City of Vista

September 14, 2009

Ms. Cynthia Gorham-Test
California Regional Water Quality Control Board,
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Subject: **Recommendations for Changes to the Clean Water Act Sections 305(b) and 303(d) Integrated Report for the San Diego Region, City of Vista Comments**

Dear Ms. Gorham-Test:

Thank you for the opportunity to comment on the 305(b) and 303(d) Integrated Report in support of the 2008 updates. The City supports the letter submitted by the County of San Diego on behalf of the Copermittees in regards to an extension for the public hearing and comment period. However, the City respectfully submits the following comments for your consideration. These comments are organized by water body and pollutant in the order they appear in the Proposed Changes to 2006 303(d) listing table.

Agua Hedionda Creek

1. Phosphorus/Total Nitrogen as N (new listings)
   Decision ID 16308/16309

Listings for Phosphorus and Total Nitrogen as N on the 303(d) list of impaired water body segments are inappropriate at this time. The listing is for impairment of the WARM beneficial use.

The criteria in the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan) states that "water bodies shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses (RWQCB, 2007)." The Basin Plan then establishes goals for phosphorus and nitrogen. While recent water quality data for phosphorus and nitrogen may not meet the *goals*, there is no evidence to indicate that the present concentrations are stimulating growth to the point of nuisance or adversely affecting beneficial uses in Agua Hedionda Creek.

Furthermore, there is a considerable amount of research occurring at the present time which will help to assess nutrients, their impacts on specific water bodies, and develop nutrient numeric endpoint criteria. Data collected under the Lagoon Investigative Order 2006-0076 is currently being assessed by the Southern California Coastal Water

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Research Project (SCCWRP) team in an effort to develop appropriate nutrient numeric endpoint (NNE) criteria that will consider the actual effects of the nutrient loads on the water bodies. Other factors such as dissolved oxygen levels and biomass concentrations will be taken into account to determine what impacts are evident. This research is occurring at the request of the State of CA.

In the San Diego Copermittee's 2007-2008 Annual Urban Runoff Monitoring Report, an analysis was performed to determine the impacts of nutrients on conditions in the receiving waters. Data was collected during the 2007-2008 monitoring period under ambient conditions at the Mass Loading Station (MLS), Temporary Watershed Assessment Station (TWAS), and bioassessment station during fall 2007 and spring 2008, providing spatial and temporal data. The analysis used secondary indicators of nutrient induced eutrophication, as recommended in the NNE methodology (Tetratech 2006). The secondary indicators related to the WARM beneficial use benthic algal biomass, dissolved oxygen, and pH. Concentrations of benthic algal biomass, dissolved oxygen, and pH were within Risk Category I, Presumptive Unimpaired and supporting the WARM beneficial use. Future monitoring and NNE assessments will help to verify these initial findings. (Weston 2009)

Table 1 contains the data collected and NNE assessment findings for the WARM beneficial use in Agua Hedionda Creek (Weston 2009).

Table 1. Nutrient Numeric Endpoint Assessment, Agua Hedionda Creek

Secondary Indicators	Risk Category Boundary	WARM Beneficial Use Benchmarks	AHC MLS		AHC-MLS Risk Category Result*	AHC TWAS		AHC-TWAS Risk Category Result
			9/18/07-9/19/07	5/13/08-5/14/08		9/18/07-9/19/07	5/13/08-5/14/08	
Benthic Algal Biomass (mg chlorophyll-a/m²) maximum	I/II	150	-	55.9	I - Presumptive Unimpaired	-	125.6	I - Presumptive Unimpaired
	II/III	200	-			-	-	
Dissolved Oxygen (mg/l) Streams, mean of 7 daily minimums	I/II	6	-	12.4	I - Presumptive Unimpaired	-	7.3	I - Presumptive Unimpaired
	II/III	4	-	-		-	-	
pH maximum	I/II	9	7.73	8.49	I - Presumptive Unimpaired	7.93	8.01	I - Presumptive Unimpaired
	II/III	9.5	-	-		-	-	

*Beneficial Use Risk-Category I. Presumptive unimpaired (use is supported)
Beneficial Use Risk Category II. Potentially impaired (may require an impairment assessment)
Beneficial Use Risk Category III. Presumptive impaired (use is not supported or highly threatened)

