

# Laguna de Santa Rosa Watershed Total Phosphorus Blue Ribbon Panel Summary Report



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Prepared for The City of Santa Rosa by the Consensus and Collaboration Program of the  
College of Continuing Education at California State University, Sacramento

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## Introduction

Beginning in April of 2018, the City of Santa Rosa (City) formed a limited-term Blue Ribbon Panel (BRP) to identify a set of principles that support watershed-oriented, cost-effective mitigation measures in response to the City's National Pollutant Discharge Elimination System (NPDES) No Net Loading of Phosphorus Discharge Requirement. The panel conducted its work over the course of three meetings. The goal of the BRP was to identify principles that would provide an effective and efficient framework to support, implement and achieve improved nutrient management within the watershed.

The City's NPDES Permit includes a final effluent limitation that requires No Net Loading of Phosphorous which is currently achieved through implementation of a Nutrient Offset Program. The City would like to consider and potentially establish an alternative watershed-oriented, cost-effective strategy that results in a reliable mechanism to assure compliance and to facilitate continuous long-term uplift of the watershed's ecosystem, improving water quality related not only to Phosphorus (P) and other nutrients but also reducing sediment inputs, enhancing habitat and providing other ecological functions.

## Process Design

To achieve the aforementioned goals, the City assembled the BRP to consist of academics in water quality, representatives from environmental groups, local business leaders and economists, and regulatory agency staff. Sacramento State's Consensus and Collaboration Program (CCP) was hired by the City as a third-party facilitator to help select and recruit BRP members, organize the BRP meetings, provide input related to the scope and depth of information presented, and prepare the final recommendations of the BRP in this Report. The following is a list of the BRP members in alphabetical order:

- Ethan Brown, Sonoma County Economic Development Board
- Michael Cohen, Sonoma State
- John Largier, UC Davis
- Don McEnhill, Russian River Keeper
- Alison Piccoli, Northern California Restaurant Association
- Matt St. John, North Coast Regional Water Quality Control Board (RWQCB)
- Wendy Trowbridge, Laguna de Santa Rosa Foundation
- Amelia Whitson, U.S. Environmental Protection Agency (EPA)– Region IX

In addition to BRP Members, staff from the City and the BRP facilitators also attended the meetings. These individuals included:

- Sophie Carrillo-Mandel, Collaboration and Consensus Program, Sacramento State
- Dave Ceppos, Collaboration and Consensus Program, Sacramento State
- Ben Horenstein, Director Santa Rosa Water, City of Santa Rosa
- Sean McNeil, Sustainability Coordinator, City of Santa Rosa
- Rita Miller, Deputy Director Environmental Services, City of Santa Rosa

Three BRP meetings were conducted on April 27, June 1, and June 27, 2018, with the goal of finalizing recommendations by the end of Meeting 3. Each meeting was open to the public. Several

representatives from other local agencies attended throughout the process, and their presence is noted in the attached Meeting Summaries.

The purpose of Meeting 1 was to create mutual understanding of Laguna de Santa Rosa Watershed (Laguna) history, physical conditions, and regulatory background, and to start BRP consideration of their task to develop and propose ideas related to guidelines that would support an alternative approach for compliance related to phosphorus reductions. Meeting 2 continued work by the BRP in the development of recommendations on Total Phosphorous (TP) regulations and water quality improvements, as well as to inform the BRP on questions that arose in the previous meeting. Meeting 3's purpose was to finalize the work by the BRP by reviewing proposals they created for alternative compliance mechanisms or projects that could be considered as an alternative method to achieve TP reductions and water quality or ecosystem improvements in the Laguna.

To guide and govern the process, a conditional Charter was proposed by the City at Meeting 1, which described BRP membership, roles and responsibilities, decision and discussion methods, and communication protocols. The Charter was reviewed, comments and edits were requested from the participants in the time between Meeting 1 and Meeting 2, and the Charter was adopted as final at Meeting 2.

## Process Outcomes

### Summary of BRP Discussions

As briefly described above, in Meeting 1 the BRP received presentations from City staff on the history of the watershed and Laguna and the current nutrient and water quality compliance framework. After each presentation, the BRP conducted extensive discussions wherein they posed questions to the presenters and addressed related topics amongst themselves.

