WUWC
WESTERN URBAN WATER COALITION

December 18, 2019

Submitted via //www.regulations.gov/

Amelia Letnes
Office of Wastewater Management
Water Permits Division, MC 4203M
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Comment on EPA's Proposed Policy Approach on "Water Quality Trading Under the National Pollutant Discharge Elimination System Program," 84 Fed. Reg. 49293 (Sept. 19, 2019), 84 Fed. Reg. 63876 (Nov. 19, 2019), Docket No. EPA-HQ-OW-2019-0415; FRL-10000-02-OW

The Western Urban Water Coalition (WUWC or Coalition) appreciates this opportunity to comment on the U.S. Environmental Protection Agency (EPA) proposed policy approach on "Water Quality Trading Under the National Pollutant Discharge Elimination System Program" 84 Fed. Reg. 49293 (Sept. 19, 2019).

Established in 1992 to address the West's unique water supply and water quality challenges, WUWC consists of the largest urban water utilities in the West, serving more than 40 million western water consumers in major metropolitan areas in seven western states. WUWC includes the following urban water utilities:

- *Arizona* – Central Arizona Project, City of Phoenix and Salt River Project;
- *California* –Eastern Municipal Water District, Los Angeles Department of Water and Power, The Metropolitan Water District of Southern California, San Diego County Water Authority, Santa Clara Valley Water District and City and County of San Francisco Public Utilities Commission;
- *Colorado* – Aurora Water, Colorado Springs Utilities, and Denver Water;
- *Nevada* – Las Vegas Valley Water District, Southern Nevada Water Authority, and Truckee Meadows Water Authority;
- *New Mexico* –Albuquerque Bernalillo County Water Utility Authority;
- *Utah* – Salt Lake City Public Utilities, and
- *Washington* – Seattle Public Utilities.

WUWC is committed to presenting a new and different perspective on the management of water resources in the modern West. WUWC articulates the needs and values of Western cities to

provide a reliable, high quality urban water supply for present and future generations. As operators of public water supply systems, WUWC members serve the health, environmental, and economic needs of their communities around the clock and every day of the year. WUWC advocates for effective and practicable approaches to the implementation of environmental protection programs in a time when critical water supplies are becoming ever scarcer.

A. General Comments

WUWC has historically supported the goals of the Clean Water Act (CWA). It will continue to do so. WUWC members have strong interests in clean water for municipal water supplies and in the regulatory processes protecting water quality. In particular, WUWC members desire to ensure that the rules are clear, easily understood, and consistently applied. This provides our members (and others) certainty as to how to comply with those regulations, and to rely upon those regulations as we plan, as we must, for the long-term water supply needs of our over 40 million users.

WUWC is submitting these comments on EPA's proposed policy approaches for addressing "baseline" issues in watersheds with EPA-approved Total Maximum Daily Loads (TMDLs), where policy makers would like to implement water quality trading (WQT) as a regulatory option for compliance with National Pollutant Discharge Elimination System (NPDES) permits. WUWC understands this proposed policy approach is an update to EPA's WQT Policy in 2003 and a follow-up to EPA's February 2019 Memorandum titled "Updating the Environmental Protection Agency's (EPA) Water Quality Trading Policy to Promote Market-Based Mechanisms for Improving Water Quality."[1]

WQT is a market-based tool where a permitted facility may be able to meet its regulatory obligations by purchasing environmentally equivalent (or superior) pollution reductions from another source. WQT is a useful tool because it allows for the exchange of pollution reduction credits and reduces pollution control costs that differ based on size, location, scale, management, and overall efficiency of the individual polluting entities.[2] WQT allows for entities with high pollution abatement costs to purchase pollution discharge reductions from sources that have lower abatement costs. At the same time, entities with lower abatement costs can economically lower their pollution discharges beyond regulated or permitted levels, enabling them to create credits to sell to entities with higher costs.[3] It also serves as an incentive for the clean-up of nonpoint source pollution for which no regulatory mandate currently exists.

As both EPA and other literature note, a variety of benefits can be associated with such a tool in addition to cost savings, such as carbon sinks, flood retention, and habitat and riparian

[1] U.S. ENVTL. PROT. AGENCY, OFFICE OF WATER, WATER QUALITY TRADING POLICY (Jan. 13, 2003); David P. Ross, ENVTL. PROT. AGENCY, UPDATING THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) WATER QUALITY TRADING POLICY TO PROMOTE MARKET-BASED MECHANISMS FOR IMPROVING WATER QUALITY 1 (Feb. 6, 2019), [2019 Policy Document], (attached, respectively, as Exhibits 1 and 2).

[2] NAT'L NETWORK ON WATER QUALITY TRADING DIALOGUE, BREAKING DOWN BARRIERS: PRIORITY ACTIONS FOR ADVANCING WATER QUALITY TRADING 6 (Oct. 2018), [BREAKING DOWN BARRIERS], http://nnwqt.org/wp-content/uploads/2018/10/Breaking-Down-Barriers_Priority-Actions-for-Advancing-WQT.pdf (attached as Exhibit 3).

[3] *Id*.

improvements.[4] As the U.S. Department of Agriculture states, "Natural assets such as rivers, forests, grasslands and wetlands benefit society through the ecosystem services they provide, including water purification, air quality improvements, and flood protection, among other benefits. However, these services are frequently left out of resource management decisions because they aren't easily quantified or assigned a monetary value. As a result, society undervalues these environmental benefits, contributing to the loss of natural systems. Environmental markets can provide incentives to preserve ecosystems and the services they provide."

For these reasons, WUWC generally supports the WQT programs. We also support EPA's proposed policy approach, modifying its existing WQT program, subject to the specific comments in this letter. Of the issues EPA specifically requested comment on, WUWC supports EPA's proposal for (i) the use of compliance schedules; (ii) water quality standard variances; (iii) disaggregation to add flexibility to the trading regime; (iv) banking of credits for future use; (v) use of credits for future use; (vi) watershed scale transactions; and (vii) a financing or in-lieu fee program if adequately administered to ensure results. These programs and concepts are legitimate approaches to addressing each one of these issues. To add additional flexibility, WUWC requests that EPA also allow states to easily re-segment river reaches, where it is necessary to do so, in order to advance a worthwhile trading proposal where the permitted point of discharge does not exactly match the place of credit generation.

WUWC has specific comments on (i) EPA's definition and application of "baseline," and (ii) EPA's request for input on alternate approaches and appropriate options to implement WQT. As an alternate approach discussed more fully below, WUWC advocates for adaptive management as a tool for use in WQT programs.

Finally, in keeping with both (i) the EPA's stated interest in encouraging greater use of WQT by providing increased certainty and direction,[5] and (ii) WUWC's need for certainty and the ability in long-term planning to rely upon consistently applied rules, WUWC recommends that EPA revise the WQT policy guidelines along the lines suggested in WUWC's comments. In the future, based on experience derived from implementing this policy guidance, it may be appropriate for EPA to evaluate whether to adopt certain aspects of this WQT policy as regulations. Rulemaking to implement WQT should be given careful consideration because regulations would allow the long-studied and revised program changes to have the necessary force of law and provide the desired certainty.

[4] *Frequently Asked Questions about Water Quality Trading*, U.S. ENVTL. PROT. AGENCY, https://www.epa.gov/npdes/frequently-asked-questions-about-water-quality-trading (last visited Dec. 16, 2019). *See also* U.S. DEP'T OF AGRICULTURE, OFFICE OF THE CHIEF ECONOMIST, PAYMENTS FOR ECOSYSTEM SERVICES, www.usda.gov/oce/environmental_markets/services.htm (last visited Dec. 16, 2019).

[5] *Supra* note 1 (2019 Policy Document).

B. Specific Comments Regarding Water Quality Trading and EPA's Definition of Baseline

EPA has specifically requested comments on the definition of "baseline" and baselines for water quality trading.[6] EPA's proposal is as follows:

> For point source-nonpoint source trading, where a TMDL has been established for the particular waterbody, the EPA recommends that nonpoint sources be allowed to generate credits for any pollutant reductions the nonpoint source makes that are not included in the assumptions that support the TMDL load allocation. Under this revised baseline definition, any such pollutant reductions would be immediately available for use by point sources as credits. The EPA seeks comment on whether this language provides the clarity necessary to support market-based programs, including water quality trading, and whether there is other language that may provide greater clarity or regulatory certainty. The EPA intends that, in watersheds where a TMDL has been approved by the EPA, this definition of ''baseline'' would allow for individual nonpoint sources to generate pollutant reduction credits for any pollutant reduction above existing practices, provided there is a reasonable assurance that the overall load allocation will, over time, be met. Stated differently, nonpoint sources may not need to apply pollution controls to meet a baseline derived from a load allocation before pollutant reduction credits could be generated. This option is intended to encourage stakeholders to make progress towards meeting water quality standards while allowing credits to be generated without unnecessary delay.[7]

WUWC agrees with EPA's overarching concept of breaking down barriers to nonpoint source pollution credit generation and subsequent entry into the WQT. However, WUWC recommends that EPA provide additional clarity on how this baseline will be calculated. For example, EPA does not discuss or propose how such baselining will be measured, what the most expeditious way is to track reductions of these nonpoint source baseline pollutants, or how to quantify the credits generated by such nonpoint source pollution reduction. Exactly how this definition of baseline would be applied in actual programs remains unclear.

To address these problems of ambiguity and vagueness, EPA should include the following elements in its definition:

- Identification of the units used to measure the reduction of the nonpoint source pollution;
- Identification of the acceptable methodologies for measuring pollutant reductions;
- Clarification whether such credit generation will be pollutant dependent;
- Explanation of how a TMDL that handles multiple pollutants and/or waterbodies should measure credits;
- And, while not a part of the definition, the policy guidance should address how entities can verify when credits are generated and how such credits are then banked. It is important that potential participants understand the mechanics of WQT. That said, to attract new WQT parties, and to ensure efficient operation of the program, the WUWC encourages EPA to keep the accounting aspects of trading simple and straight-forward.

[6] 84 Fed. Reg. 49293 (Sept. 19, 2019).
[7] *Id*. at 49295.

C. Scope of the Program — The Role of Local Government

Currently, EPA discusses federal, state and tribal entities. It is unclear whether EPA intends this definition of "baseline" and approach to WQT to include the rules and regulations of more local regulating entities, such as cities, counties and municipalities.

Many current WQT regimes incorporate county and city codes and bring in entities from the state level down to the regional level. Examples include the Laguna Water Quality Trading Project, described in the Appendix (attached hereto), and the Willamette Partnership, which worked with Oregon, Washington and Idaho to release recommendations for improving water quality through WQT.[8] WUWC recommends that EPA clarify that, for purposes of banking and trading under an identified TMDL, local rules and regulations governing land use will be considered in the establishment of the baseline. For example, in states such as Washington, the "baseline" would include the pollutant reductions generated by virtue of the enforcement of the State's forest practice laws, which apply to large forest areas subject to intense rainfall events. In states with large ranching and farming operations, the baseline would incorporate various local land use laws, such as those that prohibit livestock within a specific number of feet from a stream except in certain designated areas.[9]

Clarifying that these land use rules are incorporated into the "baseline," which becomes the starting point after which credits are generated, would provide certainty to WUWC members and other regulated entities about the starting point for determining credit availability. Such an approach will address one of the largest issues in WQT and ecosystem markets—double counting, or the creation of "ghost" credits. Such double counting of credits could occur where, for example, a regulated entity is not allowed to engage in land use development within ten feet of a stream per local municipal code yet claims nonpoint source credits for the load reductions associated with compliance. Thus, by incorporating local regulations into the definition of "baseline," EPA will stop any ability to generate fake credits, while creating more certainty for regulated entities.[10]

D. Adaptive Management as a Tool for Encouraging Nonpoint-Point Source WQT

EPA also requested input on alternate approaches and appropriate options to implement WQT.[11] WUWC supports the use of such alternate approaches, subject to our comments herein.

