



County of San Diego

RICHARD E. CROMPTON
DIRECTOR

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January 31, 2014

David Gibson, Executive Officer
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

SUBJECT: FISCAL YEAR (FY) 2012-13 ANNUAL REPORT FOR THE SANTA MARGARITA RIVER WATERSHED MANAGEMENT AREA

Dear Mr. Gibson,

In fulfillment of its role as the only Permittee in the Santa Margarita Watershed currently covered by NPDES Order No. R9-2013-0001 (San Diego Regional Municipal Stormwater Permit), the County of San Diego is pleased to submit the Fiscal Year (FY) 2012-13 Santa Margarita River Watershed Management Area Annual Report.

This submittal is comprised of the County of San Diego FY 2012-13 Transitional Jurisdictional Runoff Management Program Annual Report Form and Certification, summary of watershed specific program activities and table of Rainbow Creek TMDL monitoring program results.

We hope that these submittals meet your expectations, and look forward to continued interaction with you and your staff. If you have any questions, please contact Sheri McPherson at (858) 495-5285 or by email at Sheri.Mcpherson@sdcounty.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Cid Tesoro".

Cid Tesoro
LUEG Program Manager
County of San Diego, Watershed Protection Program
Attachments: County of San Diego FY 2012-13 Transitional Jurisdictional Runoff Management Program Annual Report
FY 2012-13 Summary of Activities
FY 2012-13 Rainbow Creek Monitoring results

Cc: Jo Ann Weber
Sheri McPherson



County of San Diego
LAND USE AND ENVIRONMENT GROUP

SARAH E. AGHASSI
DEPUTY CHIEF ADMINISTRATIVE OFFICER

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October 30, 2013

David Gibson
California Regional Water Quality Control Board
San Diego Region 9
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

FY 2012-13 TRANSITIONAL JRMP ANNUAL REPORT SUBMITTAL

Dear Mr. Gibson:

The County of San Diego is pleased to submit the attached Transitional Jurisdictional Runoff Management Program (JRMP) Annual Report for Fiscal Year (FY) 2012-13. This submittal is comprised of the following:

- A summary Jurisdictional Runoff Management Program Annual Report Form (Attachment D of Order No. R9-2013-0001);
- A spreadsheet of watershed-specific reporting data for each of the eight Watershed Management Areas in which the County is a responsible party (Attachment D items IV through VII); and
- A FY 2012-13 Fiscal Analysis.

We hope that this submittal meets your expectations, and look forward to continued interaction with you and your staff. If you have questions, please contact Jon Van Rhyn, Water Quality Program Manager, at (858) 495-5133, or jon.vanrhyn@sdcounty.ca.gov.