BRP Meeting 1 outcomes:

- Reviewed their draft Charter and provided questions and input for consideration by the City
- Accepted the Charter as a "conditional" document to help guide their process in Meeting 1 and in advance of the City finalizing the Charter
- Discussed and refined an initial list of Guiding Principles based on draft Guiding Principles prepared for consideration by CCP. The purpose of the Principles was to identify mutually acceptable perspectives that the BRP could collectively support to frame their work in between subsequent meetings
- Began preliminary discussion about alternative compliance options and requested additional information needed to create future proposals about said options

In Meeting 2, the BRP received the following presentations from the RWQCB about the Water Quality Trading Framework for the Laguna de Santa Rosa, and from consultants of the City about more diverse methods for nutrient management across California, and options for chemically removing phosphorous, respectively:

- Water Quality Trading Framework for the Laguna de Santa Rosa Watershed presented by David Kuszmar, RWQCB

- Nutrient Management in California: A Current Perspective presented by Tom Grovhoug, Larry Walker and Associates
- Chemically Enhanced Treatment for Phosphorus Reduction presented by Linda Sawyer, Brown and Caldwell

In Meeting 2 the BRP achieved the following outcomes:

- Discussed and finalized their Guiding Principles (Attachment B)
- Approved a Charter to memorialize decision making process (Attachment A)
- Brainstormed and discussed ideas about compliance options and a potential compliance framework
- Agreed to work individually and in small groups, if warranted, to expand on initial compliance options, and prepare and share new ideas in advance of Meeting 3

In Meeting 3, members presented four proposals for different compliance frameworks. One proposal was an examination of how to best work within the framework of the current regulations to achieve the City's stated goals and the BRP's guiding principles, two were large-scale project proposals that would fit within the current regulatory framework and contribute to TP reduction, and one was a proposal to augment the current regulatory framework.

Meeting 3 outcomes were:

- BRP discussed each proposal and participated in straw polls
- BRP formally voted and endorsed four proposals, with some caveats described below, to be considered by the City of Santa Rosa to implement and achieve improved nutrient management within the watershed

### Key Themes Across Discussions

Several themes recurred throughout discussions over the three meetings. These include the following:

- Methods to allow for and fund innovative projects when the City's resources must directly prioritize TP/nutrient reductions, and relatedly, the challenge of tying projects with overall benefit to the watershed specifically to TP reductions (i.e., it is difficult to directly calculate nutrient benefits related to broad-scale ecological restoration work).
- Approaches that allow for long-term projects may require greater initial financial investment and time to develop, yet may not reduce phosphorous within a regulated period as defined in the current NPDES permit
- Changes in compliance approaches may be perceived to be or proven to be backsliding on existing regulations and statutory requirements, not allowed by state and federal regulations
- The role of agricultural runoff in the total net load of phosphorous in the Laguna is significant and should be addressed to support nutrient reductions and watershed recovery
- Questions about the availability of science and good data on how to achieve broad-scale recovery within the watershed, the ecological health impacts of Phosphorous on the Laguna as well as the beneficial impacts / outcomes from reducing said loading from the Laguna and/or from contributing runoff / discharge sources (in the context of prioritizing investments to reduce loading)



## Draft Proposals

The ultimate purpose of the BRP was to establish Guiding Principles and receive proposals for alternative strategies to reduce total net Phosphorous in the Laguna de Santa Rosa watershed, while also providing the City compliance certainty. The four proposals presented, as well as the ensuing discussion and votes of support taken at the final BRP meeting are all presented below. These Framework Proposals all reference the BRP's Guiding Principles (Attachment B).

### Maximize Opportunities within the Existing Regulatory Framework

The RWQCB proposal is titled "Maximize Opportunities within the Existing Regulatory Framework." The goal is to maximize water quality improvement opportunities within the existing Laguna WQTF as presented in Meeting 2 by RWQCB staff member David Kuszmar.

Framework Idea
Maximize opportunities within the existing regulatory framework.
Anticipated Benefits from the Framework idea
Maximize water quality benefits and program efficiencies by capitalizing and building upon several years of progress and collaboration by watershed partners in the following areas: Laguna TMDL development, Laguna WQT Framework development, Laguna Master Restoration Planning efforts, Regional Monitoring Program development, and various grant-funded activities (i.e., Proposition 1 grants, Conservation Innovation Grants, and others).
Guiding Principles Achieved
<p>All (arguably).</p> <ol style="list-style-type: none"><li><i>Future actions and guidelines should result in the highest public benefit per dollar spent.</i> Nothing prohibits practice and project selection under the Laguna WQT Framework to be based on highest public benefit per dollar spent.</li><li><i>There should be shared ownership for the costs and development of water quality improvements. Everyone in the watershed contributes to nutrient loading and therefore everyone should have a proportional responsibility to address the impacts.</i> Given the City of Santa Rosa's historic contributions to legacy impacts in the Laguna de Santa Rosa, the City and its broad base of ratepayers bear a significant proportion of the responsibility to address those impacts and deserve a proportionate share of the benefits of water quality improvements they finance.</li><li><i>Regulatory requirements should be addressed as existing obligations and not as new voluntary actions.</i> Provisions related to eligibility and baseline under the Laguna WQT Framework are consistent with this principle.</li></ol>

4. *Future approaches to reduce water quality impacts should incentivize beneficial actions and discharger behavior.*

The Regional Water Board's comprehensive vision for beneficial use recovery in the Laguna de Santa Rosa watershed is consistent with this principle – as is the current version of the Laguna WQT Framework, which is but one element of that comprehensive vision.