In particular, WUWC proposes that EPA expand its brief reference to adaptive management to substantiate this method as a more viable tool for implementing WQT. Further, WUWC

---

[8] *See also The Pacific Northwest on Water Quality Trading*, The Willamette Partnership, https://willamettepartnership.org/water-quality-trading/recommendations/ (last visited Dec. 16, 2019).

[9] *States' "Fence Law" Statutes*, The Nat'l Agricultural Law Center, https://nationalaglawcenter.org/state-compilations/fence-laws/ (last visited Dec. 16, 2019).

[10] See the attached Appendix for an in-depth example of the complexities involving different regulating entities. The Appendix discusses the extensive and successful WQT program in the Laguna de Santa Rosa watershed, including several aspects of the Laguna de Santa Rosa WQT program that would be beneficial for an EPA program under the CWA. Other examples for EPA to consider may be found at https://willamettepartnership.org/ and https://www.forest-trends.org/publications/breaking-down-barriers-priority-actions-for-advancing-water-quality-trading/.

[11] *Supra* note 6, at 49297.

highlights below the areas that EPA must address in proposing adaptive management as a tool to encourage nonpoint-point source WQT.

Adaptive management involves "deliberate management tests, a carefully planned monitoring program, assessment of the results, and a process by which management decisions are modified based on new knowledge," to gain improved overall ecological knowledge and adapt remediation/restoration efforts accordingly.[12] It embraces the idea that managed natural resources will change as a result of human intervention or natural events, and there will always be surprises and new uncertainties.[13]

Adaptive management has the potential to play a large role in EPA's goals; it is particularly relevant where there is substantial uncertainty. Uncertainty can be addressed by structured decision-making and the use of evolving targets, which allow water quality goals and objectives to evolve over time. Adaptive management can create certainty by incorporating ongoing feedback and experience as the adaptive management process evolves. When applied directly to a WQT program, the original watershed analysis, water quality analyses, and models can be continually updated to estimate current and future pollutant loads. Such strategies may also be useful in considering the flexible baselines approach, discussed above and proposed by EPA.

To accomplish these goals, clear and consistent adaptive management goals will be necessary. Both are missing from EPA's current draft of the proposed guidance. EPA should create guidance around what adaptive management tools it deems acceptable, so there is certainty for entities wishing to utilize such approaches in their WQT program.

In addition, EPA must address whether an adaptive management approach (or another approach) to WQT will require a new NPDES permit for those entities utilizing nonpoint source pollution credits obtained in the WQT market. If a new or updated NPDES permit were required for each change in the management plan required by the NPDES permit, this will add complexity and cost to an otherwise valuable tool. A potential solution is to add an adaptive management process or identification procedure into the actual NPDES permitting process. This will allow entities to know up-front the expectations of their NPDES permit writer, and they can plan accordingly. EPA should create a streamlined process for incorporating new data and findings into an NPDES permit's WQT plan, but not require issuance of a revised permit.

For EPA's consideration and acknowledgement, WUWC also suggests that EPA must address those rare instances (if any), when adaptive management procedures would apply in circumstances where no NPDES permit holder is involved. Although WUWC's members are all NPDES permit holders, the quality of the water used by WUWC members can still be affected by the use of upstream water where there may not be a CWA permit holder. In the interest of having EPA fully and completely address and incorporate adaptive management as a viable and strong tool for WQT programs, WUWC is flagging this potential issue for EPA's review. Since the unregulated polluter has no incentive to minimize pollution, including such non-regulated

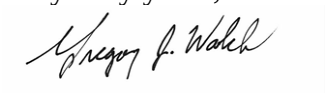
[12] THE NAT'L ACADEMY OF SCIENCES, ACHIEVING NUTRIENT AND SEDIMENT REDUCTION GOALS IN THE CHESAPEAKE BAY: AN EVALUATION OF PROGRAM STRATEGIES AND IMPLEMENTATION 3 (2011), https://www.nap.edu/resource/13131/Chesapeake-Bay-Report-Brief-Final.pdf (attached as Exhibit 4).
[13] *Id*.

entity will create financial incentives that benefit all users of a water source by reducing pollution.

Based on this extensive background and our members' experiences as on-the-ground partners with EPA and the states in the implementation of the CWA, WUWC is prepared to assist the EPA in this new policy approach effort. Specifically, WUWC looks forward to continued dialogue and collaboration on how this new policy approach will impact water providers in the West.

Thank you for the opportunity to provide these comments. If you have any questions regarding these comments, please contact me at 702-258-7166 or greg.walch@lvvwd.com, or Don Baur at 202-654-6234 or dbaur@perkinscoie.com.

Very truly yours,



Gregory J. Walch
Chairman

APPENDIX

Laguna Water Quality Trading Project

The Laguna Water Quality Trading Project is an important project in this area, since it is recently implemented in 2018 and incorporates many of the new EPA principles. The Laguna de Santa Rosa watershed is the largest freshwater wetlands complex on the northern California coast and the largest tributary to the Russian River. The City of Santa Rosa (City) owns and operates the Santa Rosa Subregional Water Reclamation System, which is permitted to discharge into the Laguna de Santa Rosa or Santa Rosa Creek on a seasonal basis, while the Town of Windsor owns and operates the Windsor Wastewater Treatment, Reclamation and Disposal Facility that discharges into the Mark West Creek, a primary sub basin of the watershed.[1]

In 2006, due to nutrient levels that exceeded water quality standards in the Laguna de Santa Rosa and an apparent lack of assimilative capacity for additional nutrient loads, the Regional Water Board adopted "no net loading" final effluent limitations for total nitrogen and phosphorus into a NPDES permit. One of the compliance options was to use "off-site nutrient load reductions" carried out according to an approved nutrient offset program. In 2008, the City worked with the Regional Water Board staff to develop the Santa Rosa Nutrient Offset Program, which gives the City the option to offset its nitrogen and phosphorus discharges by conducting work that either prevents or removes equal (or greater) amounts of these nutrients from unregulated sources elsewhere in the Laguna watershed. It implemented three nutrient offset projects, and offset nitrogen and phosphorus discharges consistent with the "no net loading" limitations in its NPDES permit.[2]

The NPDES permit for the Laguna de Santa Rosa watershed was renewed in 2013.[3] At that time, the nutrient-trading scheme did not apply to the Town of Windsor (Town). Through a three-year process, local stakeholders for the Town put forth recommendations for WQT in the watershed. The Regional Water Board then created the Laguna Water Quality Trading Framework (Framework) for the Santa Rosa Watershed, which accommodated the stakeholder recommendations, considered the terms of the NPDES permit, and promoted consistency between the new trading scheme and the City's nutrient offset program. The resulting Framework was a revised and expanded version of the Santa Rosa Nutrient Offset Program. The Framework was designed to maximize the environmental benefits derived from the expenditure of limited funding and included:

- Expanding the use of nutrient offsets as a compliance option to both the City and the Town;
- Promoting restoration actions that will improve the Laguna de Santa Rosa's ability to assimilate pollutants of concern; and

---

[1] CAL. REG'L WATER QUALITY CONTROL BD. N. COAST REGION, RESOLUTION NO. R1-2018-0025 APPROVING THE WATER QUALITY TRADING FRAMEWORK FOR THE LAGUNA DE SANTA ROSA WATERSHED SONOMA COUNTY (July 11, 2018) and attached CAL. REG'L WATER QUALITY CONTROL BD. N. COAST REGION, WATER QUALITY TRADING FRAMEWORK FOR THE LAGUNA DE SANTA ROSA WATERSHED 12 (July 11, 2018) [hereinafter Framework] (copies attached hereto).

[2] Framework at 12.

[3] *Id*. at 3.

- Testing a set of new and improved WQT framework elements that can be expanded to greater scale and effect once TMDLs for the watershed are adopted.

Credits developed under the program will have a one-year credit life and a three- to five-year credit banking allowance. According to the plan, this accounting is appropriate because phosphorus is a non-toxic pollutant, therefore the magnitude of total phosphorus discharge is the predominant water quality concern, not the timing.

Section five of the Framework specifies a default trading ration of 2.5:1, which is the sum of two factors: a 2:1 uncertainty ratio and a 0.5:1 retirement ratio. It requires that a discharger that wishes to use a water quality credit must generate or purchase water quality credits equivalent to 2.5 times the amount of total phosphorus that it discharges. The retirement ratio also adds a margin of safety to ensure that activities conducted under the Framework will result in net water quality benefits. The Framework also includes incentives for developers who implement restoration actions that are large-scale, long-term, multi-benefit restoration actions. Incentives include reduced trading ratios, longer project lives, and extended credit banking allowances. This Framework requires that all submitted credit-quantification support describe what monitoring will occur to verify the accuracy of the claimed credits.

Aside from those mentioned above, the Framework includes several of the market-based principles outlined in the 2019 Policy Document. In the Framework, baseline requirements must "at least correspond to the minimum requirements of any applicable laws, regulatory requirements, or other affirmative obligations such as those established in permits, easements, deed restrictions, and/or other binding contracts."[4] If those requirements do not exist then baselines shall at least be equivalent to current conditions or practices at the project site based on the prior three-year history. The 2019 Policy Document encourages flexible baseline requirements and recommends that documented current conditions provide a simple and appropriate baseline. The Framework also allows "credit stacking"—i.e., the generation of credits for multiple environmental markets—so long as it is accompanied by the appropriate accounting. This is consistent with EPA's guidance that a single project generate credits for multiple markets.[5]

The Framework allows use of the following mechanisms for quantifying water credits: models that are calibrated to local conditions (mechanistic or empirical); pre-established pollution reduction rates (from experimentation or scientific literature); direct monitoring; or any combination of those mechanisms. This too is consistent with the EPA guidance on adaptive management — i.e., credits should be generated based on "scientifically defensible estimates of pollutant reductions from applicable technologies and land-based practices." Programs should further allow modeling and measurement methods that can evolve and improve over time. The life of all credits generated under the Framework shall be one year, but, consistent with the EPA guidance, a participant may bank credits for up to five years for projects that are explicitly

[4] *Id*. at 10.
[5] David P. Ross, ENVTL. PROT. AGENCY, UPDATING THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) WATER QUALITY TRADING POLICY TO PROMOTE MARKET-BASED MECHANISMS FOR IMPROVING WATER QUALITY 1 (Feb. 6, 2019).

designed to enhance environmental values and up to three years for credits derived from all other projects. This is also consistent with EPA guidance that recommends credits be bankable.[6]

Based on the experience with the Laguna WQT Project, recommendations for EPA to adapt into its WQT program are (i) specificity on the life span of credits; (ii) guidance on how to measure and implement credit banking and credit stacking; and (iii) adaptability and scientific estimates of pollutant reductions.

[6] *Id*. at 4.

California Regional Water Quality Control Board
North Coast Region

RESOLUTION NO. R1-2018-0025

Approving

The Water Quality Trading Framework
for the Laguna de Santa Rosa Watershed
Sonoma County

FINDINGS

WHEREAS the California Regional Water Quality Control Board, North Coast Region, (hereinafter "Regional Water Board") finds that:

1. The Laguna de Santa Rosa is the largest tributary to the Russian River, draining approximately 254 square miles of watershed area in Sonoma County, California. The watershed consists of three primary sub-basins: the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek.

2. The Laguna de Santa Rosa watershed ("Laguna watershed") is the urban center of the North Coast Region, encompassing the cities of Santa Rosa, Rohnert Park, Cotati, Sebastopol, and the Town of Windsor. Land cover varies widely across the watershed, ranging from high-density residential and commercial, to croplands and pastures, vineyards and orchards, and some forested areas.