Sincerely,

SARAH E. AGHASSI
Deputy Chief Administrative Officer

SA:JVR:js

Enclosures: FY 2012-13 Transitional JRMP Annual Report

**JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
ANNUAL REPORT FORM
FY 2012-13**

I. COPERMITTEE INFORMATION	
I.A Copermittee Name: County of San Diego	
I.B Copermittee Primary Contact Name: Jon Van Rhyn	
I.C Copermittee Primary Contact Information: Address: 5510 Overland Avenue, Suite 410 City: San Diego County: San Diego State: California Zip: 92122 Telephone: (858) 495-5318 Fax: (858) 495-5623 Email: jon.vanrhyn@sdcounty.ca.gov	
II. LEGAL AUTHORITY	
II.A Has the Copermittee established adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 that complies with Order No. R9-2013-0001?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
II.B A Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative has certified that the Copermittee obtained and maintains adequate legal authority?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
III. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATE	
III.A Was an update of the jurisdictional runoff management program document required or recommended by the San Diego Water Board?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
III.B If YES to the question above, did the Copermittee update its jurisdictional runoff management program document and make it available on the Regional Clearinghouse?	YES <input type="checkbox"/> NO <input type="checkbox"/>
IV. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM	
IV.A Has the Copermittee implemented a program to actively detect and eliminate illicit discharges and connections to its MS4 that complies with Order No. R9-2013-0001?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
IV.B.1 Number of non-storm water discharges reported by the public	117
IV.B.2 Number of non-storm water discharges detected by Copermittee staff or contractors	11
IV.B.3 Number of non-storm water discharges investigated by the Copermittee	104
IV.B.4 Number of sources of non-storm water discharges identified	60
IV.B.5 Number of non-storm water discharges eliminated	58
IV.B.6 Number of sources of illicit discharges or connections identified	48
IV.B.7 Number of illicit discharges or connections eliminated	48
IV.B.8 Number of enforcement actions issued	45
IV.B.9 Number of escalated enforcement actions issued	0
V. DEVELOPMENT PLANNING PROGRAM	
V.A Has the Copermittee implemented a development planning program that complies with Order No. R9-2013-0001?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
V.B Was an update to the BMP Design Manual required or recommended by the San Diego Water Board?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
V.C If YES to the question above, did the Copermittee update its BMP Design Manual and make it available on the Regional Clearinghouse?	YES <input type="checkbox"/> NO <input type="checkbox"/>
V.D.1 Number of proposed development projects in review	350
V.D.2 Number of Priority Development Projects in review	97
V.D.3 Number of Priority Development Projects approved	5
V.D.4 Number of approved Priority Development Projects exempt from any BMP requirements	9
V.D.5 Number of approved Priority Development Projects allowed alternative compliance	0
V.D.6 Number of Priority Development Projects granted occupancy	484
V.E.1 Number of completed Priority Development Projects in inventory	250
V.E.2 Number of high priority Priority Development Project structural BMP inspections	46
V.E.3 Number of Priority Development Project structural BMP violations	11
V.E.4 Number of enforcement actions issued	11
V.E.5 Number of escalated enforcement actions issued	0

**JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
ANNUAL REPORT FORM
FY 2012-13**

VI. CONSTRUCTION MANAGEMENT PROGRAM				
VI. A Has the Copermittee implemented a construction management program that complies with Order No. R9-2013-0001?	YES	NO		<input checked="" type="checkbox"/> <input type="checkbox"/>
VI.B.1 Number of construction sites in inventory				1485
VI.B.2 Number of active construction sites in inventory				1484
VI.B.3 Number of inactive construction sites in inventory				1
VI.B.4 Number of construction sites closed/completed during reporting period				545
VI.B.5 Number of construction site inspections				6521
VI.B.6 Number of construction site violations				110
VI.B.7 Number of enforcement actions issued				126
VI.B.8 Number of escalated enforcement actions issued				1
VII. EXISTING DEVELOPMENT MANAGEMENT PROGRAM				
VII.A Has the Copermittee implemented an existing development management program that complies with Order No. R9-2013-0001?	YES	NO		<input checked="" type="checkbox"/> <input type="checkbox"/>
VII.B.1 Number of facilities or areas in inventory	Municipal	Commercial	Industrial	Residential
VII.B.2 Number of existing development inspections	a.257	b.1825	c.175	d.0
VII.B.3 Number of follow-up inspections	a.2604	b.493	c.93	d.0
VII.B.4 Number of violations	a.0	b.156	c.27	d.0
VII.B.5 Number of enforcement actions issued	a.19	b.333	c.79	d.0
VII.B.6 Number of escalated enforcement actions issued	a.12	b.158	c.27	d.0
VII.B.6 Number of escalated enforcement actions issued	a.0	b.0	c.0	d.0
VIII. PUBLIC EDUCATION AND PARTICIPATION				
VIII.A Has the Copermittee implemented a public education program component that complies with Order No. R9-2013-0001?	YES	NO		<input checked="" type="checkbox"/> <input type="checkbox"/>
VIII.B Has the Copermittee implemented a public participation program component that complies with Order No. R9-2013-0001?	YES	NO		<input checked="" type="checkbox"/> <input type="checkbox"/>
IX. FISCAL ANALYSIS				
Has the Copermittee attached to this form a summary of its fiscal analysis that complies with Order No. R9-2013-0001?	YES	NO		<input checked="" type="checkbox"/> <input type="checkbox"/>

X. CERTIFICATION

I [Principal Executive Officer Ranking Elected Official Duly Authorized Representative] certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Sarah Aghassi
Signature

10/30/2013
Date

SARAH AGHASSI
Print Name

LAND USE AND ENVIRONMENTAL GROUP
DEPUTY COUNTY ADMINISTRATIVE OFFICER
Title

(619) 531-5451
Telephone Number

SARAH.AGHASSI@SDCOUNTY.CA.GOV
Email

Santa Margarita River Watershed Management Area

This section summarizes the watershed activities implemented by the County of San Diego during FY 2012-13 in support of the Santa Margarita River WURMP. Water Quality Assessment is not included in this report since reporting was not a requirement for FY 2012-13 Transitional Monitoring and Assessment Program.

