur Contemporaneously. We require that all credits and trading occur contemporaneously. The EPA provides guidance documents on Nutrient Trading. We agree with the EPA that credits should be generated before or during the same period that they are used (http://www.epa.gov/npdes/pubs/wqtradingtoolkit_app_b_trading_policy.pdf See § (III)(G)(3)). We also want assurances that credits will not be built up in the winter months and used in the summer months, when high levels of phosphorous are a problem and the River is running low.

**Recommendation**: We suggest adopting the language from EPA's guidance document adding a section to the Trading Program that requires credits to be generated during the same period as they are used.

*Response: The draft water quality trading framework contains the suggested language in the section titled "Elements of a credible water quality trading program."*

**3. Willamette Partnership**. Allowing early action—Does "used in the same timeframe" mean that reductions cannot banked or done ahead of time? Is phosphorus loading the kind of impact where credits should not be issued in advance? What about other kinds of impacts? (second bullet in "Elements of a Creditable Water Quality Trading Framework")

*Response: Pollutant reductions may not be "banked," because this could result in exceedences of water quality standards, and also would not ensure that credits are generated and used within the same timeframe.*

## Proposing an alternative trade

*Summary response: As part of designing a water quality trading program for a specific watershed and pollutant, Ecology will work with stakeholders in that watershed to identify the BMPs eligible for trading. By doing this upfront identification of eligible BMPs, we hope to encourage the market to work and to cut down on the transaction costs associated with looking at a variety of other BMPs. It will also ensure that the BMPs designated as eligible will actually achieve the necessary pollutant reductions. The only time the process to evaluate alternative trades will be used is if a potential credit purchaser or seller wishes to propose a BMP that was not identified as eligible. In this case, it is logical that the proponent bears the burden of showing that the BMP will achieve the necessary result.*

**1. Pierce County**. The draft framework document states that during the initial consultation Ecology may either reject a trading proposal or provide "written feedback" on weaknesses that must be addressed and items that must be included. It is important that criteria and procedures be

established as early as possible during the development of a trading program. Otherwise, uncertainty will likely deter potential proponents from investing time and money needed to develop trades.

*Response: Ecology anticipates that we will learn a lot from the process used to identify BMPs eligible for trading in the Spokane DO TMDL pilot trading program. We will use this knowledge to develop the outline of a process that would be used to identify BMPs eligible to trade to be used in other watersheds to include in future revisions of Washington's Water Quality Trading Framework.*

**2. Washington State Department of Transportation**. Page 5 and 6, "Proposing an alternative trade": We assume this section pertains to a discharger proposing to use a new BMP/technology that is not included in Ecology's Stormwater Management Manual (SWMM), or an equivalent manual, similar to the demonstrative approach. We assume this section would not apply to get a BMP/technology added to the list of "eligible BMPs for trades" if it is already included in Ecology's SWMM. The steps involved in proposing an alternative trade seem very onerous to simply get an Ecology-approved BMP added to the list of "eligible BMPs for trades." As written, it is not clear when this would apply.

*Response: This section does not refer to Ecology's stormwater manual. Eligible BMPs identified through the design of an individual water quality trading program are separate from the stormwater manual BMPs. BMPs identified as eligible for trading in an individual water quality trading program may also be in the stormwater manual, but other BMPs in the stormwater manual that are not identified by the water quality trading program would not be considered eligible. See summary response for this section.*

**3. Evergreen Funding Consultants.** I'd also suggest that the Department remain more open to proposals regarding the types of trades that are eligible, the BMPs that are creditable, and the trading ratios required. While it is obvious that Departmental approval is necessary on these matters, having prospective trading program sponsors initiate the development of these requirements and standards would speed the execution of trading programs and encourage innovative approaches. I'd suggest that it may make sense for the Department to establish goals and call for proposals from prospective trading program sponsors for procedures to meet the goals. I don't feel that the difficult process for proposing alternative trades offers this opportunity.

*Response: See summary response for this section.*

**4. Chelan PUD.** Page 6, Study requirements, REVISE the third bullet to read, "Determination of the net reduction in pollutant loading, or water quality improvement, to be achieved by the proposed action, considering all relevant environmental influences (natural or otherwise), including seasonal variation in loading, lag times between installation and achievement of pollutant reduction, uncertainty, and other factors."

*Response: Ecology will consider this proposed change in subsequent drafts of the water quality trading framework.*

## Credit accounting /trade accountability (contracts, installation, maintenance, and monitoring)

**1. City of Post Falls**. What will be the administrative resource requirements (org chart, staffing, budget) for setting up and implementing a bi-state trading program, including reviewing and evaluating trade proposals, tracking trades, accounting for credits issued and retired, verifying implementation, etc.?