5. *Future actions should focus on sequestration goals and associated actions (e.g. removal of legacy sediments, capture and reuse of TP, removal of TP from the water column, etc.).*

Same as 4.

6. *Compliance options should focus on restoring ecological functions and achieving multiple benefits.*

Same as 4.

7. *Regulatory solutions should take a system wide-view to address nutrient loading.*

The Regional Water Board's comprehensive vision for beneficial use recovery in the Laguna de Santa Rosa watershed is consistent with this principle. TMDLs (or their equivalent) now under development for the Laguna de Santa Rosa are designed to take a system-wide approach to addressing not only pollutant loading, but ecosystem responses as well.

#### Potential Constraints of the Framework Idea.

Under the existing regulatory framework, nutrient reduction and ecosystem restoration investments made by NPDES dischargers are accounted for solely on the basis of one currency – pounds of phosphorus – despite the fact that such investments may result in many other types of benefits. This may limit the types of practices and projects that the City of Santa Rosa and Town of Windsor may entertain for purposes of meeting their NPDES permit compliance obligations.

Under the current regulatory framework, it is possible that WQT credits paid for by an NPDES discharger could expire before they are needed (i.e., based on 3-5-year credit banking allowances in the Laguna WQT Framework).

Under the proposed Laguna WQT Framework, the cost of WQT credits to be used by an NPDES discharger to meet its compliance obligations is likely to be greater than the cost of credits generated to date under the Santa Rosa Nutrient Offset Program.

Until TMDLs for the Laguna de Santa Rosa can be completed and are approved, some attractive implementation options may be technically or administratively difficult to support, for both scientific and legal reasons.

#### Identify data / information needs to assess the Framework Idea Further

Time is needed. Data and information needs are generally already known for Laguna TMDL development, Laguna WQT Framework implementation, Laguna Master Restoration Planning efforts, Regional Monitoring Program development and implementation, and various grant-funded activities (i.e., Proposition 1 grants, Conservation Innovation Grants, and others).

## Discussion

A BRP member asked Matt St. John to explain how Guiding Principle 4, “Future approaches to reduce water quality impacts should incentivize beneficial actions and discharger behavior” is reached in his proposal. Matt St. John reiterated that the Regional Water Board’s comprehensive vision for beneficial use recovery in the Laguna de Santa Rosa watershed, including the WQTF, is consistent with this principle. Mr. St. John also acknowledged that there is not a completed master restoration plan or regional monitoring plan. When TMDL’s are approved, the hope is that by then all of the components outlined in the RWQCB presentation at Meeting 2 (e.g. the “wagon wheel”) will be implemented.

Wendy Trowbridge stated that her proposal is potentially a subset of the RWQCB proposal. She stated the constraint that it’s difficult to predict benefits from projects. She stated that both her proposal and Matt St. John’s suffer the same problem of how to identify a project, verify the credits, implement the project and verify the results.

General discussion about the fact that there is good data on how the Water Quality Trading Framework (WQTF) works but not on project outputs that demonstrate actual phosphorus reductions and therein exists the uncertainty of the current WQTF. Discussion took place about whether projects could be treated as pilot efforts so that project proponents and the regulators could do monitoring and assessment and allow everyone to learn and be adaptive. Matt St. John stated that further discussion is needed to determine whether monitoring and assessment can qualify for permit compliance, but he supports the pilot project concept.

The group discussed the challenges of getting a project funded and built when there is uncertainty about the return on investment from a water quality credit trading perspective. Several members returned to a concern that despite RWQCB intentions to incentivize projects and project investments, only actions that actually remove phosphorus generate credits. These members are concerned this can dis-incentivize innovation. Don McEnhill stated that in a market-based system, the City’s job is to pay the lowest dollar per pound of phosphorous credit that it can. The BRP discussed that some large projects that might create long range significant reductions of total phosphorus (TP) can’t be fully proven or therefore credited, and so investors like the City must necessarily fund the lowest cost option for compliance, even if doing so reduces potential investment in doing a large-scale restoration project. The panel discussed the need for an adaptive approach, whether through the current framework or a different proposal that can implement pilot efforts but also provide regulatory credits, gather better data on practices that prove effective in reducing loading and/or increasing assimilative capacity, and then can be expanded over time.

Amelia Whitson and Matt St. John pointed out that the trading framework has considerations to incentivize multi-benefit projects and that there are data sets (e.g. Natural Resource Conservation Service) that can be part of the trading framework and inform the proposals. Specifically, it was pointed out that in addition to extended credit banking for multi-benefit projects, applicants can propose to reduce a trading ratio, or to propose a longer project life in order to receive long-term credits for the initial investment.

