RICHARD WATSON & ASSOCIATES, INC.
Urban & Regional Planning

8 December 2004

Mr. Benjamin Tobler
Water Resource Control Engineer
California Regional Water Quality Control Board,
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92124-1324

Re: Public Review Draft Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek

Dear Mr. Tobler:

Thank you for the opportunity to submit the following comments regarding the October 15, 2004 Public Review Draft Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads (TMDLs) for Rainbow Creek. I am providing these comments on behalf of Hines Horticultural, Fallbrook Nursery. In this letter, I will address two broad issues: nutrient criteria in developing TMDLs and some of the deficiencies in the Resolution and the Draft Basin Plan Amendment.

Use of Appropriate Nutrient Criteria is Necessary for TMDL Development

As part of its national strategy to develop nutrient criteria, USEPA noted that states and tribes may "need to identify with greater precision the nutrient levels that protect aquatic life and recreational uses." Together with EPA Region 9, California is in the process of doing this. A pilot study indicated that if the EPA reference-based ecoregion criteria are adopted, "a large number of potentially un-impacted waterbodies would be misclassified as impaired." Therefore, California is pursuing EPA-approved alternate nutrient criteria.

The proposed California approach uses selected biological responses in addition to nutrient concentrations. The development of nutrient criteria and nutrient TMDLs includes an ecological risk assessment. The intent is to control excess nutrient loads or concentrations to levels at which the probability of impairing beneficial uses is low. If the nutrients in the waterbody – regardless of their actual magnitude – have a low probability of impairing uses, water quality standards can be considered to be met.

21922 Viso Lane • Mission Viejo, CA 92691-1318 USA • 949.855.6272 • Fax 949.855.0403

The proposed approach in California for nutrient criteria uses both a) intermediate measures or indicators (such as chlorophyll concentrations), and b) a measurement of exposure or nutrient concentration targets, with the latter based on the former. Further, the California approach involves three natural tiers for evaluation of nutrient impacts. Rainbow Creek appears to fit into the grey area of Tier II, in which impairment is a reasonable possibility, but not a certainty.

As noted in the October 2004 Progress Report on Development of Nutrient Criteria in California, the effects of nutrients on aquatic ecosystems are also influenced by non-nutrient factors that may act differently in individual water bodies. The addition or removal of shade producing trees is one of these factors. Poor biological integrity may be due to habitat alteration, while elevated periphytic concentrations in low order streams may be due more to removal of riparian shading then to nutrient levels. To attribute these impacts to nutrients could result in unnecessarily stringent criteria.

TetraTech prepared a white paper for EPA Region 9 and the State Water Resources Control Board called "The Development of Nutrient Criteria for Ecoregions within California, Arizona, and Nevada." Statements in the white paper reinforce some concerns that Hines has with the proposed TMDLs. Three statements in particular should be kept in mind by this Board as it considers the staff's proposed TMDLs and the opposition to the current draft:

1. "Quantifying whether a waterbody is over-enriched with respect to nutrients is not a task that can be easily accomplished in a simple and direct manner." (page 64)

The current proposed TMDL is staff's third attempt to develop a nutrient TMDL for Rainbow Creek in a "simple and direct manner." Understanding whether or not Rainbow Creek is over-enriched with nitrogen and/or phosphorus is very complex; a TMDL is not yet suitable for calculation as required by federal regulations.

2. "Flow weighted sampling of chemical constituents is required to accurately estimate total loadings of nutrients for the calculation of TMDLs." (page 51)

The current draft TMDL has introduced flow data as we requested in 2002, but the sampling used to support the need for the TMDL was not flow weighted. In fact, sampling was not used to estimate total loadings of nitrogen and phosphorus to the creek. Instead, staff attempted to use inappropriate export coefficients to estimate loads. The letter Hines Nurseries submitted to staff last week addresses this issue in more detail with respect to commercial nurseries and agricultural fields.

3. "Waterbodies that have had a significant portion of their flow contributed from other Ecoregions need to undergo an evaluation to determine if a site-specific criterion is called for." (page 18)

The transfer of water from the Colorado River basin into the Santa Margarita River basin is cited in the white paper as an example of where water transfers are confounding factors in applying nutrient criteria. Rainbow Creek is a tributary of the Santa Margarita River.