*Response: It isn't possible to predict at this time what the staff and budget requirements will be to administer the Spokane River DO trading program. Ecology anticipates that the Spokane River DO TMDL Implementation Advisory Committee will help with determining BMPs eligible for trading, setting locational and other trading ratios, designing verification requirements, and adaptive management. Ecology, EPA, and DEQ will likely design the forms and procedures to record trades because those establish the credits that are then used to comply with permit limits. The stakeholders will have the opportunity to create the system to record the trades and produce the credit accounting reports that the permit holders then submit to Ecology, EPA, and DEQ to show compliance with their permit limits (as well as fill out the DMRs). This system must establish the record of creating the credit, where it was bought/sold, and when it was used or retired.*

**2. City of Post Falls**. Second bullet, Monitoring, page 8: Why does Ecology need data reported monthly, instead of in line with quarterly DMRs? How would this policy apply to Idaho dischargers, if at all?

*Response: The standard practice is to require DMRs monthly. Ecology does not understand the reference to quarterly DMRs. We have checked with EPA, and Post Falls' administratively continued permit, issued in 1999, requires monthly reporting, and their draft 2007 permit proposed the same. EPA has indicated that it does not intend to change this requirement.*

**3. Idaho Conservation League**. We are leery of trades that involve non-point sources. It has been our experience that individual non-point sources do not reliably deploy and/or maintain BMPs and that there can be tremendous variability in the benefits derived from like BMPs deployed by different landowners and in different areas.

Further, it is often the case that there is no monitoring of individual non-point sources and as such is not possible to accurately gauge the value of specific BMP project. If nonpoints are to be allowed to sell credits, Ecology must ensure that site specific monitoring is reliably taking place and that they are submitting the equivalent of a point source's DMR.

*Response: Ecology agrees with the concerns expressed in this comment. We plan to address the variability in the benefits provided by BMPs through the use of credible estimating equations, uncertainty discounts, and location ratios. It is also necessary that every trading program establish inspection protocols that will ensure that BMPs are being operated and maintained correctly so that credits being traded are real and not just paper credits. The selection of BMPs eligible to trade will include a description of what type of monitoring and maintenance are required and how often. Credit buyers will be liable if BMPs are poorly operated and maintained and therefore do not generate sufficient credits.*

**4. Spokane County**. In the first bullet under "Identifying eligible BMPs for nonpoint trades", it says "A date for offset effects to be measurable at the compliance location." This is not clear, and may be impracticable. For example, in the Spokane Watershed, some dischargers will potentially need a credit and trade for approximately one pound of phosphorus per day. It is impossible to measure one pound of loading in the Spokane River at the compliance point, which is just upstream of Long Lake.

*Response: Ecology agrees that measuring compliance for individual dischargers' phosphorus reductions accomplished through implementation of BMPs may be very difficult but dischargers or others wishing to pursue trades would not actually need to measure a pound in Lake Spokane. If a discharger needs one pound of phosphorus and they want to make it up through trading, they will have to show through modeling or other analyses how one pound is being reduced to the river through BMPs or other actions. After applying a river location and possibly other ratios and running the model from the point of discharge into the river, they can determine how much phosphorus pounds are actually being delivered to the assessment point and receive credits for those pounds. Therefore, if they wish to pursue trading for that one pound, they need to determine that primarily through the TMDL model, not through in-lake measurements of phosphorus, which will be considered as part of the 10-year assessment when it will be possible to determine whether or not the dissolved oxygen standard is being met in Long Lake. If the standard is being met, then TMDL implementation will have been a success.*

**5. Spokane County**. In the third bullet under "Ecology issues NPDES permit", it says "Credits are linked to NPDES permit. Dischargers will report raw sampling results…" We agree that credits and trades need to be properly defined in a NPDES permit, once they have been approved by Ecology. However, we do not agree that "trade adjusted results" need to be reported on monthly DMR's in every case. For example, Spokane County has prepared and submitted a Wastewater Facilities Plan to Ecology that proposes offsets and credits related to elimination of septic tanks, which will eliminate a phosphorus load to the Spokane River. Once these septic tanks are eliminated, there would be no need to report a "trade adjusted result" on the County's DMR's each and every month thereafter. We do agree that pollutant equivalency within a treatment facility should be provided for in a NPDES permit, and would require a reporting mechanism to insure that the pollutant equivalency is maintained during the TMDL season. As stated in a previous comment, the equivalency may not be temporal, since dissolved oxygen in Long Lake has been proven to respond to pollutant loading in previous time segments. Therefore, it would be inappropriate to have a DMR reporting requirement where loading is only viewed on a single month. In the case of the Spokane River TMDL, loading over the entire TMDL season will determine compliance.