Rainbow Creek Total Nitrogen and Total Phosphorus TMDL Activities

Monitoring Program

The County has implemented a water quality monitoring program in the Rainbow Creek Watershed since 2004 to provide data in support of the total maximum daily load (TMDL) for total nitrogen and total phosphorous in Rainbow Creek. The objective of this monitoring program is to characterize baseline conditions for nutrients. Monitoring locations include those identified as “strategic nodes” by the San Diego Regional Water Quality Control Board (SDRWQCB) during the development of the TMDL technical report. Physical water parameters of pH, electrical conductivity, turbidity, dissolved oxygen, temperature, and salinity are measured in the field along with other observations, including flow. Laboratory analyses for nitrate, nitrite, total Kjeldahl nitrogen, ammonia, orthophosphate, total phosphorous, and total dissolved solids (TDS) are conducted on a sub-set of the samples. This monitoring program is consistent with the Rainbow Creek TMDL Monitoring Plan and Quality Assurance and Quality Control Plan approved by the SDRWCB. Monitoring results are attached to submittal as Attachment C.

Rainbow Creek Nutrient Source Reduction Program

During FY 2012-13 the County of San Diego completed the negotiation of California Nonpoint Source Control Program, Federal Clean Water Act Section 319(h) Grant Agreement Number 12-412-259 to implement the Nutrient Source Reduction Program (NSRP) in the Rainbow Creek Watershed. This Program targets the TMDL for total nitrogen and total phosphorus by reducing nonpoint source nutrient loading from agricultural and residential properties and septic systems. The NRSP program elements include:

- Outreach and Education for Agricultural and Residential Property Owners in the form of workshops and on-line tools targeting nutrient source activities;
- Assessment of current conditions and follow-up evaluation of practices implemented as a results of initial assessment for Agricultural and Residential Properties;
- Best Management Practices (BMP) Rebate Program for Agricultural practices and Septic System Maintenance (e.g. pumping); and
- Update the Rainbow Creek Nutrient Reduction Management Plan to include the latest information and science regarding the recommended nutrient-source strategies.

Implementation of this program began June 1, 2013 and will be in full swing in FY 2013-14.

Santa Margarita River Activities

During FY 2012-13, the Santa Margarita Watershed Nutrient Initiative – Stakeholder Group (SMR-NIG) met 7 times. This group of agency representatives and interested stakeholders is in the process of

Santa Margarita River Watershed Management Area

developing a Work Plan and Process Plan to evaluate and develop biostimulatory substance criteria and watershed management strategies for the Santa Margarita estuary, river and tributaries. This work is a follow-on effort to the San Diego Lagoons Investigative Order (R9-2006-0076) (Lagoon Order) and subsequent work plan developed jointly by the San Diego Regional Water Quality Control Board (SDRWQCB) and stakeholders in 2006. This stakeholder process, in coordination with SDRWQCB staff, is focused on evaluating alternative watershed-based approaches that have the potential to eliminate or reduce the need for TMDL development in the Santa Margarita River Watershed and estuary that ensure protection of Beneficial Uses while identifying the most resource-effective solution or solutions to addressing the impairment and identifying other State Board and SDRWQCB priorities such as increased recycled water use, and development of additional local water supplies where feasible.

This effort consists of several phases; the Phase 1 objective is to conduct sampling in the lower Santa Margarita River to improve our understanding of site-specific factors that affect biostimulatory substances. Phase 1 is supported through Proposition 84 grant funds from the San Diego Region Integrated Regional Water Management (IRWM) Program and Upper Santa Margarita Watershed IRWM Program. Additionally, the grant supports the stakeholder group that is weighing in on the development of a model for the estuary funded by United States Marine Corp Camp Pendleton that assists in the assessment of the various sources contributing nutrient loads and their impacts on the estuary. During FY 2012-13, the County of San Diego, on behalf of the SMR-NIG, applied for additional Proposition 84 grant funds from the San Diego Region Integrated Regional Water Management (IRWM) Program and Upper Santa Margarita Watershed IRWM Program to fund Phase 2 of this effort.

On-going information on this effort is available on www.projectcleanwater.org.