Two of the four supporting Lines of Evidence (LOE) for each pollutant (LOE ID 26573, 26237), for the new listings cite biodiversity impacts, detected in benthic macro invertebrate surveys. While the benthic community does appear to be impacted throughout Southern California's streams, there is often no clear linkage to the cause of these impacts. Low Index of Biological Integrity (IBI) scores can be caused by a variety of factors that may be related to physical conditions (lack of substrate, scouring), chemical conditions, and/or toxicity. In most cases, over many years of stormwater monitoring performed by the San Diego Copermittees, the linkages between the benthic impacts and the other factors have not been clearly defined. In the case of nutrients, the linkage to benthic impacts is not apparent and therefore, the benthic impacts should not

be considered as lines of evidence supporting this listing. If this LOE is considered, references to documented linkages in Agua Hedionda Creek should be provided.

Based on the developing science, lack of observed nutrient related impacts upon initial NNE assessments, and lack of linkage in two of the four supporting LOE, this listing should be re-evaluated and removed. An option may be to include the nutrient listings on the 305(b) list, allowing for further evaluation of the actual impacts related to the nutrient levels in Agua Hedionda Creek as additional data becomes available.

Agua Hedionda Lagoon

1. Indicator Bacteria (delisting)
   Decision ID 6360

The City supports the Regional Board Staff's decision to delist Agua Hedionda Lagoon for indicator bacteria, based on data collected under the Lagoon Investigative Order 2006-0076.

2. Sedimentation/Siltation (delisting)
   Decision ID 6361

The City supports the Regional Board Staff's decision to delist Agua Hedionda Lagoon for sediment, based on the lack of data to support the original listings and the absence of a defined problem at the present time.

Buena Creek

1. Phosphorus/Total Nitrogen as N (new listings)
   Decision ID 16363/16364

Listings for Phosphorus and Total Nitrogen as N on the 303(d) list of impaired water body segments are inappropriate at this time. The listing is for impairment of the WARM beneficial use.

The criteria in the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan) states that "water bodies shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses (RWQCB, 2007)." The Basin Plan then establishes goals for phosphorus and nitrogen. While recent water quality data for phosphorus and nitrogen may not meet the *goals*, there is no evidence to indicate that the present concentrations are stimulating growth to the point of nuisance or adversely affecting beneficial uses in Buena Creek.

Furthermore, there is a considerable amount of research occurring at the present time which will help to assess nutrients, their impacts on specific water bodies, and develop nutrient numeric endpoint criteria. Data collected under the Lagoon Investigative Order 2006-0076 is currently being assessed by the Southern California Coastal Water Research Project (SCCWRP) team in an effort to develop appropriate nutrient numeric endpoint (NNE) criteria that will consider the actual effects of the nutrient loads on the water bodies. Other factors such as dissolved oxygen levels and biomass concentrations will be taken into account to determine what impacts are evident. This research is occurring at the request of the State of CA.

Buena Creek is an upstream tributary to Agua Hedionda Creek. While no specific NNE assessments have been performed at this time, the lack of apparent impacts downstream in Agua Hedionda Creek, as presented above, demonstrate that the nutrients present in Buena Creek do not appear to be causing nuisance or adversely impacting beneficial uses downstream.

The only supporting LOE (LOE ID 6540) is based on concentrations of nutrients alone and the impacts on the water quality have not been demonstrated. Based on the developing science and lack of observed nutrient related impacts in the creek itself, this listing should be re-evaluated and removed.

Buena Vista Creek

1. Dissolved Selenium (new listing)
   Decision ID 16374

Section 3 of the listing policy requires that "in developing the list, the state shall evaluate all existing readily available water quality-related data and information." The policy is also based on a weight of evidence approach as described in Section 1.

Under Order 2007-0001, the San Diego Copermittees have collected water quality data related to Selenium (Se) under ambient and storm conditions at the Temporary Watershed Assessment Station (TWAS) on Buena Vista Creek. This data was collected during the fall, winter, and spring of 2007 and is the most recent Se data available. The samples collected were flow weighted composite samples and are representative of conditions in the creek. All samples analyzed for Dissolved Se were within the establish standard of 5.0 ug/L as referenced in the fact sheet. Table 2 contains the data collected.