*Response: At the September 22, 2010 Implementation Advisory committee meeting, Ecology said that different kinds of trades would require different types of accountability, based on the nature of the nonpoint source BMP. For instance, a BMP to maintain a buffer in a particular riparian area would require on-going reporting; removal of septics, however, may only require certification that it's complete and no new septic systems have been installed. This may depend on how the limit is expressed in the permit and if the permittee needs to show each month that the effluent limit is being met through the septic tank removal. The DMR is fed into EPA's national system that alerts EPA about permit violations, so a trade adjusted discharge would need to be established if the permit limit isn't modified more permanently.*

**6. Avista.** The second bullet under "Implementation requirements" states that "Point or nonpoint source controls must be secured using binding legal instruments between any involved parties for the life of the project that is being offset." We interpret this to mean that contracts or other binding legal instruments must be in place for any period when credits are being used to meet an obligation to improve water quality. Thus, a discharger could sign a series of short-term contracts, "stacking" them so the discharger has necessary credits as long as its discharge continues. We do not read it to say that the duration of each such contract must be for "the life of the project that is being offset." In our view, that could be an unworkable requirement for two reasons. First, sources that generate credits may be unwilling or unable to enter into such long-term commitments for legal or other reasons. Second, it may not be clear what the "life of the project" will be, given the diverse nature of projects that may use offsets, including municipal sewage treatment plants, industrial dischargers, and dams. We would appreciate clarification on this point.

*Response: We agree in general with this interpretation of the need for binding legal instruments between trading parties. It should be possible for a discharger to enter into a series of legal agreements that insure the discharger has acquired the credits needed to offset its discharge. It will be important to determine whether this will always be possible, depending on what kind of actions are generating credits, and to create agreements for the appropriate length of time. The frequency of monitoring for each eligible BMP is a related element. If Ecology wants to have some BMPs be considered "permanent" credits, then monthly monitoring might not make sense. However, if the BMP's performance varies over time, then monthly monitoring is warranted, but the reliability of the credit is then questionable. Private contracts can handle the investment timeframe, but the monitoring requirements need to be addressed by Ecology and not tied to the duration of the credit.*

**7. Avista.** The second bullet under "Permittee implements offset" states that "Ecology may conduct periodic inspections, including but not limited to visual inspections, and water quality monitoring, at any time during the life of the offset." Does Ecology intend to enter onto private property to conduct inspections and monitoring? If so, will it obtain access using its own authorities, or will it expect entities who buy credits to negotiate access on Ecology's behalf? We believe that if entities buying credits are to negotiate independent access for Ecology, the terms of access should provide that Ecology may enter onto the property only during normal business hours and only after giving reasonable notice to the property owner and to the entity that holds the credit.

*Response: This is not a negotiated item. It is an eligibility requirement for being allowed to trade. Persons who wish to generate and sell credits, but who are unwilling to undergo periodic Ecology inspections, will not be eligible to trade. Ecology generally agrees that there should be notice prior to an inspection, although what is reasonable might be different in different situations, and there may be situations in which notice would not be appropriate.*

**8. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council.** The Trading Program Must Include a Fully Developed Compliance and Enforcement Plan. The Trading Program inadequately describes compliance and enforcement, particularly when the trade is between a point source discharger and a non-point source. While we understand that this is a draft in its early forms, and that the draft is for a Statewide program, the actual details of the Spokane trading program must contain specifics for how compliance will be measured and what enforcement will occur if non-compliance is detected.

As drafted, the Trading Program for a point source to non-point source trade appears to allow compliance determinations be made by the discharger, with oversight conducted by Ecology. However, Ecology was directly asked at the first meeting on the trading scheme whether it would dedicate a person to determine compliance and enforcement of this program and the answer was no. How will Ecology ensure that a discharger is complying with its permit limits? How will that compliance occur between Idaho dischargers and Washington dischargers? How will Idaho DEQ and Ecology ensure that trades between an Idaho discharger and a Washington non-point source, or vice versa, will accurately reflect the amount of pollution reduced?

The regulator cannot merely assume that the discharger and the contract party that installs a BMP will adequately ensure compliance with the trading program. We want more guidelines on enforcement of BMP compliance, including not only adequate implementation but also assurances that the BMP is working as designed and intended. The best method for determining compliance is monitoring. If a party enters into a contract with a 3rd party for implementation of a BMP, we request that someone conduct stormwater sampling prior to implementation of the BMP to determine the baseline for the site, and then sampling during the BMPs existence, to ensure that expected reductions are actually occurring. We also want transparency of the monitored results. We ask for this transparency to come in the form of online accessibility to the monitoring results and the effects of the BMPs.

**Recommendation**: We recommend that a third-party be hired to conduct monitoring and compliance for non-point source and point source credits/trading. We request the monitoring be paid for by the participants of the Trading Program and be overseen by Ecology. Alternatively, given Ecology's budgetary constraints, an independent organization that will report to Ecology may be hired. Eastern Washington and Northern Idaho have several Universities and Community Colleges that have water quality sampling and monitoring capabilities that could oversee such a program. Without adequate oversight, the real possibility exists that the Trading Program will fail to actually reduce phosphorous levels in Lake Spokane. The environmental organizations are not interested in a scenario, where the parties are negotiating another "solution" to the nutrient problem decades after the first "solution" was implemented.