3. The beneficial uses of water in the Laguna watershed are currently threatened by a variety of interconnected historical and ongoing sources of impairment. Portions of the Laguna de Santa Rosa and its tributaries are listed by the U.S. Environmental Protection Agency ("USEPA") under section 303(d) of the federal Clean Water Act as impaired for phosphorus, sediment, temperature, dissolved oxygen, indicator bacteria, aluminum, manganese, and mercury.

4. To address these impairments, Regional Water Board staff is working with the USEPA and local stakeholders to develop and implement a comprehensive beneficial use recovery strategy for the Laguna watershed, which may include, but not be limited to the development of Total Maximum Daily Loads ("TMDLs") for listed pollutants, and the expanded use of water quality (or pollutant) credit trading.

5. While development of the above-mentioned beneficial use recovery strategy proceeds, Regional Water Board staff continues to develop, and the Regional Water Board continues to adopt and renew waste discharge requirements for point and nonpoint source discharges to surface waters in the Laguna watershed. Discharges allowed under waste discharge requirements must not cause or contribute to

ongoing exceedances of water quality standards in the Laguna de Santa Rosa and its tributaries, including, but not limited to the Basin Plan's narrative water quality objective for biostimulatory substances.[1]

6. The City of Santa Rosa ("City") owns and operates the Santa Rosa Subregional Water Reclamation System (the "Santa Rosa Facility"), a publicly owned treatment works. The Santa Rosa Facility is permitted to discharge to the Laguna de Santa Rosa and Santa Rosa Creek on a seasonal basis (i.e., from October 1 to May 14 of each year) and the discharge shall not exceed five percent of the flow in the Russian River.

7. The Town of Windsor ("Town") owns and operates the Windsor Wastewater Treatment, Reclamation and Disposal Facility (the "Windsor Facility"), a publicly owned treatment works. The Windsor Facility is permitted to discharge to Mark West Creek on a seasonal basis (i.e., from October 1 to May 14 of each year). Specifically, from October 1 to October 31 and from May 1 to May 14, the discharge shall not exceed one percent of the flow in Mark West Creek. From November 1 to April 30, the discharge shall not exceed ten percent of the flow in Mark West Creek.[2]

8. In 2006, due to recognized exceedances of water quality standards in the Laguna de Santa Rosa and an apparent lack of assimilative capacity for additional nutrient loads, the Regional Water Board adopted "no net loading" final effluent limitations for total nitrogen and total phosphorus into a National Pollutant Discharge Elimination System ("NPDES") permit for the Santa Rosa Facility (Order No. R1-2006-0045, NPDES No. CA0022764). One of the compliance options made available to the City to meet the "no net loading" effluent limitations was the use of off-site nutrient load reductions carried out according to an approved nutrient offset program.

9. Subsequent to the adoption of its NPDES permit, the City worked with Regional Water Board staff to develop the Santa Rosa Nutrient Offset Program, which was approved in 2008 by resolution of the Regional Water Board (Resolution No. R1-2008-0061). Under the Santa Rosa Nutrient Offset Program, the City has the option to offset its nitrogen and phosphorus discharges by conducting work that either prevents or removes equal (or greater) amounts of those nutrients from unregulated sources elsewhere in the Laguna watershed. The Santa Rosa Nutrient Offset Program is considered a type of water quality trading ("WQT") program.

---

[1] "Basin Plan" refers to the Water Quality Control Plan for the North Coast Region, available at: www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/

[2] Actual language in the Town's NPDES permit references October 30 as the end of the one-percent-of-flow discharge period, and November 1 as the beginning of the ten-percent-of-flow discharge period. For purposes of permit implementation, Regional Water Board staff considers October 31 to be included in the one-percent-of-flow discharge period.

10. To date, the Regional Water Board Executive Officer has approved, and the City has successfully implemented, three nutrient offset projects under the Santa Rosa Nutrient Offset Program: two on low-lying dairy properties and one on an upland nature preserve. As required to date, the City has used nutrient reduction credits generated by these projects to offset its nitrogen and phosphorus discharges and to maintain compliance with the "no net loading" effluent limitations in its NPDES permit.

11. In 2013, based on staff's focused assessment of preliminary TMDL data and analyses confirming a lack of assimilative capacity for additional phosphorus loads in the Laguna de Santa Rosa, the Regional Water Board renewed the City's NPDES permit with the same "no net loading" effluent limitation for total phosphorus that was in its 2006 permit,[3] and incorporated similar requirements into a second NPDES permit for the Windsor Facility (Order Nos. R1-2013-0001, NPDES No. CA0022764 and R1-2013-0042, NPDES No. CA0023345, respectively). As was the case in 2006, one of the compliance options made available to the City and the Town to meet the "no net loading" effluent limitations was to utilize an approved nutrient offset program. However, to date only the Santa Rosa Nutrient Offset Program has been approved by the Regional Water Board, which is not explicitly available to the Town.

12. The Town's NPDES permit includes a compliance schedule for meeting the "no net loading" final effluent limitation for total phosphorus. The schedule includes a series of tasks that must be completed by specific dates if the Town intends to utilize nutrient offsets as a means of compliance.

13. To date, the Town has complied with the terms of the above-mentioned compliance schedule and has expressed its intention to utilize nutrient offsets to meet the final effluent limitation for total phosphorus in its NPDES permit. Furthermore, in a letter dated September 29, 2016, the Town proposed to Regional Water Board staff that Local Stakeholder Recommendations for WQT in the Laguna watershed be utilized as the basis for its nutrient offset program.

14. Local Stakeholder Recommendations for WQT in the Laguna watershed were developed through a 3-year-long collaborative effort led by the Sonoma and Gold Ridge Resource Conservation Districts. The effort was funded by a Conservation Innovation Grant issued by the U.S. Department of Agriculture. The recommendations are presented in a final technical report prepared in 2015 for the Sonoma Resource Conservation District by Kieser & Associates, LLC, and serve as a foundational reference for the Laguna WQT Framework.[4]

---

[3] The 2006 "no net loading" effluent limitation for total nitrogen was not renewed in the City's 2013 permit due to Regional Water Board staff's recent finding that phosphorus (not nitrogen) was the limiting nutrient for harmful biostimulatory responses in the Laguna de Santa Rosa.

[4] The report, titled *Water Quality Trading Framework for the Laguna de Santa Rosa Watershed*, is available at: http://www.lagunawaterquality.org/projectdocuments/

15. In order to promote consistency between the implementation of nutrient offset activities conducted by the City and the Town to comply with the terms of their NPDES permits, and in keeping with the Town's above-mentioned proposal, Regional Water Board staff developed the Water Quality Trading Framework for the Laguna de Santa Rosa Watershed ("Laguna WQT Framework" or "Framework"), which is included as Attachment 1 to this Resolution.

16. The Laguna WQT Framework is a revised and expanded version of the Santa Rosa Nutrient Offset Program, which in the long term is intended to provide greater reliability, efficiency, and transparency than the initial version. The provisions of the Laguna WQT Framework are based on USEPA policy, guidance from national experts, and Local Stakeholder Recommendations.[5]

17. The Laguna WQT Framework has been designed to replace the existing Santa Rosa Nutrient Offset Program and to be available to both the City and the Town as an approved method for complying with the "no net loading" effluent limitation for total phosphorus established in each of their NPDES permits.

18. On average, combined discharges of total phosphorus from the Santa Rosa and Windsor Facilities represent a relatively small percentage of contemporary external phosphorus loads to the Laguna de Santa Rosa. Since the 2007/2008 discharge season, annual total phosphorus discharges from the Santa Rosa Facility have averaged approximately 3,290 lb/yr. Over the same 10-year period, annual total phosphorus discharges from the Windsor Facility have averaged approximately 3,370 lb/yr. In contrast, based on Regional Water Board staff estimates, average annual total phosphorus loading to the Laguna de Santa Rosa from all other external sources may be as high as 861,000 lb/yr, or as low as 168,000 lb/yr. Consequently, activities conducted pursuant to the Laguna WQT Framework are expected to address an average of roughly 0.8 % to 3.8 % of annual total phosphorus loading to the Laguna de Santa Rosa from contemporary external sources. [6]

19. The Laguna WQT Framework has been designed to maximize the environmental benefits derived from the expenditure of limited funding for water quality protection actions by: (1) expanding the use of nutrient offsets as a compliance option to both the City and the Town, (2) promoting restoration actions that will improve the Laguna de Santa Rosa's ability to assimilate pollutants of concern, and

---

[5] A list of foundational references used by Regional Water Board staff to develop the Laguna WQT Framework is presented in the Introduction section of the Framework itself.

[6] Staff notes that impairments in the Laguna de Santa Rosa are in part driven by ongoing external loads of nutrients, sediment, and oxygen-demanding material. However, there is also a significant role played by internal recycling of past inputs, including regeneration of nutrients from legacy sediment deposits and creation of biomass (and associated oxygen demand) by aquatic plant growth and decay. These conditions underlie the Laguna de Santa Rosa's current lack of assimilative capacity for additional phosphorus loads, and the consequent need for both pollutant source controls and restoration actions in the watershed.

(3) testing a set of new and improved water quality trading framework elements that can be expanded to greater scale and effect once TMDLs for the Laguna de Santa Rosa are adopted.

20. As detailed above, the Laguna WQT Framework provides a method of compliance for meeting "no net loading" effluent limitations for total phosphorus specified in the City's and Town's NPDES permits. The permits specifically allow for, but do not require, the City and the Town to utilize an approved nutrient offset program (e.g., the Framework) as a means to comply with those effluent limitations. The Framework is not currently available to any other NPDES permittees, and shall not be made available to other point source dischargers in the Laguna watershed absent permit terms that specifically authorize the use of nutrient offsets or pollutant credit trading.

21. Utilization of the Laguna WQT Framework does not reduce the responsibility of an NPDES permittee to comply with the terms of its permit. NPDES permittees participating in pollutant credit trading activities are ultimately responsible for the quantity and quality of the water quality credits traded, even when a third-party acts as a developer, aggregator, or verifier of those credits.

22. Except as specifically authorized under provisions related to "project life," the Laguna WQT Framework is not intended to allow the City or Town to continue receiving water quality credits for practices that later become subject to additional regulatory controls imposed by the Regional Water Board. Similarly, the Framework shall in no way diminish the force and effect of any current or future regulatory controls on nonpoint source or other discharges imposed by the Regional Water Board. Nonpoint source or other discharges in violation of Basin Plan prohibitions or water quality standards remain subject to regulation and enforcement under the Porter-Cologne Water Quality Control Act. (Water Code section 13000 et seq.)

23. Under the Laguna WQT Framework, a pollutant reduction or removal action is eligible to generate water quality credits as long as it is not otherwise required. That is, any action already required by law, regulation, permit, enforcement action, or any other legally binding agreement is not eligible to generate credits.[7] On the contrary, actions taken voluntarily are eligible. The Regional Water Board Executive Officer has the discretion to interpret these criteria, and shall not approve credit project proposals if the actions described in those proposals fail to meet them.[8]

---

[7] This provision includes, but is not limited to any requirement imposed by the Regional Water Board or by another regulatory agency.

[8] Under the Laguna WQT Framework, credit project proposals are documented in "Credit Project Plans," which are individually submitted by project developers for review and approval by the Regional Water Board Executive Officer.