Ben Horenstein stated that he found the constraints identified in the RWQCB proposal to be thoughtful and accurate and that the City and Board probably see said constraints differently. He stated that the discharger community generally supports market-based programs and that the framework does give the



City a means to comply (albeit the City still believes that no net loading is problematic). However, he also stated that for the City, the issue is timing and how incentives can feel like more constraints.

Ben Horenstein continued with comments about the RWQCB's assessment of Guiding Principle #2 and the proportional equity assessing legacy discharges by the City versus legacy conditions associated with agriculture and other past dischargers. Discussion ensued with differing opinions by BRP members about the proportional responsibility that the City should have for legacy discharges. Most participants agreed that there is a role the City has played in past loading of TP and that there is a lack of definitive data about legacy proportions.

#### *Straw Poll*

In closing this discussion, the Facilitator asked for public comment and there was none. It was agreed that since the RWQCB proposal is essentially a summary of current conditions, taking a straw poll was unnecessary.

#### Maximizing Watershed Benefit through Multi-Benefit Compliance Option

Sean McNeil presented a proposal jointly prepared and submitted by the City, Russian River Keeper, and The Laguna de Santa Rosa Foundation. This proposal was initially presented at Meeting 2 by Rita Miller of the City but had since been revised and expanded upon. The proposed idea is that a new program would co-exist with the current framework, using the current framework as a "backstop" to ensure compliance. The new program would define how much money would be required during a permit term, and the money would go towards what is most needed in the watershed.

#### Framework Idea: Maximizing Watershed Benefit through Multi-Benefit Compliance Option

##### **Introduction**

The Russian River Keeper, The Laguna de Santa Rosa Foundation, and the City of Santa Rosa all agree that large scale restoration projects are critical to addressing the water quality problems in the Laguna de Santa Rosa. We feel that the Phosphorus Water Quality Credit Trading Framework could be used to fund this type of restoration, but it is not currently adequately developed to allow the City to use compliance dollars to fund restoration. There are currently no restoration related approved practices, there is no developed bank of projects for the City to purchase credits, and there is no clear verification process. We would like to propose the following alternative NPDES Discharge Permit compliance option that would allow the funds to be spent on a range of possible restoration-related activities, including; creating approved practices, developing a credit bank, direct restoration projects, advancing the water quality science in the Laguna and tributaries to better understand Laguna ecology and ecosystem recovery, and support for project implementation such as project scoping, design, and permitting. This approach is similar to other regulatory compliance programs (e.g. CV-SALTS and the San Francisco Bay Nutrient Management Strategy), where compliance actions are used to gather data and restore functions to impaired water systems. This would be a temporary compliance option that would be phased out once adequate restoration credits are available at a reasonable price or a TMDL is completed.

##### **Framework Idea**

The proposed Multi-Benefit Compliance Option is designed to ensure that regulatory compliance is structured to enable the City's funds to be used for watershed activities that advance restoration without a pound-for-pound accounting for P. The proposal requires that the NPDES permit be

modified to state that the City will have a choice between two compliance pathways to address water quality issues in the Laguna de Santa Rosa watershed. The first compliance pathway would be the existing no-net loading phosphorus limitation as currently written, including the Trading Framework for implementation. This will provide the backstop to ensure that there is no backsliding on the regulations and would retain the current structure as an alternative for dischargers. The second compliance pathway could be for the City to make specified annual monetary contributions to address water quality related Laguna restoration activities.

Key elements of the Multi-Benefit Compliance Option:

- City has a specified annual contribution towards the program written into the discharge permit
- The amount of the annual contribution will be determined by the Water Board, influenced by the average spend by the City under the current approach and costs of dredging legacy phosphorus from the Laguna watershed
- Over the permit term (5 years), if the discharges are greater than the baseline developed as the basis for the required contribution (or lesser) then the next permit term will have a commensurate increase (or decrease) in the required funding

Elements to consider for the Multi-Benefit Compliance Option:

- Decisions on how the City's contribution would be spent
  - A charter could be drafted outlining goals and objectives of the program
  - A regional stakeholder steering committee could be convened to recommend approaches for the City's spend. Or, the Regional Board could make the decisions without input
  - The Laguna-Mark West Creek Watershed Master Restoration Planning Project (and similar documents) could be used to help identify projects
- Approaches to implementing projects
  - A Non-profit organization could be designated to implement the restoration activities with funding from the City out of the required spend
  - Or, the City could be asked to implement the projects, or it could vary based on the nature of the project. For example, if some of the spend were to be directed to the RRMP, the required amount could go directly to the SFEI project

#### Anticipated Benefits from the Framework idea

This approach would provide/support:

- Funds could be spent on developing larger projects that require long-term financial support through concept development, design and permitting phases as well as the implementation phase
- Provides reliable annual funding that can accumulate and be allocated for direct investment in prioritized multi-benefit watershed projects that decrease legacy phosphorus and increase the assimilative capacity of the watershed like emergent wetlands and floodplain re-connectivity
- Potential funding source for R3MP currently in development that would fill in key data gaps for the watershed and support/expedite the creation of the Laguna TMDL.
- Sustainable and certain regulatory compliance for the City over the next and potentially subsequent permit terms
- Stability in sewer rates/ratepayer cost obligations (for businesses & residents) related to compliance.