*Response: Ecology agrees that the Spokane water quality trading program must describe how compliance will be tracked and monitored. Posting monitoring results and other information on a website is a good idea. We also agree that third-party verification could be a useful tool to ensure that the necessary credits are being generated. If trading, particularly involving nonpoint sources, is pursued in Spokane, compliance monitoring will need to be determined with input from the Spokane River DO TMDL Implementation Advisory Committee. Similarly, future trading programs developed in specific watersheds will need to determine this working collectively as a group.*

**9. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. The Trading Program Lacks Provisions Guaranteeing Transparency of Trades and BMP Effectiveness. We require that all credit trading and BMPs are transparent and readily available for review without request. We want easy readily available monitoring of trading practices open to the public. In order to promote transparency, we request that the results of the monitoring and compliance are posted online by the organization overseeing compliance. We request detailed DMRs be completed on a monthly basis, and that Ecology reject any discharger's suggestion that compliance be determined on a seasonal basis. The Clean Water Act, all applicable regulations, and the TMDL,

require compliance with effluent limits be during the reporting period, i.e., monthly for phosphorous limits. We request that the monitoring be completed and submitted to Ecology in the same timeframe as DMRs, to ensure compliance with NPDES permit limits.

**Recommendations:** We request that the trades be posted online as soon as completed. We also request that the third party verifiers have access to the same database to upload data on the effectiveness of BMP's within 3 days of their verification. We want all sampling results to be posted online so the public, the discharger, and Ecology may monitor the effectiveness of the BMPs.

Included in the third party verification must be the location of the trade, the identification of the trading partners, including the name, phone number, NPDES permit number and address of the person in charge of maintaining the BMP. We want full details on the BMP utilized in the trade, including a description of when it was installed, verification that it was implemented correctly and is continuing to function as required, and an explanation of any modifications or changes to the BMP during the reporting period.

*Response: We agree all these issues are important to address if nonpoint source trades are pursued. All of the issues brought up in this comment will be addressed in the design of the Spokane River DO TMDL trading program, and what we learn will be used to inform the statewide trading framework document. .*

**10. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. The Trading Program must have waterbody specific trading ratios. Trading ratios are required when trading between a point source and a non-point source. Other trading programs have established trade ratios that are specific to their watersheds. Trading ratios that are specific to the Spokane River benefits both dischargers and environment. Arbitrary ratios could lead to ineffective BMP's receiving more credit than they are worth. This would result in more pollution entering into the River than traded for. Arbitrary ratios can also be damaging to the discharger if they are overwhelmingly hard to meet to enable or incentive trading.

**Recommendation**: We want the Trading Program to establish specific trading ratios based on the Spokane River and Lake Spokane. We want this to be done with verifiable site specific sampling and testing. These ratios do not need to be established in the Trading Program at this time, they can be developed over time based on experience and effectiveness of BMPs. Ecology must be able to monitor and adjust trading ratios to reflect their true value to both the dischargers and the environment. We acknowledge that we will gain insight on the effectiveness of the trading program over time. We do not want to lock ourselves into trading ratios that reflect neither the nature of the Spokane River nor the specific characteristics of the BMP.

*Response: Ecology apologizes for some of the confusion we have caused by lumping several kinds of considerations under the general term "trading ratio." We will try to clarify what we mean in both this response and in future versions of the statewide trading framework document. Location-based ratios will be calculated using an approach that can be replicated in other watersheds but when applied to an individual trading program establishes numbers unique to the watershed. Location-based ratios, which adjust pollutant reductions based on where in the watershed they occur, should not change over time unless there are major hydrological changes or land-use*

*changes that would change the flow of a stream and its tributaries, and how a pollutant gets delivered to the point of concern. Or, if there is a proven error in the model, then the location-based ratio should change. The other things we have lumped into the "trading ratio" are BMP effectiveness, credit delivery, and uncertainty. BMP effectiveness has to do with the estimating equations for the BMPs that can't be measured, or the measurement method of those that can be directly measured. If either of those can be improved upon, they should be allowed to change over time and through a transparent process. Credit delivery gets at the risk of BMP failure, or bad contracts entered into by the point source. That can be addressed through enforcement actions, including penalties, which can become less or more frequent or severe if adjustments are needed. Lastly, uncertainty is associated with a discount rate that is tied to the BMP estimate for its level of accuracy and that can be adjusted based on the BMP effectiveness research mentioned earlier. It is also associated with the margin of safety for the TMDL, which is a bigger set of factors than anything trading can influence. We will discuss and decide about each of these as we design the Spokane River DO TMDL trading program*

**11. Kootenai Environmental Alliance, Spokane Riverkeeper, and The Lands Council**. The Clean Water Act is silent on nutrient trading in waterways. We remind those engaged in the Trading Program that the Clean Water Act is silent on nutrient trading. The Nation's experience with nutrient trading makes us skeptical of the success of this program, particularly based on point source to non-point source trades. However, we acknowledge that nutrient trading has the potential to make a positive impact on the health of the Spokane River. With that said, we demand verifiable proof that nutrient trading will work in the Spokane River before we make a long-term commitment to the Trading Program. It benefits all parties to produce verifiable site-specific data showing that a nutrient trading program will successfully reduce phosphorous in Lake Spokane before the Trading Program is approved. We want to see a Trading Program that is transparent, that is enforceable, and has a system that will effectively increase the dissolved oxygen levels in Lake Spokane.