Resolution and Draft Basin Plan Amendment Are Deficient

Resolution No. R9-2004-0401 and Attachment A to the Resolution are both deficient. Several of the findings in the resolution are erroneous and/or reflect errors in the Technical Report, and several portions of the Draft Basin Plan Amendment also contain errors and/or reflect errors in the Technical Report. The following findings in the Tentative Resolution are deficient: Findings 1, 5, 6, 8, 9, 10, 11, 17, and 18.

Tentative Finding 1 claims that the proposed amendment to the Basin Plan was developed in accordance with California Water Code Section 13240 et seq. However, the proposed amendment adds new numeric water quality objectives for biostimulatory substances without complying with all elements of Section 13241 which are applicable when the Regional Board establishes new water quality objectives.

Tentative Finding 5 claims that the Basin Plan establishes two numeric objectives for biostimulatory substances when, in fact, it establishes a narrative water quality objective for biostimulatory substances. The discussion of the narrative water quality objective indicates that 0.1 mg/L appears to be an appropriate goal for Total Phosphorus. Then, it provides a ratio that can be used to determine a goal for nitrogen.

Tentative Finding 6 claims that concentrations for nutrients in Rainbow Creek routinely exceed applicable water quality objectives for nutrients and nitrate. However, as explained above, there are no numeric water quality objectives for biostimulatory substances in the Basin Plan. Furthermore, there is no definitive evidence that the narrative water quality objectives have been routinely exceeded.

Tentative Finding 8 claims that numeric targets in the proposed TMDL have been set equal to the numeric water quality objectives cited in Finding 5. However, as explained above, the Basin Plan does not actually establish numeric water quality objectives for water quality objectives.

Tentative Finding 9 cites TMDLs for total nitrogen and total phosphorus that are incorrectly calculated in the Technical Report. This finding also claims that the TMDLs are equal to the assimilative or loading capacity of Rainbow Creek. However, a scientific assimilative capacity study was not actually conducted.

Tentative Finding 10 presents allocations and reductions that were erroneously calculated in the Technical Report. Waste load allocations were not assigned to

two point sources, a load allocation was not assigned to the largest contribution of nitrogen and phosphorus atmospheric deposition. Furthermore, the allocations for commercial nurseries and other nonpoint sources were based on misapplication of export coefficients.

Tentative Finding 11 does not clearly distinguish between point and nonpoint discharges. Furthermore, two point sources that were identified at the November 17, 2004 staff workshop are not listed.

Tentative Finding 17 claims that the Regional Board has considered costs of implementing the amendment. However, the costs for commercial nurseries are understated, and the economic analysis does not comply with California Water Code Section 13241.

Tentative Finding 18 claims that the required environmental documentation has been prepared. However, there is no Functional Equivalent Document comparable to those prepared by the State Water Resource Control Board when it circulated the draft Water Quality Control Plans and Policies for public review.

The deficiencies in the Draft Basin Plan Amendment partially reflect the Resolution deficiencies described above. Other deficiencies in the Draft Amendment reflect errors in the Technical Report that are discussed in other letters or testimony.

Hines Nurseries appreciates that the Regional Board is under pressure from EPA Region 9 to adopt this and other TMDLs, however, we encourage the Board not to adopt a flawed TMDL that is unachievable. Hines continues to be committed to working with the Regional Board to improve water quality in Rainbow Creek and the watershed.

Sincerely,

RICHARD WATSON & ASSOCIATES, INC.

Richard A. Watson

Richard A. Watson, President

RICHARD WATSON & ASSOCIATES, INC.
Urban & Regional Planning

Testimony Regarding the Draft Rainbow Creek Nutrient TMDL
by Richard Watson
Before the
California Water Quality Control Board, San Diego Region
08 December 2004

Good morning. My name is Richard Watson and I am speaking to you this morning on behalf of Hines Nursery in Fallbrook. I will comment here on a few points of concern regarding the proposed nutrient TMDLs, and will provide more detailed comments in my letter submission.