Certainty on restoration activities regardless of the weather-dependent amount of P discharge by the City	
Guiding Principles Achieved	
<ol style="list-style-type: none"> <li>1. <i>Future actions and guidelines should result in the highest public benefit per dollar spent.</i> This proposal allows the option of funds to go towards “higher priority” large multi-benefit projects versus lesser-benefit smaller projects with easy-to-quantify phosphorus credits.</li> <li>3. <i>Regulatory requirements should be addressed as existing obligations and not as new voluntary actions.</i> This proposal would require that the City commit to providing annual funding to develop and implement restoration projects in the watershed.</li> <li>4. <i>Future approaches to reduce water quality impacts should incentivize beneficial actions and discharger behavior.</i> This program provides an incentive to the City to contribute towards ecosystem restoration activities vs. being driven towards chemical treatment for phosphorus reduction</li> <li>5. <i>Future actions should focus on sequestration goals and associated actions (e.g. removal of legacy sediments, capture and reuse of TP, removal of TP from the water column, etc.).</i> Projects could be prioritized based on the latest available science that would result in the funding of projects with the greatest opportunity to improve water quality and beneficial use protection throughout the watershed.</li> <li>6. <i>Compliance options should focus on restoring ecological functions and multiple benefits.</i> By broadening compliance beyond quantifying pound-for-pound, this alternative would allow the funding of projects with multiple benefits that all contribute towards ecosystem restoration.</li> <li>7. <i>Regulatory solutions should take a system wide-view to address nutrient loading.</i> This program provides for regional decision-making to direct funding towards the restoration projects that would have the greatest impact. Furthermore, were some of the funding to go towards the R3MP, it would expedite the completion of the Laguna TMDL which would allow the Regional Board to begin in all of the nutrient contributors to the Laguna under one umbrella regulatory construct.</li> </ol>	
Potential Constraints of the Framework Idea.	
Potential Constraints	Potential Solutions
There could be a concern that the Program does not deal directly with phosphorus as the pollutant of concern, and is therefore not “equivalent”.	The impacts to the Laguna are complex and go far beyond a single biostimulatory nutrient like phosphorus. This process allows the City dollars to invest in multi-benefit projects that may reduce phosphorus loads, but may also address legacy sediments and/or directly address biostimulatory problems thus better achieving the goals of protecting the beneficial uses of the Laguna.

Lack of prioritized actions for Laguna may be problematic for determining when/how/where to spend funding for maximum benefit.	The Laguna-Mark West Creek Watershed Master Restoration Planning Project is producing an ideal document to help prioritize projects.
There have already been considerable effort and funds spent on developing the Water Quality Trading Framework.	The Water Quality Trading Framework will be available with the compliance option one. The framework will also be an important tool in the future TMDL implementation
Identify data / information needs to assess the Framework Idea Further	
<ul style="list-style-type: none"> <li>Negotiated funding amount from City over permit term including details on how to calculate changes in funding amount based on changes in discharge throughout permit term</li> <li>Approach to prioritize where the money would be spent</li> <li>Governance structure for the watershed restoration entity</li> </ul>	

### Discussion

Don McEnhill added that as a partner in the joint proposal, a key goal is to create a clear pathway towards restoration. This would address set-up costs for something like an emergent marsh idea. As discussed during the prior proposal, he sees impediments in the trading framework towards restoration projects. Likewise, Wendy Trowbridge, as partner, reiterated that the Foundation wants to see resources go towards removing phosphorous from the Laguna and that they look to the RWQCB to focus the process, allow for iterative learning and achieving regulatory credits while this learning happens.

Amelia Whitson pointed out potential conflicts of the proposal:

- Anti-backsliding: Having two alternative compliance options may be considered backsliding if one option ends up being less stringent in water quality impact reductions. If a less stringent option is to be incorporated into the NPDES permit, it would need a justification that meets regulatory requirements.
- Water quality improvements: While use of the proposed program would be beneficial to collect more data and improve knowledge and future projects, there has to be a demonstrable relationship with water quality improvements and that is not clear in the proposal.

Matt St. John pointed out that this proposal would require an amendment to the current permit and asked if the proposed approach would be no less stringent than the current no net-loading requirement. Discussion ensued about further refinements of the proposal that would be needed to ensure that it is not seen as backsliding, nor could it be interpreted as such.