In the event that the Trading Program fails to achieve its goals of using BMPs to reduce pollution in Lake Spokane we remind discharges that they must meet their effluent limits as required by the DO TMDL and their NPDES Permits. We interpret the Clean Water Act's silence on nutrient trading to represent Congress's intent not to have water pollution handled in this manner. We are prepared to pursue judicial recourse in the event the Trading Program fails to achieve the wasteload allocations set forth in the DO TMDL.

*Response: Comment noted.*

**12. Willamette Partnership**. Regionally consistent credit accounting—Working with partners in p the Chesapeake and the Midwest, we have found that water quality trading and other environmental markets need many of the same things: methods to quantify benefits, standards for verification, and tools to track project and program performance. Standards are now converging and many tools have been built for tracking. The benefits and costs of maintaining and improving these standards and tools can be shared among existing and emerging markets. The Willamette and Chesapeake are currently sharing technology tools that allow land managers to identify their eligibility and streamline crediting and verification processes. However, effectively sharing this market infrastructure, requires some consistency in market policy and protocols. To this end, we

are glad to be working with DoE and other stakeholders in Washington as they develop trading frameworks.

*Response: Comment noted.*

**13. Willamette Partnership**. Crediting, verification, stewardship and monitoring—It might be very staff intensive for DoE to estimate credits for every proposed project, then review again if the project generates different results than expected, and then verify these results. The program in the Willamette ties credits available for sale to achieving performance standards. Establishing performance standards for a BMP upfront provides a framework for project implementation and crediting. DoE or another third party (such as a conservation district) could then verify that performance standards are met and that the seller's estimate of credits is reasonable. Identified funds and persons responsible for monitoring and maintenance can be an eligibility requirement for trading.

*Response: These issues should be addressed in the design of every water quality trading program. We will use what we learn by working through the Spokane River DO TMDL trading program to inform this part of the statewide trading framework document. Currently in Washington State, the Conservation Districts have been very clear that they do not want to be involved in any regulatory aspect of our work.*

**14. Willamette Partnership**. Tracking multiple funding sources through an ecosystem credit accounting system--"Trading can provide a fund source for nonpoint pollution controls in addition to the currently available fund sources. " (pg 2 paragraph 2) Funds already dedicated to conservation should not be used to create credits for sale, but it is often necessary to articulate which funds are funding which parts of a restoration project; this requires an accounting protocol for multiple funding sources to establish ownership of credits. If state conservation dollars (e.g. 319 funds) fund a certain percent of a project, that same percent of credits can be retired on the public's behalf.

*Response: Ecology understands the issue being raised, which is whether or not funding for BMPs should come from sources other than the point source buyer's dollars if the nonpoint source seller is going to be allowed to sell the entire credit amount and keep that money. This is an interesting question, and if nonpoint source trades are pursued, what we decide in the design of the Spokane River DO TMDL trading program will be used to inform the statewide trading framework. This issue was discussed as part of the design of the Lower Boise trading program. In that situation, the stakeholders decided to let the credit purchasers decide if they wanted to purchase credits that had been also been paid for by another source, and not to get into the business of identifying "unfair" subsidies or other uses of public money, etc. It's important to remember that many publicly owned treatment plants receive grants or low-interest loans for their plant upgrades--would receiving that public funding make them ineligible to purchase or sell credits?*

**15. Washington Department of Transportation.** Page 7, "Implementation requirements," 2nd bullet: "Point or nonpoint pollution controls must be secured using binding legal instruments between any involved parties for the life of the project that is being offset. The proponent remains solely responsible for ensuring the success of offsetting activities for both compliance and enforcement purposes." 1. Suggest replacing the term "instrument" with "document," and/or

provide examples of what kind of legal instrument would be acceptable. 2. Please clarify whether the "proponent" is the credit earner or the credit buyer. Page 5 and 6 refer to the proponent" as a discharger proposing a trade, or credit earner. Based on that, use of the term in this instance should mean the credit earner as well. However, it is unclear. Suggest using easily understandable, consistent terminology, such as credit earner and/or credit buyer throughout the document to avoid confusion. Since either a credit earner or buyer could also be a "discharger," suggest adding these terms and definitions to the glossary. 3. EPA's Final Water Quality Trading Policy states, "In the event of default by another source generating credits, an NPDES permittee using those credits is responsible for complying with the effluent limitations that would apply if the trade had not occurred." The information included in this bullet seems to contradict EPA's guidance.

*Response: "Proponent" in this case means the credit purchaser. We disagree that this bullet contradicts EPA's guidance. The NPDES permittee—the credit purchaser—is solely responsible for ensuring that the necessary credits are actually generated, otherwise, the permittee must comply with the effluent limit that would apply if the trade had not occurred. We will clarify language describing credit purchasers and credit sellers in future versions of the water quality trading framework document.*

**16. Washington Department of Transportation.** Page 7, "Ecology issues NPDES permit," 1st paragraph, 3rd sentence: "This presumption may be overcome by evidence that the practices providing credit are found to be not effective or not adequately implemented or maintained." Please explain how this will be handled as it relates to permit compliance. If a NPDES Municipal Stormwater permittee purchases credits to meet a TMDL WLA and associated compliance timelines, permit compliance could/would be jeopardized and there may not be resources available to regain compliance within the designated compliance time lines. Suggest expanding on this section to describe potential impacts to the different permittee groups and stakeholders that this might affect.