24. In general, actions taken to generate credits under the Laguna WQT Framework must provide water quality benefits that are equal to or greater than the pollutant discharges they are meant to offset in place, in kind, and in time. Furthermore, there can be no significant, adverse localized impacts as a result of a credit trade. Each credit project proposal shall be reviewed by Regional Water Board staff for adherence to these general criteria, to state and federal endangered species protection laws, and to state and federal environmental review laws (i.e., California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA)). The Regional Water Board Executive Officer has the discretion to interpret these criteria, and shall not approve credit project proposals that fail to meet them.

25. The trading area specified in Section 2.3 of the Laguna WQT Framework is the Laguna watershed, and was chosen (in part) to ensure that water quality credits used to offset pollutant discharges satisfy the "in place" criterion mentioned above. This trading area has been used to date under the Santa Rosa Nutrient Offset Program, and is likewise specified in the Local Stakeholder Recommendations. This trading area is appropriate due to the unique nature of phosphorus transport and biostimulatory responses in the Laguna watershed. Specifically, the mainstem Laguna de Santa Rosa and its floodplain are located at the bottom of the watershed, and act as a collector and efficient trap of phosphorus, sediment, and other pollutant loads, which drive harmful biostimulatory responses in the mainstem during critical periods (i.e., typically the summer and fall months). Any net reductions in total phosphorus upstream of this area can be assumed to benefit overall conditions in the Laguna de Santa Rosa.

26. The type of credits to be traded under the Laguna WQT Framework is pounds of total phosphorus, and was chosen (in part) to ensure that water quality credits used to offset pollutant discharges satisfy the "in kind" criterion mentioned above. This type of credit has been used to date under the Santa Rosa Nutrient Offset Program, and is likewise specified in the Local Stakeholder Recommendations. This credit type is appropriate because: 1) preliminary TMDL analyses indicate that phosphorus is the limiting nutrient for harmful biostimulatory responses in the Laguna de Santa Rosa and sources of phosphorus are dominated by internal recycling, 2) phosphorous in the Laguna de Santa Rosa can reasonably be assumed to be particle-attached, and therefore moves with sediment, and 3) the Laguna de Santa Rosa acts as an efficient collector of sediment from upper watershed areas. Thus, for purposes of determining compliance with "no net loading" effluent limitations, phosphorus deposits (i.e., discharges) to and withdrawals (i.e., reductions) from the Laguna de Santa Rosa can be reliably accounted for in comparable terms (i.e., pounds of total phosphorus).

27. The one-year credit life and three- to five-year credit banking allowances specified in Sections 6.1 and 6.3 of the Laguna WQT Framework were chosen (in part) to ensure that water quality credits used to offset pollutant discharges satisfy the "in time" criterion mentioned above. The choice of a one-year credit life with a three-year banking allowance is effectively equivalent to the "three-year averaging"

terms established for annual compliance determinations in the Santa Rosa Nutrient Offset Program, and in the 2013 NPDES permit for the Santa Rosa Facility. These accounting conventions are appropriate because: 1) since phosphorus is a non-toxic pollutant, the magnitude (not the timing) of total phosphorus discharges is the predominant water quality concern; 2) the Laguna de Santa Rosa acts as a collector and efficient trap of phosphorus, sediment, and other pollutants, which drive harmful biostimulatory responses in the mainstem during critical periods (i.e., typically the summer and fall months); and 3) sources of phosphorus in the Laguna are dominated by internal recycling, not by ongoing discharges. Thus, the benefits of credit-generating phosphorus reduction actions in the Laguna watershed and the bio-availability of phosphorus discharges from the Santa Rosa and Windsor Facilities may generally be assumed to persist for multiple years, and need not be strictly synced in time, provided the amount of available credits in any given year exceeds the amount of discharge (i.e., "no net loading" is achieved).

28. Trading ratios are typically utilized in water quality programs to address sources of risk and uncertainty, and to provide a margin of safety to ensure program goals are met. Section 5 of the Laguna WQT Framework specifies a default trading ratio of 2.5:1, which is the sum of two factors, a 2:1 uncertainty ratio and a 0.5:1 retirement ratio. Both factors can be reduced under certain conditions. The trading ratios specified in the Framework are appropriate based on Regional Water Board staff's understanding of the nature of nutrient transport and availability, and of biostimulatory dynamics in the Laguna watershed. Moreover, the 2:1 uncertainty ratio is generally consistent with: 1) trading ratios used in projects approved to date under the Santa Rosa Nutrient Offset Program (which range between 1.5:1 and 2.67:1), 2) the 2:1 ratio specified in the Local Stakeholder Recommendations, 3) the uncertainty ratio established by the USEPA for water quality trading in the Chesapeake Bay watershed,[9] and 4) trading ratios specified in many other water quality trading programs across the country, including but not limited to Minnesota (2.6:1), Ohio (1:1 to 3:1), Michigan (2:1) and also Canada (4:1). Lastly, the retirement ratio provides an added margin of safety to ensure that activities conducted under the Framework will result in net water quality benefits.

29. The Laguna WQT Framework encourages the implementation of large-scale, long-term, multi-benefit restoration actions by providing the following incentives to developers of credit-generating projects that include such actions: reduced trading ratios, longer project lives, and extended credit banking allowances.

30. The federal Clean Water Act provides authority for the USEPA, states, and tribes to develop a variety of programs and strategies to control pollution. Under the Clean Water Act, states have the primary responsibility to develop solutions that prevent, reduce and eliminate pollution. (33 U.S.C. § 1251 et seq.) The Regional Water

---

[9] *Accounting for Uncertainty in Offset and Trading Programs* (EPA Technical Memorandum), prepared by USEPA Region 3, dated February 12, 2014, available at: https://www.epa.gov/sites/production/files/2015-07/documents/final_uncertainty_tm_2-12-14.pdf

Board's adoption of NPDES permits authorizing the use of the Laguna WQT Framework is consistent with the authority delegated to the State Water Resources Control Board (State Water Board) and the regional water boards.[10]

31. USEPA has promoted water quality trading as a way to meet water quality standards since 1996 when it published a statement in the federal register outlining the benefits and circumstances under which pollutant credit trading would be encouraged, and announcing its intent to develop a framework for water quality trading programs.[11] In 2003, USEPA published its *Water Quality Trading Policy*, and in 2009 published an updated guidance document, *Water Quality Trading Toolkit for Permit Writers*.[12] Since then, USEPA has encouraged trading programs to maintain water quality standards, including under pre-TMDL scenarios.

32. In prescribing waste discharge requirements that serve as federally-mandated NPDES permits, the Porter-Cologne Water Quality Control Act requires that a regional water board adopt requirements that implement the relevant water quality control plan (basin plan). (Water Code sections 13263, 13377). The Clean Water Act and federal regulations also require that NPDES permits ensure that the level of water quality to be achieved by limits on point sources complies with all applicable water quality standards. (33 U.S.C. § 1311 (b)(1)(C); 40 CFR § 122.44 (d)(1)). The Laguna WQT Framework provides a compliance option to the City and the Town to meet their NPDES permit final effluent limitations and to comply with water quality standards established in the Basin Plan.

33. The Laguna WQT Framework is consistent with federal and state anti-degradation policies. The discharges to be offset are existing point sources, not new discharges, and any source reduction efforts undertaken pursuant to the terms of the Framework will improve the quality of receiving waters. To account for uncertainties associated with the quantification of water quality credits, and to ensure that each credit-generating project results in a net environmental benefit, all credit project proposals must include an appropriate trading ratio, as specified in the Framework. The Regional Water Board Executive Officer retains discretion to reasonably modify the trading ratio applied to a specific credit project proposal or to deny a proposal altogether to ensure that an effluent limitation established in an NPDES permit is met.

---

[10] Regional water boards issue waste discharge requirements that serve as federally required NPDES permits. (See Water Code sections 13160, 13263, 13377.)

[11] Effluent Trading in Watersheds Policy Statement (1996) (61 Fed. Reg. 4994-01)

[12] The 2003 *Water Quality Trading Policy* is available at: http://archive.epa.gov/ncer/events/calendar/archive/web/pdf/finalpolicy2003.pdf
The 2009 *Water Quality Trading Toolkit for Permit Writers* is available at: https://www3.epa.gov/npdes/pubs/wqtradingtoolkit_fundamentals.pdf

34. All activities under the Laguna WQT Framework must individually and cumulatively be conducted in a manner that ultimately does not cause or contribute to any exceedance of water quality standards. The Regional Water Board Executive Officer has the authority to deny any credit project proposal that he/she determines may violate any applicable water quality standard or any Basin Plan requirement.

35. Because the Laguna WQT Framework represents an option for complying with effluent limitations in NPDES permits issued by the Regional Water Board, and because the Regional Water Board has the authority to determine compliance with permits it issues, all activities conducted (and records generated) under the Laguna WQT Framework are subject to audit and inspection by Regional Water Board staff.

36. In implementing a water quality trading framework, the Regional Water Board applies all existing requirements of the federal Clean Water Act, USEPA implementing regulations, and applicable requirements under state law. The Laguna WQT Framework is not a substitute for those provisions, regulations, or rules. When approving methods of compliance (including best management practice (BMP)-based methods) for effluent limitations established in NPDES permits, the Regional Water Board and USEPA may consider a variety of approaches consistent with the Clean Water Act, USEPA regulations, and applicable state law. Decisions regarding the appropriateness of allowing water quality trading in a particular situation will be made within specific NPDES permits as required, and will take into account comments and information presented at that time by interested persons.

37. No CEQA documentation is required at this time. The Laguna WQT Framework implements provisions of NPDES permits, which are statutorily exempt from CEQA under Water Code section 13389. Individual credit project proposals must comply with CEQA as explicitly provided in the Framework. In the absence of specific proposals, any environmental analysis would be too remote and speculative to analyze at this time. Moreover, because the Regional Water Board Executive Officer maintains discretion to disapprove any credit project proposal, the Framework does not commit the Regional Water Board to any implementation. The Regional Water Board's approval of the Laguna WQT Framework is a decision to establish procedural rules on how an individual credit project proposal might be approved, and is not an approval of specific projects that may have environmental effects. The approval of the Framework is also exempt from CEQA pursuant to: California Code of Regulations, title 14 section 15061 (b)(3); California Code of Regulations, title 14, section 15306, which exempts projects that consist of information collection; California Code of Regulations, title 14, section 15307, which exempts from environmental review actions by regulatory agencies for the protection of natural resources; and title 14, section 15308, which exempts actions by regulatory agencies for the protection of the environment.

38. Provisions of the Laguna WQT Framework are based on input received and lessons learned by Regional Water Board staff over several years of collaborative work and interactions with stakeholders. For example, since the Regional Water Board's approval of the Santa Rosa Nutrient Offset Program in 2008, staff have participated in numerous and ongoing discussions with interested parties regarding projects proposed and approved to date under that program. Between 2012 and 2015, Regional Water Board staff participated in the development of Local Stakeholder Recommendations for WQT in the Laguna watershed (as described in Finding 14 above). In late 2015 and early 2016, staff reviewed and provided comments on draft templates developed by the Association of Clean Water Administrators ahead of the release of its Water Quality Trading Toolkit (as referenced in the Introduction section of the Laguna WQT Framework). In 2016 and 2017, Regional Water Board staff participated in structured, multi-day dialogues with government officials and WQT experts from across the country, convened by the National Network on Water Quality Trading.

39. In addition to ongoing, informal discussions with interested stakeholders, the following opportunities for public input were provided prior to the Regional Water Board's public hearing on July 11, 2018, to consider the approval of this Resolution and the attached Laguna WQT Framework. A project scoping meeting with known interested parties was held by Regional Water Board staff on March 3, 2017, to solicit input on staff's proposal to revise the Santa Rosa Nutrient Offset Program, and to explore stakeholder preferences for elements to be included in the Laguna WQT Framework. A public workshop was held during a regular meeting of the Regional Water Board on June 29, 2017, to hear a presentation from staff on the draft Resolution and Laguna WQT Framework, and to allow Regional Water Board members and the public to ask questions and provide comments and feedback. Written public comments on the draft Resolution and Laguna WQT Framework were solicited and accepted by the Regional Water Board between June 14, 2017 and July 21, 2017. Timely notices of the above-mentioned opportunity to comment, public workshop, and public hearing were provided via email to potentially interested parties and posted on the Regional Water Board's website.