Table 2. San Diego Copermittee Selenium Data, Buena Vista Creek

Buena Vista Creek TWAS	Units	Benchmark	Ambient		Storm	
			9/18/07-9/19/07	5/13/08-5/14/08	11/30/08	2/3/08
Dissolved Se	ug/l	5.0	0.9	1.9	0.4	0.3

Decision ID 16374 in the Fact Sheet states that there are three LOE available that support the decision to list. However, LOE 6549 is the only LOE presented. This LOE describes data collected under the Surface Waters Ambient Monitoring Program (SWAMP). The data used to support this listing was collected in 2002. One of the four samples presented was flagged as estimated and noted to be non-compliant with the Quality Assurance Project Plan (QAPP) for the study. Each sample was collected as a grab sample, representative only of the conditions in the water column at the time and location of the sample. Furthermore, the SWAMP data is then compared to a CTR Freshwater Chronic water quality objective. It is inappropriate to compare data from a grab sample to a chronic objective. The chronic objective should be used to evaluate conditions over time at the location and should only be compared to composite samples, i.e. samples collected over a continuous period of time based on flow conditions in the creek. Because of the comparison of the SWAMP data to an inappropriate standard, this single LOE should be excluded from the evaluation.

Given that the Copermittee data collected presented above was collected recently, was obtained from flow weighted composite samples, and is representative of both ambient

and storm conditions, this LOE is strong in demonstrating that there is no impairment caused by Se in Buena Vista Creek.

For these reasons, the City requests a reevaluation of the proposed listing and the removal of Se from the proposed 303(d) list.

Loma Alta Creek

1. Dissolved Selenium (new listing)
   Decision ID 16516

Section 3 of the listing policy requires that "in developing the list, the state shall evaluate all existing readily available water quality-related data and information." The policy is also based on a weight of evidence approach as described in Section 1.

Under Order 2007-0001, the San Diego Copermittees have collected water quality data related to Selenium (Se) under ambient and storm conditions at the Temporary Watershed Assessment Station (TWAS) on Loma Alta Creek. This data was collected during the fall, winter, and spring of 2007 and is the most recent Se data available. The samples collected were flow weighted composite samples and are representative of conditions in the creek. All samples analyzed for Dissolved Se were within the establish standard of 5.0 ug/L as referenced in the fact sheet. Table 3 contains the data collected.

Table 3. San Diego Copermittee Selenium Data, Loma Alta Creek

Loma Alta Creek TWAS	Units	Benchmark	Ambient		Storm	
			9/18/07-9/19/07	5/13/08-5/14/08	11/30/08	2/3/08
Dissolved Se	ug/l	5.0	0.7	1.2	0.2	0.3

Decision ID 16516 in the Fact Sheet presents only one LOE (8875) to support the decision to list the creek for dissolved Se. This LOE describes data collected under the Surface Waters Ambient Monitoring Program (SWAMP). The data used to support this listing was collected in 2002. Each sample was collected as a grab sample, representative only of the conditions in the water column at the time and location of the sample. Furthermore, the SWAMP data is then compared to a CTR Freshwater Chronic water quality objective. It is inappropriate to compare data from a grab sample to a chronic objective. The chronic objective should be used to evaluate conditions over time at the location and should only be compared to composite samples, i.e. samples collected over a continuous period of time based on flow conditions in the creek. Because of the comparison of the SWAMP data to an inappropriate standard, this single LOE should be excluded from the evaluation.

Given that the Copermittee data collected presented above was collected recently, was obtained from flow weighted composite samples, and is representative of both ambient and storm conditions, this LOE is strong in demonstrating that there is no impairment caused by Se in Loma Alta Creek.

For these reasons, the City requests a reevaluation of the proposed listing and the removal of Se from the proposed 303(d) list.

San Luis Rey River

1. Phosphorus/Total Nitrogen as N (new listings)
   Decision ID 17070/17072

Listings for Phosphorus and Total Nitrogen as N on the 303(d) list of impaired water body segments are inappropriate at this time. The listing is for impairment of the WARM beneficial use.

The criteria in the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan) states that "water bodies shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses (RWQCB, 2007)." The Basin Plan then establishes goals for phosphorus and nitrogen. While recent water quality data for phosphorus and nitrogen may not meet the *goals*, there is no evidence to indicate that the present concentrations are stimulating growth to the point of nuisance or adversely affecting beneficial uses in the San Luis Rey River.