*Response: The possibility that credits a point source discharger intends to purchase may not be available when needed is an issue each discharger must assess when considering trading. The important point is that a NPDES permittee who decides to use trading to meet a water quality based effluent limit remains responsible for meeting that limit, whether or not trading is used. If the credit generator that the permittee was depending on fails to generate enough credits, the permittee could face enforcement. This is one of the risks of trading. BMP failure due to unforeseen events, such as a flood, is another possibility. To minimize their risk, credit purchasers might consider self-insuring or paying into an insurance fund of available credits.*

**17. Washington Department of Transportation**. Page 7, "Permittee implements offset," 1st bullet: "To ensure credits are accrued and used in the same time period, the discharger must certify each month that offset activities/technologies are in place, being operated and maintained correctly, and that pollutant reduction associated with the action is being achieved." Please clarify if the "discharger" is the credit earner or credit buyer. 1. Please clarify if this sentence is duplicative of the information in "Implementation requirements," 2nd bullet, 2nd sentence. It is unclear if these two sentences are referring to the same implementation activities (i.e. "ensuring ... compliance and enforcement", and "certify each month ... ") and/or implementers (i.e. the "proponent" and the "discharger"). 2. Please clarify how someone could certify that "pollutant reduction associated

with the action is being achieved," without performing monitoring. Suggest revising this portion of the sentence to state, " ... offset activities/technologies are in place, being operated and maintained correctly, and functioning as intended," unless monitoring is required.

*Response: Comment noted. We will make the language more specific in subsequent drafts of the water quality trading framework document.*

**18. Washington Department of Transportation.** Page 8, "Monitoring," 1st bullet: "For point source discharges undergoing technology-based measures, Ecology may verify (pre and post-implementation) the magnitude and quality of discharge at end-of-pipe." Please clarify what is meant by "technology-based measures," and/or provide examples.

*Response: Comment noted. We will make the language more specific in subsequent drafts of the water quality trading framework document.*

**19. Washington Department of Transportation.** Page 8, "Monitoring," 2nd bullet: "Participant conducts monitoring as established either through the offset study report or alternatively, through a post-TMDL monitoring plan. Monitoring results and any additional reporting required by Ecology to document the offset are produced and submitted to Ecology monthly. 1. Please explain who is considered the "participant." It is unclear if the term is referring to the credit earner or credit buyer. Suggest using consistent terminology throughout the document for clarity. 2. If the credit buyer will be required to perform monitoring, it may be a disincentive to participate in the trading program. 3. If the credit earner will be required to perform monitoring, please clarify if that only applies if they are "proposing an alternative trade." If monitoring will apply to all credit earners, whether proposing an alternative trade or not, it may be a disincentive to participate in the trading program.

*Response: Comment noted. We will make the language more specific in subsequent drafts of the water quality trading framework document.*

**20. American Farmland Trust**. P. 4: It would be useful if the Draft Framework could include mention that one of the elements of a credible water quality trading program is that there be early participation by nonpoint sources, by permitted point sources, and by the community in designing the market arrangements that will be used. Such input is quite important if we are to develop community support and confidence in the final product and if we are to have confidence that the ultimate program will be reliable. And it is necessary to have such input from the farm community, for example, if we are to be sure the program will be workable for agriculture.

*Response: Ecology agrees that watershed stakeholders should always participate in the design of a water quality trading program. It's unclear what the commenter means by "early" participation because there is no structure to participate in until Ecology begins the design of an individual trading program, following development of a TMDL for that watershed. However, if watershed stakeholders want to prepare for a potential trading program, they might think about how many additional market features they want, such as bundling small credit sources into a larger credit supply, or taking on roles in increasing demand and supply, or thinking about how to provide additional environmental benefits to some projects so that other goals are achieved as well. Also,*

*they can promote research on new BMPs or improving the design and effectiveness of existing ones.*

**21. American Farmland Trust**. P. 7: This section requires that the "discharger must certify each month that . . . pollution reduction associated with the action is being achieved." This is highly burdensome. It certainly seems appropriate to require frequent assurance by discharger that, indeed, the practices are in place and being operated correctly. But it also seems a bit excessive to require such often certification that the actual pollutant reductions are, in fact, being achieved – this would require monthly (and highly costly) monitoring which seems quite impractical and unnecessary. If one has (as one should) the confidence in the effectiveness of the BMP when a trade transaction is initially approved, why would one require such burdensome monitoring and rigorous frequent certifications later on. The interval for this requirement should be a good deal less frequent.