Rainbow Creek TMDI Monitoring Results

FY 2012-13

Site ID	Date	Discharge (cfs)	Flow Observed	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (oC)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Iron (mg/L)	Sulfate (mg/L)	
	Field Measurements								Laboratory Measurements										
HST01	7/16/2012		Dry																
	8/1/2012		Dry																
	8/15/2012		Dry																
	9/19/2012		Dry																
	10/25/2012	0.0063	Flowing	7.88	1.33	7	4.23	16.7	0.15	3.20	0.17	<0.007	3.37	0.75	0.88	792	0.79	138	
	11/8/2012	0.0019	Flowing	8.83	1.14	50.00	2.19	17.40	0.55	4.60	0.47	0.59	5.66	0.74	0.99	822	NS	NS	
	12/7/2012		Dry																
	1/9/2013	0.01	Flowing	7.82	2.87	6.55	11.93	13.06	0.06	0.60	2.06	0.10	2.76	0.83	0.99	1,860	0.69	541	
	2/6/2013	0.0072	Flowing	8.05	2.38	3.08	12.11	16.38	0.12	0.70	3.66	0.17	4.53	1.11	1.35	1,520	NS	NS	
	3/12/2013	0.028	Flowing	7.88	2.73	13.00	12.60	16.75	0.27	2.20	6.20	0.13	8.53	0.98	1.20	1,680	NS	NS	
	4/10/2013		Ponded																
	5/21/2013		Dry																
6/24/2013		Dry																	
HST02	7/16/2012		Dry																
	8/15/2012		Dry																
	9/19/2012		Dry																
	10/25/2012		Dry																
	11/8/2012		Dry																
	12/7/2012		Dry																
	1/9/2013	0.0134	Flowing	7.67	1.13	42.60	12.50	11.70	<0.02	0.50	13.60	0.12	14.22	1.74	1.98	696	1.20	154	
	2/6/2013	0.00804	Flowing	8.85	1.70	27.90	14.68	14.77	0.14	1.10	16.90	0.15	18.15	1.27	1.74	962	NS	NS	
	3/12/2013	0.0189	Flowing	7.93	1.69	35.00	13.10	15.79	0.12	2.30	48.40	0.11	50.81	1.32	1.49	978	NS	NS	
	4/10/2013		Ponded																
5/21/2013		Ponded																	
6/24/2013		Dry																	
MGT01	7/16/2012		Dry																
	8/15/2012		Dry																
	9/19/2012		Dry																
	10/25/2012		Dry																
	11/8/2012		Dry																
	12/7/2012		Dry																
	1/15/2013		Dry																
	2/7/2013		Dry																
	3/13/2013	0.001056	Flowing	6.97	2.21	8	7.32	18.4	0.24	0.40	1.74	0.05	2.19	0.24	0.31	1,500	NS	NS	
	4/11/2013		Dry																
	5/22/2013		Dry																
	6/24/2013		Dry																