Furthermore, there is a considerable amount of research occurring at the present time which will help to assess nutrients, their impacts on specific water bodies, and develop nutrient numeric endpoint criteria. Data collected under the Lagoon Investigative Order 2006-0076 is currently being assessed by the Southern California Coastal Water Research Project (SCCWRP) team in an effort to develop appropriate nutrient numeric endpoint (NNE) criteria that will consider the actual effects of the nutrient loads on the water bodies. Other factors such as dissolved oxygen levels and biomass concentrations will be taken into account to determine what impacts are evident. This research is being conducted for the State of CA.

In the San Diego Copermittee's 2007-2008 Annual Urban Runoff Monitoring Report, an analysis was performed to determine the impacts of nutrients on conditions in the receiving waters. Data was collected during the 2007-2008 monitoring period under ambient conditions at the Mass Loading Station (MLS), Temporary Watershed Assessment Station (TWAS), and bioassessment station during fall 2007 and spring 2008, providing spatial and temporal data. The analysis used secondary indicators of nutrient induced eutrophication, as recommended in the NNE methodology (Tetratech 2006). The secondary indicators related to the WARM beneficial use benthic algal biomass, dissolved oxygen, and pH. Concentrations of benthic algal biomass, dissolved oxygen, and pH were within Risk Category I, Presumptive Unimpaired and supporting the WARM beneficial use. Future monitoring and NNE assessments will help to verify these initial findings. (Weston 2009)

Table 4 contains the data collected and NNE assessment findings for the WARM beneficial use in the San Luis Rey River (Weston 2009).

Table 4. Nutrient Numeric Endpoint Assessment, San Luis Rey River

Secondary Indicators	Risk Category Boundary	WARM Beneficial Use Benchmarks	SLR MLS		AHC-MLS Risk Category Result*	SLR TWAS		AHC-TWAS Risk Category Result
			9/18/07-9/19/07	5/13/08-5/14/08		9/18/07-9/19/07	5/13/08-5/14/08	
Benthic Algal Biomass (mg chlorophyll-a/m^2) maximum	I/II	150		15.4	I - Presumptive Unimpaired		7.3	I - Presumptive Unimpaired
	II/III	200						
Dissolved Oxygen (mg/l) Streams, mean of 7 daily minimums	I/II	6		7.2	I - Presumptive Unimpaired		7.7	I - Presumptive Unimpaired
	II/III	4						
pH maximum	I/II	9	7.74	7.87	I - Presumptive Unimpaired	7.42	7.68	I - Presumptive Unimpaired
	II/III	9.5						

*Beneficial Use Risk-Category I. Presumptive unimpaired (use is supported)
Beneficial Use Risk Category II. Potentially impaired (may require an impairment assessment)
Beneficial Use Risk Category III. Presumptive impaired (use is not supported or highly threatened)

A supporting Line of Evidence (LOE), LOE ID 27028, for the new listings cite biodiversity impacts, detected in benthic macro invertebrate surveys. While the benthic community does appear to be impacted throughout Southern California's streams, there is often no clear linkage to the cause of these impacts. Low Index of Biological Integrity (IBI) scores can be caused by a variety of factors that may be related to physical conditions (lack of substrate, scouring), chemical conditions, and/or toxicity. In most cases, over many years of stormwater monitoring performed by the San Diego Copermittees, the linkages between the benthic impacts and the other factors have not been clearly defined. In the case of nutrients, the linkage to benthic impacts is not apparent and therefore, the benthic impacts should not be considered as lines of evidence supporting this listing. If this LOE is considered, references to documented linkages in the San Luis Rey River should be provided.

Based on the developing science, lack of observed nutrient related impacts upon initial NNE assessments, and lack of linkage in the supporting LOE, this listing should be re-evaluated and removed. An option may be to include the nutrient listings on the 305(b) list, allowing for further evaluation of the actual impacts related to the nutrient levels in the San Luis Rey River as additional data becomes available.

2. Dissolved Selenium (new listing)
   Decision ID 17071

Section 3 of the listing policy requires that "in developing the list, the state shall evaluate all existing readily available water quality-related data and information." The policy is also based on a weight of evidence approach as described in Section 1.