40. This Resolution and the attached Laguna WQT Framework contain revisions made in response to public comments received on the draft Resolution and Laguna WQT Framework. A total of 11 unique comment letters were received. Regional Water Board staff considered and prepared written responses to all comments. Those responses were made available in advance of the Regional Water Board's public hearing on July 11, 2018, to consider approval of this Resolution and the attached Laguna WQT Framework.

41. Regional Water Board staff recommends that the Regional Water Board approve the Water Quality Trading Framework for the Laguna de Santa Rosa Watershed, attached hereto as Attachment 1.

RESOLUTION

THEREFORE it is hereby resolved that:

The Regional Water Board approves the Water Quality Trading Framework for the Laguna de Santa Rosa Watershed, attached hereto as Attachment 1. The Framework may be used in place of the Santa Rosa Nutrient Offset Program, which was approved in 2008 by resolution of the Regional Water Board (Resolution No. R1-2008-0061), and is hereby made available to both the City of Santa Rosa and the Town of Windsor as an approved method for complying with "no net loading" effluent limitations for total phosphorus featured in each of their NPDES permits (Order Nos. R1-2013-0001, NPDES No. CA0022764 and R1-2013-0042, NPDES No. CA0023345, respectively).

CERTIFICATION

I, Matthias St. John, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, North Coast Region, on July 11, 2018.

Digitally signed by Matthias St.John
Date: 2018.07.12 14:08:24 -07'00'

Matthias St. John
Executive Officer

ATTACHMENT 1
to
RESOLUTION NO. R1-2018-0025

Water Quality Trading Framework for the Laguna de Santa Rosa Watershed

Approved by the Regional Water Board:
July 11, 2018

Table of Contents

Introduction

The purpose of this document is to provide a framework for the implementation of water quality trading (WQT) activities in the Laguna de Santa Rosa (Laguna) watershed (hereinafter "this Framework" or "this WQT Framework"), where such activities are explicitly allowed under National Pollutant Discharge Elimination System (NPDES) permits adopted by order of the North Coast Regional Water Quality Control Board (Regional Water Board).

This Framework seeks to provide NPDES permittees with cost-effective and environmentally beneficial options for complying with effluent limitations for specifically named pollutant discharges to surface waters. Environmentally beneficial compliance options allowed under this Framework include restoration projects that support and/or enhance instream conditions, habitat quality, and ecological functions. This Framework is available to the City of Santa Rosa and the Town of Windsor.

Foundational References

This WQT Framework draws heavily from the following foundational reference materials:

- U.S. Environmental Protection Agency *Water Quality Trading Policy*, dated January 13, 2003. (a.k.a. 2003 USEPA Trading Policy)
- *Building a Water Quality Trading Program: Options and Considerations*; a product of the National Network on Water Quality Trading, dated June 2015. (a.k.a. National Network's *Options and Considerations* document)
- *Water Quality Trading Framework for the Laguna de Santa Rosa Watershed*; technical report prepared for Sonoma Resource Conservation District by Kieser & Associates, LLC, dated September 2015. (a.k.a. Local Stakeholder Recommendations)
- *The Water Quality Trading Toolkit*; created by the Association of Clean Water Administrators and Willamette Partnership, dated August 2016. (a.k.a. ACWA Trading Framework Template)

Guiding Principles

While this Framework details the basic processes and requirements for facilitating WQT within the Laguna watershed, individual trades may introduce unique circumstances and challenges. Should questions arise about the intent of this Framework's provisions, its users should defer to these guiding principles, as well as those provided in the Local Stakeholder Recommendations:

- Activities conducted pursuant to this WQT Framework must be supported by sound science and effectively accomplish regulatory and environmental goals.
- WQT activities must provide sufficient accountability, transparency, accessibility, and opportunities for public involvement to ensure that promised water quality improvements are delivered.
- The benefits of WQT must be realized without allowing adverse water quality impacts associated with credit-generating actions to occur in place, in kind, or in time.

- WQT activities must adhere to all applicable laws, including the federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and local laws.

1. Policy & Regulatory Instruments to Support Trading

1.1 Authority for Water Quality Trading in California

The Regional Water Board's authority to utilize WQT as a means of controlling pollution in California is derived from federal and state laws and policies. Those laws and policies are enumerated in the Regional Water Board resolution and the administrative record that supports the approval of this WQT Framework (Resolution No. R1-2018-0025).

1.2 Regulatory Instruments to Support Trading

This WQT Framework may be utilized by dischargers whose NPDES permits explicitly allow the use of nutrient offsets or pollutant credit trading as a means for complying with specific effluent limitations.[1]

1.3 Public Involvement

In order to ensure public accountability, transparency, and accessibility during the implementation of this Framework, the following opportunities for public involvement are provided:

- Minimum 30-day public review, opportunity to comment, written response, and public hearing prior to the Regional Water Board's adoption of NPDES permits authorizing the use of nutrient offsets or pollutant credit trading as a compliance option;
- Minimum 30-day public review, opportunity to comment, written response, and public hearing prior to the Regional Water Board's approval or subsequent renewal of this WQT Framework;
- Minimum 30-day public review and opportunity to comment prior to the Regional Water Board Executive Officer's approval of supporting documentation for practices to be pre-qualified under this Framework (Section 2.5.2);
- Public notification and release (online) of the Regional Water Board Executive Officer's approval of Credit Project Plans and relevant project information (Section 7.2);
- Public notification and release (online) of key documents and reports related to project implementation and verification (Section 8); and
- Public notification and release (online) of key documents and notices related to credit certification and credit tracking (Section 9).

Nothing in this section shall be construed to alter in any way the statutory requirements of the Regional Water Board to provide opportunities for public review and comment on official permitting, enforcement, and/or other regulatory actions.

[1] For purposes of this Framework, allowances for the use of nutrient offsets in Regional Water Board approved NPDES permits for the City of Santa Rosa (Order No. R1-2013-0001) and the Town of Windsor (Order No. R1-2013-0042) currently constitute allowances for water quality trading.

1.4 Regional Water Board Authority to Audit

Because this WQT Framework represents an option for complying with effluent limitations in NPDES permits issued by the Regional Water Board, and because the Regional Water Board has the authority to determine compliance with permits it issues, all activities conducted (and records generated) under the terms of this Framework shall be subject to audit and inspection by Regional Water Board staff. Additional information about the Regional Water Board's permit compliance and enforcement authorities is provided in Section 10 below.

2. Trading Basics

2.1 Types of Trades

This Framework allows trading of pollutant credits (hereinafter "water quality credits").

2.2 Trading Parties

This Framework generally supports trading of water quality credits between NPDES permittees (i.e., point source dischargers or credit buyers) and unregulated nonpoint sources (i.e., credit generators or sellers). However, nothing prohibits point source dischargers from trading water quality credits amongst themselves (e.g., the City of Santa Rosa selling credits to the Town of Windsor), or an entity from generating water quality credits for its own use (e.g., the City's municipal parks department generating credits to be used by the City's NPDES permitted wastewater treatment facility), provided all other eligibility criteria and Framework requirements are met. Trading eligibility criteria are described in Section 3 below.

2.3 Trading Area

The trading area for this Framework (where water quality credits may be generated, bought, sold, and used) is the Laguna de Santa Rosa watershed in Sonoma County, CA. The 254 square-mile watershed consists of all areas drained by the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek, which collectively drain into the Russian River. A map of the trading area is presented in Figure 2.3 below.

2.4 Types of Credits to be Traded

This Framework supports trading of water quality credits for one pollutant only, total phosphorus, on a mass basis. Credits are generated through approved phosphorus reduction or removal actions. One credit is equal to one pound of total phosphorus. Additional information about credit characteristics is provided in Section 6 below.

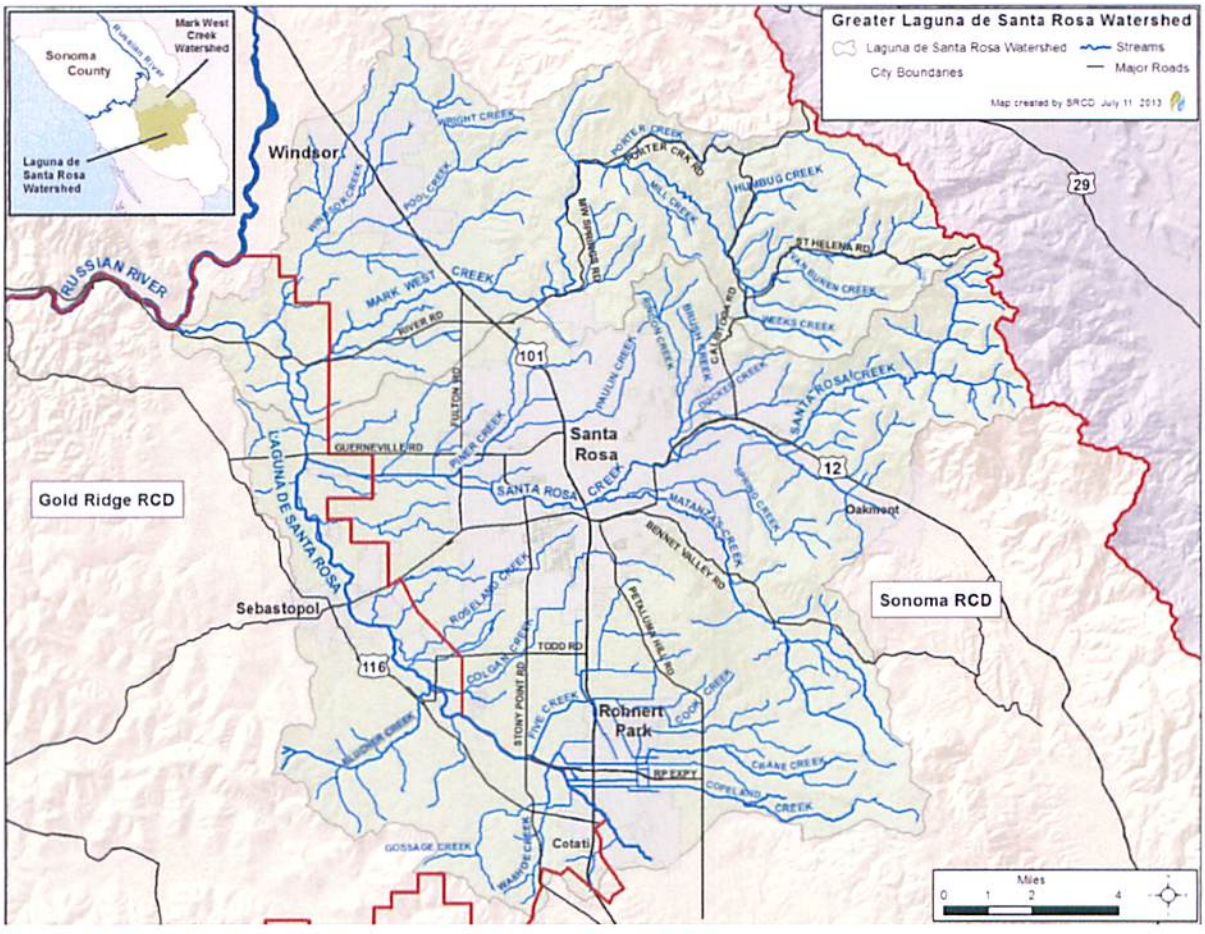


Figure 2.3. Trading Area for the Laguna de Santa Rosa WQT Framework[2]

2.5 Approved / Pre-qualified Practices

Supporting documentation for all practices used to generate water quality credits under this Framework must first be subject to public review and be approved by the Regional Water Board Executive Officer. Once approved, the practices (and associated credit quantification methods) shall be considered pre-qualified for future use on a project-scale, as will be described in Credit Project Plans (Section 7.1). To ensure transparency, the Regional Water Board will maintain a current and publicly-accessible list of pre-qualified practices as well as the approved supporting documentation for those practices on its website.