Further discussion took place about whether there is a way to temporarily backslide as a means to ultimately take a big step forward. John Largier stated that backsliding is rate of discharge, not impact, and that is a problem. So much depends at times on how much rain falls on the watershed.

The Facilitator asked Matt St. John and Amelia Whitson if there are parts of this proposal that could be acceptable or revised to be, and/or are there parts that would likely not be reconcilable. Matt St. John stated that the goal in the proposal to support restoration can absolutely be supported but that having an amount of money spent that represents compliance without a tie to water quality improvements is

very challenging. There is room to look at it. There may be a key opportunity in the concept of pilot projects because the goal therein would be to achieve water quality improvements. The group remained in a conundrum on how to accommodate the regulatory constraints of potentially not meeting water quality improvement goals early on but with a hope of and/or actual later outcome that generates significant improvements.

Discussion took place about steps being taken throughout the US that are perceived to be moving away from the prescriptive language of federal and state water quality statutes and instead moving toward capitalizing on innovation and creativity as a means to achieve ultimate ecosystem and water quality improvement goals.

Don McEnhill described examples of permits where compliance is averaged. He acknowledged that he is worried about the proposal being tied to dollars and not TP removal. He stated that under the current trading program, money spent is going towards process, not towards direct removal of TP and that he would like to see within a 5-year permit term perhaps year 1 of preparation, some time for permit analysis, etc. such that there is pragmatism in removing TP. He stated that in some ways, he doesn't see a large difference between this proposal and the current water quality trading since there are set-up costs both ways.

Amelia Whitson pointed out that the current trading framework takes into consideration the time it takes to start projects and that it accounts for dollars per TP removal and that she believes there is a thoughtful averaging period to address this.

The Facilitator asked for public comment. A member of the public asked if the proposers believe it would be just the Laguna that would be helped by such a program. Ben Horenstein answered that while the Laguna would be an obvious target of project implementation and water quality improvements, the proposal is considered to have broader geographic benefits than just the Laguna.

David Kuszmar, RWQCB, asked a clarifying question about whether there would be a no net loading effluent limitation still in effect under the proposal. Ben Horenstein stated that this represents discussions to be had within the City and that he doesn't have an answer to this yet. The RWQCB and the city will need further discussions to refine the proposal and determine appropriate permit language revisions. David Kuszmar also asked how the City would expect the regulators to determine compliance if the proposed alternative compliance pathway is used. Is compliance only a factor of whether the City pays its targeted financial contribution? Ben Horenstein stated that the City is open to accepting other requirements and that the proposal need not be tied to paying a fee as the only requirement. David Kuszmar also asked whether there would be any proposed limits to phosphorus discharge under the proposal. Ben Horenstein responded that the net discharge would remain the same as a means to improve water quality but that the methods and locations to achieve that net discharge might differ from under the current framework.

The Facilitator returned to the BRP to ask for any amendments to the proposal before he called a straw poll. Wendy Trowbridge stated that she likes the idea of stakeholders in or out of the watershed being able to contribute to planning and compliance if there are ways such contributions can be shown to improve the water quality improvement goals in this basin.

### Straw Poll

The Facilitator stated that what he hears is an interest for the current proposal to be expanded or refined to include language about averaging water quality improvements over time, to clarify whether the no net loading effluent limitation would remain in effect, and to clarify how compliance would be assessed in order to support long term watershed improvements. He also stated that he heard an interest to better define how money spent on project planning and assessment (i.e. “ramp-up” tasks) would be factored into compliance determinations, and an interest in including language about effective targets for assessing compliance under this proposal.

He asked if with such adjustments, anyone would be conceptually opposed to this proposal. No BRP members voiced conceptual opposition.

### Expanded Storage and Reuse

Amelia Whitson discussed an idea about expanded storage to help the City increase recycled water reuse. She confirmed that she is not in a position to make a formal proposal but that discussions at Meeting 2 and subsequently between Rita Miller and herself about Santa Rosa’s Water Reuse System facilities had her wondering about the ideas of storage and reuse. She stated that she had not heard much discussion about this possibility but that it does not seem exclusive to of any other proposals and that it also may fit within the current WQTF.

Framework Idea
Explore options for increasing wastewater reuse and/or storage
Anticipated Benefits from the Framework idea
Reduces or potentially eliminates phosphorus discharges into the Laguna from the City of Santa Rosa
As a result, reduces or potentially eliminates need for City of Santa Rosa to offset phosphorus discharges
Guiding Principles Achieved
5 (capture and reuse of TP, removal of TP from the water column)
6 (increasing reuse achieves multiple benefits)
Potential Constraints of the Framework Idea
Cost? (see further data/information needs)
Demand for additional wastewater reuse? (see further data/information needs)



Identify data / information needs to assess the Framework Idea Further
Comparative costs of these options vs. other means of compliance (through offsets or other compliance options)
Assessment of potential/future increased demand for additional wastewater reuse

### Discussion

City representatives stated that expanded storage is a very rational idea to support maximizing beneficial reuse. They stated, however, that associated costs are a huge constraint (e.g. buying land, engineering and building storage, environmental permitting and mitigation costs to address impacts to special status species).