Rainbow Creek TMDI Monitoring Results

FY 2012-13

Site ID	Date	Discharge (cfs)	Flow Observed	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (oC)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Iron (mg/L)	Sulfate (mg/L)		
	Field Measurements								Laboratory Measurements											
RBC01	7/16/2012		Dry																	
	8/1/2012		Dry																	
	8/15/2012		Dry																	
	9/19/2012		Dry																	
	10/25/2012		Dry																	
	11/8/2012		Dry																	
	12/7/2012		Dry																	
	1/9/2013		Dry																	
	2/6/2013		Dry																	
	3/12/2013		Dry																	
	4/10/2013		Dry																	
	5/21/2013		Dry																	
6/24/2013		Dry																		
RBC02	7/16/2012	0.208	Flowing	7.24	2.18	4	2.99	20.3	1.27	1.60	43.00	0.66	45.26	0.66	0.82	1420.00	0.14	548		
	8/1/2012	0.045	Flowing	7.40	2.15	2	3.20	21.9	NS	NS	45.80	NS	NS	NS	NS	NS	NS	NS		
	8/15/2012	0.036	Flowing	7.50	2.10	0	3.46	22.0	0.14	0.60	33.90	0.36	34.86	0.74	0.92	1,460	NS	NS		
	9/19/2012	0.0495	Flowing	7.18	2.40	2	1.54	20.6	<0.02	<0.3	46.70	0.27	47.12	0.50	0.55	1,580	NS	NS		
	10/25/2012	0.152	Flowing	7.07	2.21	0	5.73	15.7	<0.02	2.80	55.60	0.36	58.76	0.37	0.38	1,510	<0.05	541		
	11/8/2012	0.09	Flowing	7.34	2.18	0	5.30	16.5	<0.02	0.70	55.10	0.15	55.95	0.29	0.32	1,500	NS	NS		
	12/7/2012	0.396	Flowing	7.65	2.12	12	NS	15.0	0.17	3.60	67.80	0.17	71.57	0.20	0.25	1,420	NS	NS		
	2/6/2013	0.36	Flowing	7.22	2.23	6	12.94	13.9	0.17	0.80	34.20	0.58	35.58	0.30	0.31	1,360	NS	NS		
	3/12/2013	0.748	Flowing	7.14	1.97	15	9.04	15.0	8.09	8.20	34.50	1.57	44.27	0.56	0.70	1,200	NS	NS		
	4/10/2013	0.108	Flowing	7.29	2.22	7	7.55	14.6	0.38	0.70	61.90	0.26	62.86	0.44	0.48	1,460	0.44	428		
5/21/2013	0.09	Flowing	7.04	2.33	5	7.85	20.0	0.02	<0.3	44.00	0.24	44.39	0.45	0.56	1,520	NS	NS			
6/24/2013	0.117	Flowing	7.24	2.55	3	7.11	19.3	0.02	0.80	56.30	0.12	57.22	0.48	0.52	1,620	NS	NS			
RBC04	7/16/2012	0.2295	Flowing	7.18	2.11	1	4.10	19.6	2.11	2.60	52.60	0.94	56.14	0.42	0.49	1,430	<0.05	558		
	8/1/2012	0.048	Flowing	7.32	2.06	0	4.57	19.8	NS	NS	30.60	NS	NS	NS	NS	NS	NS	NS		
	8/15/2012	0.024	Flowing	7.60	2.04	0	4.74	21.6	0.10	<0.3	27.90	0.34	28.39	0.77	0.90	1,440	NS	NS		
	9/19/2012	0.07875	Flowing	7.37	2.16	1	4.95	20.4	<0.02	2.60	28.10	0.13	30.83	0.50	0.56	1,490	NS	NS		
	10/25/2012	0.108	Flowing	6.93	2.40	0	5.52	15.7	<0.02	2.60	41.40	0.16	44.16	0.45	0.47	1,600	<0.05	570		
	11/8/2012	0.154	Flowing	7.47	2.37	0	5.75	16.4	<0.02	5.70	26.00	0.06	31.76	0.40	0.44	1,670	NS	NS		
	12/7/2012	0.6105	Flowing	7.70	2.31	0	NS	15.5	<0.02	2.50	49.70	0.07	52.27	0.37	0.38	1,560	NS	NS		
	1/9/2013	0.6045	Flowing	7.36	2.18	6	10.60	13.0	0.49	0.60	42.30	0.16	43.06	0.50	0.54	1,380	0.348	506		
	2/6/2013	0.546	Flowing	7.89	2.36	0	16.98	14.4	0.18	0.70	26.80	0.09	27.59	0.30	0.34	1,360	NS	NS		
	3/12/2013	0.84	Flowing	7.38	2.02	8	8.98	14.6	6.42	6.70	11.60	1.19	19.49	0.42	0.51	1,210	NS	NS		
	4/10/2013	0.1536	Flowing	7.54	2.22	4	9.55	15.2	<0.02	0.40	56.60	0.05	57.05	0.37	0.41	1,500	<0.05	473		
	5/21/2013	0.12375	Flowing	7.18	2.37	2	11.53	21.3	0.05	1.00	41.40	0.08	42.48	0.31	0.38	1,570	NS	NS		
6/24/2013	0.138	Flowing	7.47	2.45	3	9.28	19.8	0.08	0.50	55.00	0.08	55.58	0.29	0.32	1,560	NS	NS			