[2] Map copied from *Water Quality Trading Framework for the Laguna de Santa Rosa Watershed*; technical report prepared for Sonoma Resource Conservation District by Kieser & Associates, LLC, dated 2015. (a.k.a. Local Stakeholder Recommendations)

2.5.1 Supporting Documentation for Pre-qualified Practices

As mentioned above, in order to be considered pre-qualified for use on a project-scale, each practice proposed as the basis for water quality credit generation must be characterized by supporting documentation. The supporting documentation should establish the standards of quality, predictability, effectiveness, and transparency that will guide site-specific implementation of the practice in question and quantification of the water quality credits to be generated. Supporting documentation for each practice may vary based on the nature of the practice, but should generally include the following:

Practice Standards

- Description of the practice and its purpose;
- Description of where the practice should be applied (i.e. appropriate site conditions);
- Guidelines and performance standards for design, installation, and maintenance;
- Potential side effects, interactions, and additional benefits of the practice;
- Practice-specific baseline requirements (Section 3.2.2), maximum project life (Section 6.2), and applicable trading ratio (Section 5); and
- Monitoring requirements as needed to support practice implementation (Section 11.2).

Credit Quantification Methods

- Description of predicted practice effectiveness, as supported by site-specific analysis or literature;
- Technical summary of the method by which water quality credits will be calculated (i.e., credit quantification method), and a description of the method's accuracy, sensitivity, and uncertainty;
- Monitoring required to support the accurate use of the credit quantification method;
- Procedures for applying the credit quantification method and documentation requirements; and
- Date or version number of the credit quantification method, and identifying information for the method's developer.

Project Review / Verification Procedures

- Recommended procedures for pre- and post-project site condition assessments, monitoring, and project verification activities;
- Recommended documentation and reporting for pre- and post-project site condition assessments, monitoring, and project verification activities; and
- Recommended conditions / schedule for credit release (if applicable).

Where professional certification or special expertise is necessary for the design, installation, maintenance, credit quantification, or verification of a particular practice, the supporting documentation for that practice should describe such requirements.

Additional information about credit quantification methods is provided in Section 4 below. Additional information about documenting pre- and post-project site conditions is provided in Section 8.1. Additional information about initial and ongoing project verification requirements is provided in Sections 8.2 and 8.3, respectively.

2.5.2 Process for Approving Pre-qualified Practices

The process for approving (or pre-qualifying) a practice for use under this WQT Framework is as follows.

Step 1: Preparation and Submittal of Supporting Documentation

New and/or updated practices may be proposed by any entity at any time for pre-qualification under this WQT Framework. Supporting documentation for each practice (described in Section 2.5.1 above) must be prepared and submitted to Regional Water Board staff, along with a request to initiate the approval process described herein.

Step 2: Initial Screening / Completeness Review

Regional Water Board staff will perform an initial screening of the request for approval and supporting documentation for the proposed practice to verify completeness, and will solicit technical input and/or additional information from the proposal submitter (and others) as needed.

Step 3: Staff Review and Recommendation

Once the request for approval and supporting documentation have been determined to be complete, Regional Water Board staff will review the package in a timely manner, and will prepare a recommendation for approval or denial of the proposal. A recommendation for approval may be accompanied by conditions of approval. A recommendation for denial shall be accompanied by reasons for the denial.

Step 4: Staff Concurrence, Public Notice and Comment

If Regional Water Board staff recommends approval of the proposed practice, it will make available to the general public the request for approval, supporting documentation, and staff's recommendation (including any conditions of approval) for a minimum 30-day review and comment period. Regional Water Board staff will consider all comments received during the 30-day period, and may revise its recommendation (or conditions of approval) based on those comments. If Regional Water Board staff recommends denial of the proposed practice, it will forward its recommendation (including reasons for denial) directly to the Regional Water Board Executive Officer.

Step 5: Final Decision / Addition to Pre-qualified Practice List

Regional Water Board staff will provide its final recommendation to the Executive Officer for his/her consideration and final decision. If the proposal is approved, the Executive Officer's notice of approval will be made available to the general public on the Regional Water Board's website and the practice will be placed on the pre-qualified practice list, along with the approved supporting documentation. If the proposal is denied, the notice of denial (including reasons for denial) will be made available on the website.

As suggested above, significant updates or revisions to supporting documentation for practices that have already been approved (i.e., practices that are already on the pre-qualified practice list) will follow the same process as for adding a new practice. Practice revisions may be triggered by a variety of events, including local lessons learned or the release of new information such as monitoring results,

standards updates, or new findings in scientific literature. For purposes of this provision, the Regional Water Board Executive Officer has the discretion to determine what constitutes a significant update or revision.

3. Trading Eligibility Criteria

3.1 Eligibility for Trading Parties

The following subsections outline the basic eligibility criteria that credit buyers and sellers must meet in order to participate in WQT under this Framework.

3.1.1 Credit Buyers

As stated in Section 1.2 above, this WQT Framework may be utilized by dischargers whose NPDES permits explicitly allow the use of nutrient offsets or pollutant credit trading as a means for complying with specific effluent limitations. For purposes of this Framework, such dischargers shall be referred to as "credit buyers" and shall be considered eligible to buy and/or use water quality credits to meet their compliance obligations, provided that all other permit and Framework requirements are met.

3.1.2 Credit Sellers

Any entity, public or private, landowner or operator, regulated or unregulated, may generate water quality credits to be sold and/or used under this WQT Framework, provided that all applicable Framework requirements and other obligations are met. For purposes of this Framework, such an entity shall be referred to as a "credit seller." Other obligations may include, but not be limited to: applicable permit requirements, federal anti-backsliding provisions, federal and state anti-degradation policies, and any other affirmative statutory, regulatory, or contractual obligations.

3.2 Eligibility Criteria for Credit-Generating Projects

Under this Framework, a pollutant reduction or removal action is eligible to generate water quality credits as long as it is not otherwise required. That is, any action already required by law, regulation, permit, enforcement action, or any other legally binding agreement is not eligible to generate credits.[3] On the contrary, actions taken voluntarily are eligible. The following subsections describe additional considerations relative to the eligibility of actions to be undertaken in credit-generating projects.

3.2.1 Avoiding Localized Impacts

Consistent with the guiding principles listed in the Introduction section above, actions taken to generate credits under this Framework must provide water quality benefits that are equal to or greater than the pollutant discharges they are meant to offset in place, in kind, and in time. Furthermore, there can be no significant, adverse localized impacts as a result of a credit trade. Each Credit Project Plan (Section 7.1) shall be reviewed by Regional Water Board staff for adherence to these general criteria, to state and federal endangered species protection laws, and to state and federal environmental review laws (i.e., California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA)).

[3] This provision includes, but is not limited to any requirement imposed by the Regional Water Board or by another regulatory agency.

3.2.2 Baseline Requirements for Credit-Generating Projects

For purposes of this WQT Framework, baseline shall be defined as the minimum level of effort or level of implementation that must be achieved before a project is eligible to generate credits. Depending on the nature of the credit-generating project, practice-specific baseline requirements may apply to the credit buyer, the credit seller, the project itself, the project site, or a combination thereof. Baseline requirements for every project, as originally established in pre-qualified practice standards (Section 2.5.1), must be specified in the approved Credit Project Plan (Section 7.1).

Consistent with the guiding principles listed in the Introduction section above, baseline requirements for projects conducted under this Framework shall at least correspond to the minimum requirements of any applicable laws, regulatory requirements, or other affirmative obligations such as those established in permits, easements, deed restrictions, and/or other binding contracts. Where no such requirements exist, baseline shall at least be equivalent to current conditions or practices at the project site, based on the prior three-year history of the property or operation.

Where approved credit-generating projects take place on lands subject to regulatory requirements, those requirements will be added to the defined baseline for the practices used. Thus, only voluntary actions that are above and beyond what is minimally required, or that take place prior to the adoption of a regulatory mechanism that requires those actions, shall be eligible to generate credits. For projects implementing practices that later become baseline requirements due to the effects of new or expanding regulatory programs, credits generated by those practices shall be honored for the approved project life (Section 6.2), but may not subsequently be renewed (Section 6.4).

3.2.3 Applied Timing of Baseline Requirements

All applicable baseline requirements must be met before any approved project is allowed to generate credits under this WQT Framework. This provision shall not prevent credit buyers or sellers from simultaneously implementing baseline requirements and credit-generating project components.

3.2.4 Applied Location of Baseline Requirements

Baseline requirements shall apply to the individual project site where an approved credit-generating project is being undertaken. However, the implementation of a credit-generating project at one location on a property shall not be allowed to result in the degradation of environmental conditions at another location on the property.

3.2.5 Timing of Framework Applicability

Immediately following the approval of this Framework by the Regional Water Board, projects are eligible to generate credits pursuant to its terms. Projects previously approved under the Santa Rosa Nutrient Offset Program (Regional Water Board Order No. R1- 2008-0061) shall be considered eligible under this Framework to continue generating credits according to terms under which those projects were originally approved and for their approved project lives.

3.2.6 Use of Public Conservation Funds

Under this WQT Framework, the use of public conservation funds[4] to implement credit-generating projects is not prohibited, provided the funding entity's requirements are met and provided proportional accounting is used to allocate the credits generated by the project to each funding source. Proportional accounting shall apply to costs associated with the following phases of a credit-generating project: Credit Project Plan development, project implementation, maintenance, verification, monitoring and reporting.

The use of proportional accounting may affect the number of credits a credit seller may sell or a credit buyer may use. For example, if half the cost of a credit-generating project is paid for using public conservation funds, then only half the credits generated by that project shall be available to sell to the credit buyer.

Alternatively, if a credit seller uses public conservation funds to meet baseline requirements for a particular credit-generating project, and the seller uses private funds to implement all other aspects of the project that exceed baseline requirements, then all of the credits generated by that project shall be available to sell to the credit buyer.

In any case involving the use of public conservation or any other externally-derived funds to generate credits under this WQT Framework, it is the obligation of the trading parties to know and adhere to the funding entity's requirements.

3.2.7 Credit Stacking

Credit stacking refers to the generation of credits for multiple environmental markets (e.g. compensatory wetland mitigation, carbon sequestration and/or phosphorus credits) from a single project. Under this WQT Framework, credit stacking is allowed with proportional accounting. That is, a project is allowed to generate multiple types of credits, but those credits must be accounted for and sold (or used) proportionately. For example, if a project generates both wetland and phosphorus credits, and the credit seller sells 60% of the project's wetland credits, only 40% of the phosphorus credits from that project can also be sold. Details of any credit stacking proposal must be specified in the approved Credit Project Plan (Section 7.1) and subsequently verified pursuant to the provisions of Sections 8.2 and 8.3 below.

4. Quantifying Pollutant Reductions for Water Quality Credits

As described in Section 2.5 above, credit quantification methods for pre-qualified practices must be included in the supporting documentation for those practices, and will be approved on a case-by-case basis. Once approved, credit quantification methods for those practices shall be considered pre-qualified for future use.