Discussion ensued with a member asking if additional storage could be part of a recharge project. The City responded that unfortunately there are limited areas of highly permeable soils in the targeted area of improvements which would limit the amount of effective recharge that could be achieved. Using lands for expanded storage facilities that may increase the likelihood of TP migration and potentially impact private landowners if done on private property. A participant asked if the flood bypass model used in the Central Valley could offer some options wherein landowners were historically paid a flowage easement for their property that allowed high waters to be stored on said land indefinitely. The City said this could be an interesting idea to look at. Michael Cohen asked if discharge out of the watershed could be feasible such as discharging into the Petaluma River. This option would provide a more direct discharge route to the Bay and saline water and thus bypass impacts to the Laguna's freshwater system and the Russian River estuary which closes up at certain times of the year from sand bars at its mouth.

Amelia Whitson stated that this idea could extend to other proposed ideas and it might be worthwhile to integrate these ideas into a new proposal and/or the current WQTF. Don McEnhill expressed concern about the idea because increased or expanded reuse may create longer term soil and groundwater quality impacts as pollutants of concern tend to accumulate over time.

The Facilitator asked for public comment and there was none. He proposed that the idea brought forth seems to have some interest by BRP members and that there need to be some caveats that expand the idea. These caveats would include:

- Discussion about associated cost efficiencies as a means to reflect that expanded reuse and storage are interesting ideas but would not be feasible unless they pencil out economically.
- Expanded reuse and storage can't generate redirected water quality effects (e.g. negative impacts if water is moved out of the watershed, negative effects from long term accumulation of constituents of concern such as pesticides, metals, etc.) and so could not be used to offset discharges.
- Broader discussion and ideas about what constitutes "storage."

### Straw Poll

The BRP agreed with these caveats as being accurate to the discussion thus far. The Facilitator then proposed that given the time of day and the need for some members to leave right at 2 pm, that he not move to take a straw poll on this idea but instead, move on to the BRP outcomes portion of the agenda and call for final straw polls and roll calls at that time. The panel agreed.

## Emergent Marsh Phosphorus Bank

*During this BRP meeting, the Emergent Marsh proposal was presented after Roll Calls were taken for the Maximizing Watershed Benefit through Multi-Benefit Compliance Option and Expanded Storage and Reuse proposals, because of time constraints for some members, and because Wendy Trowbridge expressed that her proposal is potentially a subset of the RWQCB proposal and may not need to stand alone. The summary of the proposal and ensuing discussion is included in this portion of the Meeting Summary for conceptual consistency.*

Wendy Trowbridge described her proposed idea of using a built emergent marsh that would be treated as a credit “bank” for other parties needing to establish permitted credits to remove and/or assimilate TP.

Framework Idea
Emergent marsh phosphorus bank
Anticipated Benefits from the Framework idea
The Laguna de Santa Rosa Foundation proposes a restoration credit bank in the lower Laguna. There are hundreds of acres of <i>Ludwigia</i> along the Laguna de Santa Rosa that could be restored to emergent marsh through a combination of altering the hydrology, dredging of legacy sediments, replanting natives and removing <i>Ludwigia</i> . This would change the internal cycling of phosphorus in the Lower Laguna and increase the assimilative capacity of this reach. The planning grant that we already have could allow us to lay the groundwork to create a bank of potential credits, with all the regulatory approvals and landowner agreements in place so that when the City needs credits they could just go to the bank and pay for the restoration that they need to get those credits. This would eliminate some of the uncertainty about the price and availability of credits. If we could demonstrate the effectiveness of these treatment wetlands then the city could continue to get credits for 20 years for these projects which would help with the variability of their needs as well.
Guiding Principles Achieved
It is clear that this project would achieve the guiding principles 3-7. 1 is more complicated because it is hard to know what the alternatives are.
Potential Constraints of the Framework Idea.
<p>The largest obstacle is the determination of how many credits could be generated per acre. The literature is clear that treatment wetlands do remove phosphorus from a variety of waters, but the amounts are variable. The Water Board has established a high bar for documenting approved practices and there is not funding available to assemble the necessary qualified individuals to meet this requirement. A pilot study would be the best way to determine how much phosphorus a marsh would really remove. If such a study could be funded with credit money based on available literature, it might be possible to move the bank forward. The City’s proposed Multi-Benefit Compliance Option could provide a pathway to fund the establishment of such a bank.</p> <p>Landownership is also a constraint. Only a small portion of the land that would create this future bank is owned by the City. The single largest landowner is CDFW. They are involved with our existing</p>

planning grant (they funded it) and I think they might be willing to participate if we could demonstrate the potential of this approach with a pilot study (on someone else's land). There are also willing private landowners and available funding to purchase conservation easements.