*Response: NPDES permittees generally report monitoring results on a monthly basis. There is no reason why this requirement should be relaxed because a permittee has purchased credits to meet the permit limit. In fact, in that situation it becomes more important to show that a trade is resulting in compliance with the NPDES permit. However, the performance of most agricultural BMPs is estimated, not directly measured, so generally the "monitoring" required would consist of doing visual inspections to ensure that the BMP is still in place and is being operated and maintained properly. This does not seem to Ecology to be a particularly burdensome requirement.*

**22. Evergreen Funding Consultants**. It may be a bit much to expect that permittees not only certify that offset activities are taking place and are maintained properly, but also demonstrate that pollution reductions are being achieved on a monthly schedule. This would presumably require a monitoring program that would add substantially to program costs. It is probably more practical to require data on pollution reductions on a less frequent interval.

*Response: See response to #21 above.*

**23. City of Yakima and Yakima Point Source Group**. Under "monitoring" the guidance document suggests monthly monitoring be submitted to Ecology monthly. The document provides no statistical backing for a monthly monitoring regime. A Quality Assurance Project Plan determines monitoring frequency, not a universal application of a monthly monitoring requirement.

*Response: See response to #21 above.*

## Credit expiration/retirement

**1. City of Post Falls**. First bullet, Credit expiration/retirement, page 8: This needs to be explained in greater detail, but it seems to imply that credits obtained through great effort and expense can suddenly be wiped out for any or no particular reason. If true, this imparts uncertainty into the trading program, and is a distinct incentive to do nothing.

*Response: In general, credits can remain valid for the life of a NPDES permit as long as the generation of credits for sale can be verified. One of the issues that should be discussed as part of*

*the design of every water quality trading program is when credits would expire or be retired. However, if at the end of the compliance period, it is determined that a new TMDL is needed, or if new treatment technologies mean that effluent limits that were formerly water quality based become technology based, that will cause credits to expire or trading to become moot.*

*The risk of program modification should be considered by credit purchasers, so that private trade contracts can make sure provisions are included for such events. The revision of a TMDL or permit would be done with sufficient advance notice, more than just one compliance period, so that the market should be able to adjust. That should be the only way the location-based ratios or WLAs or anything else using data or assumptions from the TMDL should be changed. Any changes to BMP estimating equations should only affect credits issued in future compliance periods not current or past periods.*

**2. Idaho Conservation League**. We endorse your statement that "[t]he objective of a water quality credit-trading program is to facilitate economic exchanges that demonstrably reduce pollution and clean up impaired surface water more quickly" (Page 1).

We do not support trading if the only intent is to save the buyer money. Trades are not merely about economic efficiency. Trades are about reducing pollution. To this end we believe that mechanisms need to be inserted in your framework that provide for the mandatory permanent retirement of credits and a 'conservation factor' to be inserted in the calculation of ratios. Ecology flirts with this notion a little bit in the section entitled, "What is a credit?" and a later sentence entitled "Retiring credits." Your framework would be strengthened considerably by explicitly stating that there must be permanent conservation benefits to trading rather than allowing terms like "may" to govern.

*Response: This is an interesting idea. Trading takes extra time for the regulatory agency, costs lots of money to set up, etc., so it is logical that, in addition to getting to permit limits (which are required already anyway) and saving dischargers money, some extra public benefit is required. However, there can be disadvantages to requiring a mandatory permanent retirement of credits and a "conservation factor" in every water quality trading program.*

*The goal of water quality trading is to achieve an equivalent or better environmental result at less cost than without trading. Some design factors, such as a "conservation factor" might be very attractive, but the benefit they would provide is only theoretical if no one wants to buy the credit because it costs more per pound that the technology option. This could make all the effort to design and implement a trading program totally unnecessary, since no one would see the economic advantage of buying credits. Whether or not to require mandatory credit retirement and/or a "conservation factor" is a design factor left up to each watershed rather than required in a state program. Another way to pursue additional environmental benefit would be to encourage BMPs that provide environmental benefits other than reducing the TMDL pollutant – maybe they can reduce other pollutants or enhance ecosystem resilience at the same time. That is a key advantage of trading that going with the technology option can't always provide.*

**3. Spokane County**. In the first bullet under "Credit expiration/retirement", it says "If they become actions required by a permit, by a TMDL load or wasteload allocation or TMDL implementation plan, or by policy regulation." This statement provides a high level of uncertainty

for the dischargers. How do we know that after one permit cycle, Ecology won't just change the NPDES permit? How do we know that Ecology wouldn't just change its policy, or change its TMDL implementation plan? We suggest deleting this statement from the paper.

*Response: Credits are not necessarily permanent and Ecology cannot guarantee that they will be. While a water quality trading program is in effect and is being successfully implemented, the credits generated and traded will remain in effect. However, there are specific circumstances in which credits must expire.*

If nonpoint best management practices being used to generate credit were to become required by a permit, for instance if the federal CAFO permit were revised to require implementation of specific farm practices. If this were to happen, it has the effect of changing (raising) the baseline from which credits are calculated. This would go into effect for those affected credits generated in the next compliance period after the new rule or limit takes effect and would not apply to current or past credits.

If implementation of the TMDL in place is not successful and a new TMDL with a new implementation plan were established.