[4] Public conservation funds include those targeted to support voluntary natural resource protection, enhancement and/or restoration, with a primary purpose of creating, restoring, enhancing or preserving water quality, healthy soils, habitats or ecological functions. Public loans intended to be used for capital improvements of public water or wastewater systems (e.g., Clean Water State Revolving Funds and USDA Rural Development funds) and utility storm water and surface water management fees are not considered public funds dedicated to conservation.

Appropriate methods for quantifying water quality credits may include the use of models (mechanistic or empirical), pre-established pollution reduction rates (from experimentation or scientific literature), direct monitoring, or a combination of the above. Models and pre-established rates, if used, should be calibrated or otherwise tuned to local conditions. In general, for this WQT Framework, methods used to quantify water quality credits to be derived from a pre-qualified practice should rely on best available science, and should demonstrate accuracy, repeatability, sensitivity, transparency, and practicality, although some trade-offs amongst these qualities are inevitable.

5. Trading Ratios

The default trading ratio for this WQT Framework is 2.5:1. That is, in any given discharge season, if a discharger wishes to use water quality credit trading to comply with the "no net loading" effluent limitation for total phosphorus in its NPDES permit, it must generate or purchase water quality credits equivalent to 2.5 times the amount of total phosphorus that it discharges. The trading ratio is the sum of two factors, both of which are applied to increase the amount of credits needed by the discharger:

- *Uncertainty ratio*: A ratio that accounts for scientific uncertainty, including potential inaccuracies in estimation methods and/or variability in project performance.
- *Retirement ratio*: A ratio that sets aside a portion of credits generated for net environmental benefit.

Table 5.1 summarizes the ratio(s) that will be applied to all trades under this WQT Framework.

Table 5.1. Applicable Trading Ratios

Ratio Type	Multiplier	Description
Uncertainty	2.0	A factor of 2.0 accounts for all potential sources of variability and uncertainty, including the following factors that may affect credit estimation:† - Average site conditions - Meteorological phenomena - Practice efficiency rates - Practice maturation rates - Pollutant equivalencies - Pollutant transport, delivery, and attenuation characteristics
Retirement	0.5	A factor of 0.5 is recommended to ensure that all trades generate a net water quality benefit.
TOTAL	**2.5 : 1**	

† Note: Uncertainty associated with pollutant discharge estimates is not explicitly accounted for in this ratio because discharges from wastewater treatment facilities are assumed to be reasonably accurate.

The Regional Water Board Executive Officer may allow the retirement and/or uncertainty ratios specified above to be adjusted downward by as much as 0.5 (each) for a particular trade under the following circumstances:

- A reduced retirement ratio may be applied when a credit-generating project is explicitly designed to enhance environmental values (e.g., habitat or ecosystem restoration, recognized priority or multi-benefit actions).
- A reduced retirement ratio may be applied when a credit-generating project occurs on permanently protected lands.
- A reduced uncertainty ratio may be applied when a credit-generating project includes direct measurement of pollutant reductions.

6. Credit Characteristics & Accounting Conventions

The following credit characteristics and accounting conventions shall apply to all credits generated under this WQT Framework.

6.1 Credit Life

"Credit life" is defined as the period of time during which a water quality credit may be used to offset a pollutant discharge, typically beginning with the credit's "effective date" and ending with its "retirement date."

The life of all credits generated under this WQT Framework shall be one year, beginning October 1 (i.e., the beginning of the NPDES discharge season) and ending September 30.

6.2 Project Life

"Project life" is defined as the period of time over which a project is anticipated to generate usable water quality credits. The life of a credit-generating project often spans several years (i.e., several consecutive credit lives). The credits generated by that project shall be distributed uniformly over those years, or as otherwise specified in the credit release schedule included in the approved Credit Project Plan (Section 7.1).

For purposes of this Framework, project life shall be allowed to vary based on the specific nature of the project, the project site, the pre-qualified practice(s) used, and on the expressed preferences of the credit buyer and seller. In general, relatively short project lives (i.e., 5 years or less) are appropriate for less permanent practices, or for those expected soon to become subject to new regulatory requirements, such as land management practices associated with agricultural operations. Longer project lives (i.e., up to 10 or 20 years) are appropriate for more permanent, longer-lasting practices, such as riparian restoration or upgrades to roads, fences, and drainage facilities. Project life shall be specified in each approved Credit Project Plan.

6.3 Banking Credits for Later Use

"Banking" is the generation of a water quality credit in one time period with the intention that it be used to offset a discharge in another (future) time period.

Under this WQT Framework, banking of credits shall be allowed for up to five years (i.e., five discharge seasons) for credits derived from projects that are explicitly designed to enhance environmental values (e.g., habitat or ecosystem restoration, recognized priority or multi-benefit actions), and up to three years (i.e., three discharge seasons) for credits derived from all other projects (e.g., erosion control or nutrient management actions). For instance, in the latter case, a water quality credit generated during the summer preceding the 2017/18 discharge season may be used to offset a discharge in the 2017/18, 2018/19, or 2019/20 discharge season. Any credits that remain unused after the allowable banking period shall be retired for environmental benefit. For purposes of this provision, credit-generating actions must take place before the discharges they are used to offset occur.

6.4 Project Expiration and Renewal

Under this WQT Framework, once a credit-generating project reaches the end of its specified project life, it shall be considered expired and no longer able to generate credits. However, where such a project continues to function, is properly maintained, and meets all eligibility criteria and Framework requirements that are in effect at the time, it may be renewed and allowed to generate additional credits. The process for renewing an expired project shall be the same as the process for approving a new project. (Section 7.2)

7. Project Planning, Pre-Screening, & Approval

7.1 Credit Project Plans

All the documentation necessary to approve a credit-generating project under this WQT Framework must be submitted in a Credit Project Plan, which contains relevant project design, implementation, maintenance, monitoring, and credit information as detailed below. Only practices that have been pre-qualified under the terms of Section 2.5 of this Framework may be proposed for credit generation. Credit Project Plans must be prepared by qualified individuals[5] who can properly select pre-qualified practice(s) for use at a particular site, and incorporate them into a project design. Consistent with the guiding principles listed in the Introduction section above, all Credit Project Plans should be designed with the primary goal of improving water quality, and should be sufficiently detailed to allow plan reviewers to understand the nature of the proposed project, its conformance with applicable Framework provisions, and the anticipated water quality credits to be generated. Approval of a credit-generating project is contingent upon the Credit Project Plan being complete and sufficiently detailed. Credit Project Plans should contain the following elements:

[5] Qualified individuals may include, but not be limited to the following: a Natural Resources Conservation Service certified planner, a local Resource Conservation District employee, a certified crop advisor, a certified erosion control specialist, a California licensed civil engineer or professional geologist, or other professional consultant. Supporting documentation for pre-qualified practices (Section 2.5.1) may specify when certified professionals or other experts are required for the design, installation, or maintenance of a particular practice.

Basic Information

- Project name
- Date of submittal
- Project location
- Estimated size of the project area (e.g. number of acres or linear feet)
- Name of the project developer with organization and contact information
- Name of the initial owner of the water quality credits to be generated with organization and contact information

Project Design and Credit Information

- Project goals and/or objectives
- Description of the project site (e.g., ownership, land use history, current site conditions)
- Identification of pre-qualified practices to be used
- Description of anticipated project benefits beyond pollutant reductions (if any)
- Declaration of project eligibility with supporting documentation or discussion
- Description of applicable baseline requirements and a discussion of how those requirements have been or will be satisfied
- Designs and specifications
- Project implementation plan and/or construction schedule
- Site assessment procedures and reporting requirements (Section 8.1)
- Identification of parties responsible for project implementation and site assessment
- Description of construction contracts or agreements
- Evidence or description of required permits and/or CEQA documentation
- Preliminary water quality credit calculations and proposed trading ratio, with justification if less than the default 2.5:1
- Disclosure of funding sources and proportional accounting estimates (if public conservation funds are used)
- Credit stacking proposal and proportional accounting estimates (if stacking is proposed)
- Proposed project life and credit release schedule
- Project design consultants (if any) with organization and contact information

Project Maintenance Plan

- Description of maintenance requirements
- Project maintenance activities and schedule
- Description of adaptive project management procedures
- Identification of parties responsible for project maintenance
- Description of maintenance contracts and legal project protection agreements[6]

[6] Under this WQT Framework, legal project protection agreements must be established for all credit-generating projects that provide necessary access to and legal protection of the project area against other dissonant land uses for, at a minimum, the proposed project life. It is ultimately the credit buyer/user's responsibility to ensure (by contract or otherwise) that the projects upon which it relies for water quality credits are sufficiently maintained to generate those credits over their project lives.

Project Monitoring, Verification and Reporting Plan

- Description of monitoring, project verification, and reporting requirements (Sections 8.2, 8.3, and 11.2)
- Monitoring, project verification, and reporting schedule
- Identification of parties responsible for monitoring, project verification, and reporting
- Description of project verification contracts or agreements

7.2 Credit Project Plan Approval Process

Credit Project Plans to be implemented under this WQT Framework must first be reviewed and approved according to the following process:

Step 1: Preparation and Submittal of Proposed Credit Project Plan

A proposed Credit Project Plan (Section 7.1) must be prepared and submitted by a credit seller or its agent to Regional Water Board staff, along with a request to initiate the approval process described herein. The Credit Project Plan and request must be submitted at least 90 days prior to the proposed start of project construction.

Step 2: Initial Screening / Completeness Review

Regional Water Board staff will perform an initial screening of the proposed Credit Project Plan (and any supporting documentation) to verify completeness, and will solicit technical input and/or additional information from the credit seller, its agent, and others as needed.

Step 3: Staff Review and Recommendation

Upon determining the proposed Credit Project Plan is complete, Regional Water Board staff will review the Plan in a timely manner, and will prepare a recommendation for approval or denial of the Plan. A recommendation for approval may be accompanied by conditions of approval. A recommendation for denial shall be accompanied by reasons for the denial.

Step 4: Final Decision / Public Notice

Regional Water Board staff will provide its recommendation to the Regional Water Board Executive Officer for his/her consideration and final decision. The Executive Officer's final decision shall be made no later than 60 days following staff's determination that the proposed Credit Project Plan is complete. If the proposed Credit Project Plan is approved, the Executive Officer's notice of approval and relevant project information[7] will be made available to the general public on the Regional Water Board's website. If the proposed Credit Project Plan is denied, the notice of denial (including reasons for the denial) will be made available on the website.

[7] The Regional Water Board recognizes that some Credit Project Plans may contain confidential information. Public disclosure of portions of a Credit Project Plan that contains confidential information or trade secrets may be limited in accordance with applicable laws that provide for protection of the disclosure of such information. The credit seller or its agent must identify information that it asserts is exempt from public disclosure. When doing so, the seller or its agent must provide the Regional Water Board a copy of the complete Credit Project Plan and a copy with the portions it asserts are protected in redacted form.

7.3 Credit Project Pre-Screening Process (Optional)

Prior to incurring the expense of developing a complete Credit Project Plan and initiating the plan approval process described in Section 7.2 above, a credit seller or its agent may wish to have certain plan elements pre-screened by Regional Water Board staff for conformance with the provisions of this WQT Framework. Pre-screening is not required, but is encouraged for all projects, especially to confirm project eligibility and applicable baseline requirements. Other worthwhile topics for pre-screening may include: proposed project life, applicable trading ratio, preliminary credit estimates, and/or special conditions or circumstances associated with a particular project or site.

The optional process for project pre-screening may be more or less formal, depending on the preferences of the credit seller or its agent, and depending on the nature and extent of the information being pre-screened. Steps of the process may be carried out in writing or verbally. In general, the credit seller or its agent shall submit a request for pre-screening to Regional Water Board staff, along with any draft plan elements or other relevant documentation. Staff will review the materials submitted for conformance with the provisions of this WQT Framework, and consult with the credit seller or its agent (and others) as needed to formulate a preliminary determination and/or response to the request.