Before I begin, I would like to welcome the new members to the Board. Your identities were finally disclosed on the Governor's web site yesterday. You are going to have to hit the ground running. TMDLs are complicated and serious matters, and nutrient TMDLs are especially complicated. Furthermore, the absence of watershed-specific analysis and the complexities of biological processes make this a particularly challenging TMDL.

A basic law of ecology that I learned many years ago is that everything is related to everything else. One of my major concerns with this draft TMDL is that it leaves out the relationship of atmospheric deposition to nutrients in the creek. For some reason, water boards in California have been slow to address cross-media pollution. I think it is a case of wearing regulatory blinders. Your board issues permits, waste discharge requirements, and waivers related to discharges to receiving waters, so you focus on what you have direct authority to regulate and ignore major sources of pollution over which you do not have regulatory control.

Review of a white paper on "The Development of Nutrient for Ecoregions within California, Arizona, and Nevada" prepared by TetraTech for EPA Region 9 and the State Water Resources Control Board has reinforced my concern with the proposed TMDLs. Three statements in the paper should be kept in mind as the Board considers staff's proposed TMDLs and the opposition to the current draft:

- "Quantifying whether a waterbody is over enriched with respect to nutrients is not a task that can be easily accomplished in a simple and direct manner." (page 64);
- "Flow weighted sampling of chemical constituents is required to accurately estimate total loadings of nutrients for the calculation of TMDLs" (page 51); and
- "Waterbodies that have had a significant portion of their flow contributed from other Ecoregions need to undergo an evaluation to determine if a site-specific criterion is called for." (page 18)

21922 Viso Lane • Mission Viejo, CA 92691-1318 USA • 949.855.6272 • Fax 949.855.0403
www.rwaplanning.com • rwatson@rwaplanning.com

How does the draft Rainbow Creek Total Nitrogen and Total Phosphorus TMDL relate to these statements? First, the current proposed TMDL is staff's third attempt to develop a nutrient TMDL for Rainbow Creek in a "simple and direct manner." Understanding whether or not Rainbow Creek is over-enriched with nitrogen and/or phosphorus is so complex, that a TMDL is not yet suitable for calculation as required by federal regulations.

Secondly, the current draft TMDL has introduced flow data as we requested in 2002, but the sampling used to support the need for the TMDL was not flow weighted. In fact, sampling was not used to estimate total loadings of nitrogen and phosphorus to the creek. Instead, staff attempted to use inappropriate export coefficients to estimate loads. The Hines letter submitted to staff last week addresses this issue in more detail with respect to commercial nurseries and agricultural fields.

Thirdly, the transfer of water from the Colorado River basin into the Santa Margarita River basin is cited in the white paper as an example of where water transfers are confounding factors in applying nutrient criteria. Rainbow Creek is a tributary of the Santa Margarita River.

What Should You Do?

As Tetra Tech notes in one its reports to EPA, "One of the major challenges to the development of criteria is finding a balance between the protection of uses and imposition of economic hardship on dischargers and agriculture." Adopting a TMDL entails the same challenge. Hines Nurseries appreciates that your Board is under pressure from EPA Region 9 to adopt this and other TMDLs. However, we encourage you not to adopt a flawed TMDL that is unachievable.

Furthermore, we recognize that it is natural for Regional Boards to give more credence to staff's assertions and evaluations than to the comments of those who question staff's proposals. In this case, we ask that you take the time necessary to familiarize yourselves with the complexities of this proposal. Staff has tried valiantly to deal with this complex issue, but I am afraid that budget constraints have limited their ability to prepare a draft that is complete and accurate.

In a December 1, 2004 letter to the Board, Hines suggested an alternative approach to adopting this TMDL. This approach would allow you to adopt a TMDL with initial numeric targets for nitrate while creating a framework for establishing appropriate numeric targets for biostimulatory substances and addressing the greatest source of nitrogen and phosphorus from the watershed – atmospheric deposition. Please give this alternative approach serious consideration.

Thank you for the opportunity to provide these comments.