Identify data / information needs to assess the Framework Idea Further

We can't do anything until we agree on how much phosphorus per acre a treatment wetland could reasonably be expected to remove.

### Discussion

Discussion ensued about the benefits, drawbacks and rationale of such a project. Wendy Trowbridge described that in her estimation a freshwater marsh doesn't "pencil out" in a cost/benefit analysis. An emergent marsh project might do so. It would also be an effort to address *Ludwigia*. Members stated that it could restore ecologic functions and enhance the wildlife ecology of the Laguna and that multi-benefit compliance is an effective pathway to consider for the regulated community. Members asked what it might cost but Wendy Trowbridge did not yet have that information. Panel members suggested this idea could be part of a broader package of future approaches to consider, perhaps embedded in some of the other proposals also discussed by the BRP.

### Straw Poll

For procedural consistency with the rest of the day, The Facilitator asked to take a straw poll. There was no BRP opposition to the proposal. The Facilitator then asked for public comment and there was none.

### Final BRP Roll Call

Roll call votes all indicate support or lack of support for the proposals indicated, with noted needs for adjustments and refinements as previously summarized in the above Straw Polls.

#### Maximize Opportunities within the Existing Regulatory Framework

Proposed by Matt St. John, RWQCB

It was agreed that since the RWQCB proposal is essentially a summary of current conditions, taking Roll Call was unnecessary.

#### Roll Call on Maximizing Watershed Benefit through Multi-Benefit Compliance Option

Proposed by the City, River Keeper & Foundation

- Support: Ethan Brown, John Largier, Don McEnhill, Wendy Trowbridge, Michael Cohen
- Can Accept, if not Support: None
- Do not support: None
- Abstain: Amelia Whitson, Matt St. John

#### Roll Call on Expanded Storage and Reuse

Presented by Amelia Whitson, US EPA

- Support: Wendy Trowbridge, John Largier, Michael Cohen
- Can Accept, if not Support: Don McEnhill, Ethan Brown
- Do not support: None

- Abstain: Amelia Whitson, Matt St. John

#### Roll Call on Emergent Marsh Phosphorus Bank

Proposed by Wendy Trowbridge, Laguna de Santa Rosa Foundation

- Support: Ethan Brown, John Largier, Don McEnhill, Wendy Trowbridge, Michael Cohen
- Can Accept, if not Support: None
- Do not support: None
- Abstain: Amelia Whitson, Matt St. John

## Summary/Conclusions

The City deeply appreciated the time, commitment and considerable thought that the members of the Phosphorus BRP provided to help develop the Guiding Principles as well as evaluate the proposals and recommendations provided in this final report. Panel members participated in more than ten hours of informational presentations and discussed a range of options related to watershed oriented, cost effective nutrient management while also considering ways to integrate beneficial reductions in sediment loading, habitat enhancements and reducing other water quality impairments to maximize the potential ecological uplift within the Laguna. The group also read documents related to phosphorus and water quality regulations between meetings.

Throughout the process, BRP members explored an initial range of options for restoring the Laguna de Santa Rosa's beneficial uses as defined in the North Coast Basin Plan. The future role of the Phosphorus BRP and this final report will continue to evolve as the City and the Regional Board continue to negotiate the terms of the City's future NPDES discharge permit(s). The City may also reach out to members of the panel to further refine the phosphorus reduction proposals identified in this report to support the implementation of one or more of the proposals created in this process. In the near term, the City plans to present the findings of the panel, including the "Guiding Principles" and the proposals approved by the panel, to the Regional Board. The City also intends to continue its discussions with the RWQCB to refine and alternative compliance approach that maximizes watershed benefits and assures compliance.

## Attachments

Attachment A: BRP Charter

Attachment B: BRP Guiding Principles

Attachment C: BRP Meeting 1 Agenda

Attachment D: BRP Meeting 2 Agenda

Attachment E: BRP Meeting 3 Agenda

Attachment F: BRP Meeting 1 Summary

Meeting 1 Presentations:

Attachment G: BRP Overview Sheet

Attachment H: Laguna Background Presentation

Attachment I: Wastewater Treatment/ Recycled Water Reuse Program - Environmental Protection/  
Regulatory Compliance Presentation

Attachment J: BRP Meeting 2 Summary

Meeting 2 Presentations:

Attachment K: Water Quality Trading Framework for the Laguna de Santa Rosa Watershed  
presented by David Kuszmar, RWQCB

Attachment L: Nutrient Management in California: A Current Perspective presented by Tom  
Grovehoug, Larry Walker Associates

Attachment M: Chemically Enhanced Treatment for Phosphorus Reduction presented by Linda  
Sawyer, Brown & Caldwell

Attachment N: BRP Meeting 3 Summary