8. Project Implementation & Verification

Once a proposed Credit Project Plan has been approved via the process described in Section 7.2 above, the subject project must be successfully implemented and its performance independently verified before any resulting water quality credits may be certified and sold (or used). The following subsections describe requirements for project implementation and project verification under this WQT Framework.

8.1 Documenting Pre- and Post-Project Site Conditions

Site conditions for all credit-generating projects approved under this WQT Framework must be assessed and documented by the credit seller or its agent before and after project implementation. Project-specific site assessment procedures and reporting requirements will be included in each approved Credit Project Plan (Section 7.1).

8.2 Initial Project Verification

Initial project verification is the process of reviewing and confirming whether a credit-generating project has been implemented in accordance with its approved Credit Project Plan (Section 7.1). Initial verification pertains to the project "as-built", which may differ somewhat from the Credit Project Plan as originally approved.

8.2.1 Required Elements of Initial Verification

Initial verification for each credit-generating project must be conducted by an independent and qualified third-party verifier.[8] Although project-specific requirements for initial verification may vary based on the approved Credit Project Plan (Section 7.1), required elements of initial verification shall always include the following:

- *Administrative Review*: Confirmation of project eligibility under the terms of this Framework based on available documentation and as-built conditions, and confirmation that contracts and agreements are in place to ensure legal project protection and maintenance for the approved project life.
- *Technical Review*: Confirmation that water quality credits were quantified accurately in the approved Credit Project Plan and that all required documentation (e.g., data files, sampling results, model parameters) and as-built adjustments to the preliminary credit calculations are complete and correct.
- *Implementation Review*: Confirmation (via site visit or other reasonable means) that the project was installed consistent with the approved Credit Project Plan, and that all baseline requirements have been met. Any discrepancies between the approved Credit Project Plan and as-built conditions must be noted and brought to the attention of the credit seller for correction.

8.2.2 Required As-Built Documentation and Initial Verification Report

Upon completion of project implementation, the credit seller or its agent shall submit to Regional Water Board staff and the project verifier the completed site assessment documentation (Section 8.1) and any revisions or updates to the approved Credit Project Plan that are necessary to reflect as-built conditions. Subsequent to the receipt of this information, the project verifier shall separately submit an initial verification report, featuring a summary of initial verification activities, results and opinions, recommendations for adaptive project management, and any outstanding findings, notes or concerns. Regional Water Board staff will make these documents available to the general public on the Regional Water Board's website.

8.3 Ongoing Project Verification

Ongoing project verification is the process of periodically reviewing and confirming whether a credit-generating project continues to be maintained in conformance with its approved Credit Project Plan (Section 7.1), that it continues to meet all relevant Framework criteria, and that credits generated by the project have been (and continue to be) accurately estimated using appropriate quantification methods and procedures.

---

[8] Qualifications for third-party verifiers will vary based on practice and project type. In general, third party verifiers must: (1) have relevant knowledge and experience related to the practices being used to generate credits, (2) be familiar with the terms of this WQT Framework, with the supporting documentation for pre-qualified practices they are being asked to verify, and with the credit quantification methods used for that practice, (3) be capable of working in an independent and unbiased manner, and (4) have no conflicts of interest. Examples of possible third-party verifiers include, but are not limited to qualified individuals, as previously described in footnote 5 (Section 7.1).

Ongoing verification for each credit-generating project must be conducted by an independent and qualified third-party verifier – preferably the same party that conducted the initial verification of the project. Verification frequency, required elements of ongoing project review, and reporting requirements will vary depending on the individual project. Requirements for all ongoing verification activities will be specified in the approved Credit Project Plan.

Copies of all verification reports for credit-generating projects implemented under this WQT Framework shall be provided to Regional Water Board staff by the independent third-party verifier. Upon determining that a verification report is accurate and complete, Regional Water Board staff will make the report available to the general public on the Regional Water Board's website. In the event that a verification report identifies a material failure to meet approved practice standards or other requirements of an approved Credit Project Plan, the credit seller (or the party responsible for project implementation, as identified in the Credit Project Plan) shall notify Regional Water Board staff immediately. Upon such notification, the seller (or responsible party) will have 60 days to submit to Regional Water Board staff a plan for remedy, including recommended performance benchmarks, the conditions under which Regional Water Board staff should consider suspending or cancelling any credits that have already been certified (Section 9.1), and recommendations for adaptive project management. Regional Water Board staff will make such plans available to the general public on the Regional Water Board's website. In all cases, the Regional Water Board Executive Officer has the authority to determine whether a verification report accurately reflects the credits generated, and may certify, suspend or cancel credits as described in Section 9 below, or request additional information as necessary to verify that a project is implemented in accordance with its approved Credit Project Plan.

Regardless of project verification results, NPDES permittees (i.e., credit buyers or users) are ultimately responsible for complying with their effluent limitations, and any NPDES-related compliance matters or enforcement actions based on the results of project verification activities shall be taken up with the permittee.

9. Credit Certification, Registration & Tracking

9.1 Credit Certification

Upon receiving a verification report confirming that water quality credits have been generated by an approved project (Sections 8.2 and 8.3), Regional Water Board staff will review the report for accuracy and completeness, and will solicit technical input and/or additional information from the report submitter (and others) as needed. Upon determining the verification report is accurate and complete, Regional Water Board staff will certify the credits generated by issuing an official Credit Certificate to the credit seller, or whomever the approved Credit Project Plan identifies as the initial owner of the credits. Once a credit is certified, it is officially available for purchase, sale, or use by an NPDES permittee. Immediately upon their issuance, copies of Credit Certificates issued by Regional Water Board staff shall be provided to the administrator of the credit registry, as described in Section 9.5 below.

9.2 Serialization of Certified Credits

To ensure accountability, transparency, and ease of tracking, each credit certified under this WQT Framework shall be assigned a unique serial number, accompanied by the date of certification. Serial information will be included in the Credit Certificate issued by Regional Water Board staff.

9.3 Changes in Credit Status

Once certified, the status of a credit may change over time. In order to ensure that credits generated under this WQT Framework remain valid, are used only once, and/or are retired on time, changes in credit status must be reliably tracked and accounted for. For purposes of credit tracking, the status of credits shall be defined and documented as follows:

Active

Upon certification, all credits shall be considered active. The status of active credits shall be documented in Credit Certificates issued by Regional Water Board staff, as described in Section 9.1 above.

Used

Credits shall be considered used once they have been applied by an NPDES permittee to meet an effluent limitation. The status of used credits shall be documented in annual compliance reports submitted to Regional Water Board staff as required in the user's NPDES permit.

Retired

Credits shall be considered retired if they remain unused beyond the final year allowed under this Framework's credit banking provisions (Section 6.3). The status of retired credits shall be documented in Credit Retirement Notices issued by Regional Water Board staff to the credit owner.

Suspended or Cancelled

Credits shall be considered suspended or cancelled if/when a project verification report identifies a failure to meet approved practice standards or other requirements of an approved Credit Project Plan, as described in Section 8.3 above. The status of suspended or cancelled credits shall be documented in Credit Suspension or Credit Cancellation Notices issued by Regional Water Board staff to the credit owner.

Immediately upon their issuance, copies of annual NPDES compliance reports, Credit Retirement Notices, Credit Suspension Notices, and Credit Cancellation Notices shall be provided by the issuers to the administrator of the credit registry described in Section 9.5 below.

9.4 Changes in Credit Ownership

Once certified, the ownership of a credit may change over time. In order to ensure that credits generated under this WQT Framework are owned by only one entity at a time, changes in credit ownership (i.e., credit trades via transfer or sale) must be reliably tracked and accounted for. For purposes of credit tracking, initial ownership of credits shall be documented in Credit Certificates issued by Regional Water Board staff, as described in Section 9.1 above.

Changes in credit ownership shall be documented in Credit Trade Notices submitted by the trading parties to Regional Water Board staff. At a minimum, Credit Trade Notices must include the quantity of credits traded, the serial number of each credit traded, the purchase price, and identifying information and signatures of the buyer (i.e., the new owner) and seller (i.e., the previous owner).

Immediately upon their issuance, copies of Credit Trade Notices shall be provided by the issuers to the administrator of the credit registry described in Section 9.5 below.

9.5 Credit Tracking & Registry Administration

As described in Sections 9.3 and 9.4 above, the status and ownership of water quality credits certified under this Framework is subject to change over time. In order to track these changes, and to ensure the accountability, transparency, and accessibility of WQT activities conducted in the Laguna watershed, a designated administrator shall maintain an official and publicly-accessible credit registry. The role of administrator shall be performed by Regional Water Board staff or by a trusted and qualified third-party designee.

As soon as a credit is certified as described in Section 9.1 above, the administrator shall add it to the credit registry and track it through its eventual use, cancellation, or retirement. Attributes to be tracked for each credit in the registry include, but shall not be limited to: serial number, date of certification, owner, status, project from which the credit was derived, and links to publicly-available project documents.

The administrator of the credit registry shall keep all credit information current, and shall update the registry immediately upon receipt of the various certificates, reports, and notices identified in Sections 9.3 and 9.4 above.

10. Compliance and Enforcement

This WQT Framework provides authorized dischargers with an optional means for complying with certain effluent limitations in their NPDES permits. Compliance with effluent limitations in NPDES permits is ultimately based on the contents of annual reports required by those permits. If a permittee opts to utilize this Framework as means of compliance, its reports must include sufficient documentation to demonstrate that the water quality credits it used were appropriately certified under this Framework, and were sufficient to meet its effluent limitations.

The Regional Water Board has the authority to enforce the provisions of NPDES and other permits it issues, and to take enforcement actions as warranted and authorized under the California Water Code. Records generated during the implementation of this WQT Framework may be used as evidence in enforcement proceedings.

11. Framework Improvements and Monitoring

11.1 Improving Framework Specifications, Protocols, and Processes

This WQT Framework shall be implemented to maintain adherence to the guiding principles listed in the Introduction section above, and managed in such a way as to capitalize on lessons learned. Changes and improvements to the provisions of this Framework are expected over time, and may necessitate a formal revision. Such a revision would be subject to standard requirements for public noticing, review, and Regional Water Board approval.

11.2 Monitoring / Evaluating Framework Effectiveness

Some form of monitoring shall be required for every credit-generating project approved under this WQT Framework. In general, monitoring is needed to support applications of approved credit quantification methods (Section 4), and to verify the generation of credits (Section 8). However, the type, location, and frequency of monitoring activities will necessarily vary by pre-qualified practice type (Section 2.5.1), with specific details to be determined at the project scale and incorporated into an approved Credit Project Plan (Section 7.1).

Depending on the nature and location of an approved credit-generating project, examples of monitoring may include:

- Sampling of surface sediment nutrient concentrations at a project site to quantify credits generated;
- Topographical and vegetation surveys to complete site condition assessments;
- Repeated photo point monitoring to document as-built conditions and to verify continued project maintenance; and
- Instream sampling of turbidity, dissolved oxygen, and nutrient concentrations to verify project performance and effectiveness.

The overall effectiveness of WQT activities conducted under this Framework must be evaluated within the larger context of other beneficial use recovery actions being undertaken in the Laguna watershed. As a general rule, ambient water quality monitoring (i.e., surface water status and trends monitoring) is not specifically required under this Framework, but may be appropriate (and thus required) for some projects. Otherwise, ambient water quality monitoring is anticipated to be conducted under the auspices of the Russian River Regional Monitoring Program, or a similar, regionally-coordinated program. Nothing in this Framework prohibits any entity from lawfully conducting ambient water quality monitoring in the Laguna watershed.