If a more stringent technology-based limit is established for the pollutant being traded.

*Private contracts between credit purchasers and credit sellers should anticipate the possibility of these sorts of changes. However, the buyers and sellers should be well aware of any rule changes or new permit requirements or limits because they are only done through public processes with lots of lead time.*

**4. Avista.** The first bullet under "Credit expiration/retirement" states that approved credits will expire "If they become actions required by a permit, by a TMDL load or wasteload allocation or TMDL implementation plan, or by policy regulation." Please delete the next-to-last word in this sentence, "policy."

*Response: This sentence should actually read " . . . or by policy or regulation." Ecology will make this correction in future versions of the statewide trading framework document.*

**5. Avista**. The second bullet under "Credit expiration/retirement" states that approved credits will expire "If the BMPs by which the credits are accrued are shown to be ineffective or less effective than originally expected." We agree that credits should expire if actions taken to reduce pollution are wholly ineffective. But if they are simply less effective than originally expected, Ecology should adjust the credits downward, rather than causing them to expire altogether. By the same token, we believe that Ecology should adjust credits upward if monitoring results or other information show them to be more effective than originally expected.

*Response: Ecology agrees. We anticipate that if we get new information that shows BMPs generating credits are less or more effective, the value of the credits would most likely be adjusted in the next compliance period so that the value of credits in the current or previous compliance period would not be affected.*

**6. Pierce County**. The draft framework document states that approved credits may expire "…by policy regulation." If established credits can be negated by "policy regulation," the value of the credits would presumably go to zero. This uncertainty could prevent trading in the first place.

*Response: Comment noted. There are other factors that can also affect the value of credits that have nothing to do with policy or regulation, such as changes in commodity prices that make a BMP no longer feasible or cost-effective to implement, or land-use changes. The private contracts between credit purchasers and credit sellers need to be handle all of these situations that affect the buyer's and seller's willingness or obligation to continue the transaction.*

**7. Washington State Department of Transportation**. Please clarify whether the credit expiration/retirement date will be known when the credit is traded. If so, suggest including that information in this section of the document. If not, permit compliance could/would be jeopardized by an unexpected expiration or retirement of credits and resources may not be available to regain compliance within the designated compliance timelines. If expiration/retirement date will not be known when credits are traded, suggest expanding on this section to describe potential impacts to the different permittee groups and stakeholders that this might affect.

*Response: Credits are defined in terms such as pounds per day, to match the permit limit and to allow reconciliation between the point source's discharge amount and the credits on a monthly basis (although the compliance period over which this is demonstrated can be longer, such as a quarter or a season). Therefore, the expiration date of a credit is the time period in which it is generated and the same time period in which it must be used. Private contracts, on the other hand, can be negotiated for whatever time period the parties agree to. The terms that determine the validity of the type of credit are based on factors that are only changed in public processes, such as public announcement and comment periods on the baseline or estimating equation being changed, or the TMDL itself being revised. Those changes can only take effect in the next compliance period after they are finalized and approved. Also see response to #3 above.*

**8. American Farmland Trust**. P. 8: In this section it might help to also acknowledge and account for the fact that some credits actually become more effective over time (like planting trees along streams) while others require regular maintenance to generate the same amount of credits (like mowing grass buffers and reseeding them periodically).

Also, in this section, it seems unwise to force the expiration of credits if a higher standard of load allocation is established in a subsequent permit. There is a big advantage to longer-term contracts for all concerned. The initial formation of such long-term contracts should be encouraged by allowing them to be completed for their full term. New, higher standards can later be met with additional new contracts when the time comes.

*Response: The issues discussed in the first paragraph of this comment should be considered in the design of an individual trading program as part of determining eligible BMPs and trading ratios. We anticipate that if we get new information that shows BMPs generating credits are less or more effective, the value of the credits would most likely be adjusted in the next compliance period so that the value of credits in the current or previous compliance period would not be affected. For the comments in the second paragraph, see response to #3 and #7 above.*

**9. Evergreen Funding Consultants.** The final suggestion I have is to change provisions regarding the expiration of credits if a higher standard or load allocation is established in a subsequent permit. It seems desirable that contracts between permittees and nonpoint credit providers be for as long as possible to increase the certainty of water quality improvements, but it will be difficult to secure long-term agreements if they can be abrogated by adjustments in standards in later permits. I would suggest that long-term credit contracts be honored through their terms.

*Response: See response to #3 above. Contracts between credit purchasers and credit sellers cannot override the need to adjust a trading program if new information shows that BMPs generating credits are less or more effective than anticipated. Long-term contracts are the trading parties' business, not Ecology's, and trading parties should use them only to the extent that they are comfortable with the amount of certainty the design of the trading program can provide.*

**10. City of Yakima and Yakima Point Source Group**. Under the sub-heading "Credit expiration/retirement" It mentions that a credit will expire if "policy regulation" occurs. Please explain an example of policy regulation. What does this mean?

*Response: See response to #4, above. The sentence cited should read " . . . by policy or regulation."*