Under Order 2007-0001, the San Diego Copermittees have collected water quality data related to Selenium (Se) under ambient and storm conditions at the Mass Loading Stations (MLS) and Temporary Watershed Assessment Stations (TWAS) on the San Luis Rey River. The storm event data has been collected since 2001 and covers 20 discrete storm events. The ambient data was added under this Order and samples were collected at both stations during the fall of 2007 and spring of 2008. All samples

collected were flow weighted composite samples and are representative of conditions in the creek. This set of data provides spatial coverage of conditions in the watershed, with the addition of the TWAS. The data set also provides a good temporal representation, as samples have been collected for several years over varying conditions and seasonality.

Storm event samples were collected over a period of seven storm seasons from 2001-02 to 2007-08, for three storms per year, with the exception of the 2007-08 season which monitored two storm events. The majority of the data collected was below detection limits for both total and dissolved Se. Of the data for dissolved Se, there were no exceedances of the CTR Freshwater Chronic Criteria of 5.0 ug/L, see Table 5.

Table 5. San Diego Copermittee Selenium Data, Storm Events, San Luis Rey River

Storm Event	Dissolved Se (ug/L)
11/29/01	<0.002
2/17/02	<0.002
3/17/02	<0.002
11/8/02	<0.004
2/11/03	<0.004
2/25/03	<0.004
11/12/03	<0.005
2/2/04	<0.005
2/18/04	<0.005
10/27/04	<0.005
2/11/05	<0.005
2/18/05	<0.005
10/17/05	<0.005
12/31/05	<0.004
2/19/06	<0.005
10/14/06	<0.004
1/31/07	<0.004
2/19/07	<0.004
11/30/07	0.2
11/30/07	0.5
2/4/08	0.5
2/4/2008	0.6

Table 6 contains summary statistics for the storm event data. Where non-detect values were present, ½ the detection limit was used for the analysis.

Table 6. Summary Statistics for Storm Event Data, San Luis Rey River

n	22
Non-detects	18
Mean	1.764
Max	2.5
Min	0.2
Exceedances	0

Order 2007-0001 requires monitoring at the MLS and TWAS stations during ambient conditions as well. These data collected at the San Luis Rey River MLS and TWAS stations are presented below in Table 7. All samples were well below the CTR Freshwater Chronic Criteria for Se.

Table 7. San Diego Copermittee Se Data, Ambient Conditions, San Luis Rey River

SLR	Units	Benchmark	Ambient			
			MLS	TWAS	MLS	TWAS
			9/18/07-9/19/07	9/18/07-9/19/07	5/13/08-5/14/08	5/13/08-5/14/08
Dissolved Se	ug/l	5.0	0.4	0.5	0.7	0.6

Decision ID 17071 in the Fact Sheet presents only one LOE (21182) to support the decision to list the creek for dissolved Se. This LOE describes data collected under Surface Waters Ambient Monitoring Program (SWAMP). The data used to support this listing was collected in 2004 and 2005. Each sample was collected as a grab sample, representative only of the conditions in the water column at the time and location of the sample. Furthermore, the SWAMP data is then compared to a CTR Freshwater Chronic water quality objective. It is inappropriate to compare data from a grab sample to a chronic objective. The chronic objective should be used to evaluate conditions over time at the location and should only be compared to composite samples, i.e. samples collected over a continuous period of time based on flow conditions in the creek. Because of the comparison of the SWAMP data to an inappropriate standard, this single LOE should be excluded from the evaluation. Additionally, one of the three samples that exceeded the water quality objective was flagged as estimated and out of compliance with the QAPP.

Given that the Copermittee data collected presented above was collected recently, was obtained from flow weighted composite samples, and is representative of both ambient and storm conditions, this LOE is strong in demonstrating that there is no impairment caused by Se in the San Luis Rey River. For these reasons, the City requests a reevaluation of the proposed listing and the removal of Se from the proposed 303(d) list.

Please contact me at (760) 726-1340 x1373 with any questions concerning these comments.

Sincerely,

Paul Hartman
Stormwater Program Manager

References:

Regional Water Quality Control Board. 1994, with amendments effective prior to April 25, 2007. Water Quality Control Plan for the San Diego Basin.

Tetratech. 2006. Technical Approach to Develop Nutrient Numeric Endpoints for California. Report Prepared for: US EPA Region IX, California State Water Resource Control Board; Planning and Standards Implementation Unit. July 2006.

Weston Solutions. 2009. San Diego County Municipal Copermittees 2007-2008 Urban Runoff Monitoring Report. January 2009.

cc: Rita L. Geldert, City Manager
Lawrence Pierce, Director of Engineering
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