**Rainbow Creek TMDI Monitoring Results
FY 2012-13**

Site ID	Date	Discharge (cfs)	Flow Observed	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (oC)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Iron (mg/L)	Sulfate (mg/L)
Field Measurements								Laboratory Measurements										
RBC06	7/16/2012	0.48	Flowing	7.68	1.72	0	7.04	19.7	<0.02	<0.3	15.20	0.01	15.36	0.18	0.22	1,090	<0.05	308
	8/15/2012	0.125	Flowing	7.75	1.62	1	7.42	20.7	0.06	0.90	12.10	0.01	13.01	0.67	0.68	1,050	NS	NS
	9/19/2012	0.156	Flowing	7.77	1.71	0	6.69	19.6	<0.02	0.80	19.20	0.01	20.01	0.18	0.21	1,100	NS	NS
	10/25/2012	0.384	Flowing	7.24	1.75	0	8.67	15.7	<0.02	2.00	10.60	<0.007	12.60	0.12	0.14	1,110	<0.05	342
	11/8/2012	0.5075	Flowing	7.75	1.68	1	8.91	16.1	<0.02	3.00	9.40	<0.007	12.40	0.25	0.31	1,070	NS	NS
	12/7/2012	0.5075	Flowing	8.11	1.73	0	NS	14.9	<0.02	0.90	14.60	<0.007	15.50	0.14	0.14	1,090	NS	NS
	1/15/2013	1.05	Flowing	7.82	1.74	3	12.89	7.1	0.16	0.40	20.50	0.09	20.99	0.24	0.26	1,080	0.863	347
	2/7/2013	1.656	Flowing	8.11	1.84	1	13.35	11.9	0.26	0.30	11.00	0.01	11.31	0.20	0.20	1,020	NS	NS
	3/13/2013	1.84	Flowing	8.03	1.82	6	11.49	16.1	0.08	<0.3	14.10	0.02	14.27	0.19	0.38	1,050	NS	NS
	4/11/2013	7.56	Flowing	7.90	1.78	3	8.97	14.9	<0.02	<0.3	20.10	<0.007	20.25	0.13	0.13	1,130	0.113	382
	5/22/2013	0.198	Flowing	7.53	1.73	2	8.62	18.6	<0.02	<0.3	15.90	0.01	16.06	0.79	0.81	1,040	NS	NS
6/24/2013	0.14	Flowing	7.64	1.81	2	11.92	18.9	0.04	0.40	13.70	0.01	14.11	0.26	0.27	1,080	NS	NS	
RBC10	7/16/2012	0.19	Flowing	8.01	1.91	0	8.63	19.3	0.16	2.20	31.00	0.03	33.23	0.42	0.54	1,260	<0.05	306
	8/15/2012	0.09	Flowing	7.98	1.79	1	9.11	21.1	0.03	0.60	6.36	0.02	6.98	0.45	0.48	1,060	NS	NS
	9/19/2012	0.144	Flowing	7.62	1.85	0	7.88	18.3	<0.02	<0.3	5.76	0.01	5.92	0.22	0.22	1,080	NS	NS
	10/25/2012	0.112	Flowing	7.60	2.10	0	8.29	13.2	<0.02	1.70	16.80	<0.007	18.50	0.25	0.38	1,350	<0.05	392
	11/8/2012	0.252	Flowing	7.91	1.93	1	7.87	14.5	<0.02	3.40	9.26	0.01	12.67	0.20	0.27	1,190	NS	NS
	12/7/2012	0.48	Flowing	8.34	2.02	1	NS	13.3	0.02	6.80	19.20	0.01	26.01	0.34	0.35	1,320	NS	NS
	1/9/2013	1.548	Flowing	8.09	1.86	2	12.24	10.7	0.34	1.00	29.00	0.36	30.36	0.34	0.38	1,140	<0.05	366
	2/7/2013	1.248	Flowing	8.44	2.07	3	13.97	10.2	<0.02	<0.3	19.80	0.08	20.03	0.43	0.47	1,220	NS	NS
	3/12/2013	1.44	Flowing	8.42	1.81	5	11.18	13.8	0.26	3.40	28.20	0.16	31.76	0.40	0.40	1,140	NS	NS
	4/10/2013	0.39	Flowing	8.14	1.96	3	10.97	13.7	<0.02	<0.3	29.40	0.02	29.57	0.40	0.42	1,230	<0.05	391
5/21/2013	0.1768	Flowing	7.62	1.90	4	12.69	20.8	0.05	0.40	13.70	0.04	14.14	0.26	0.28	1,200	NS	NS	
6/24/2013	0.066	Flowing	7.92	2.00	7	10.78	18.9	0.20	0.70	7.54	0.02	8.26	0.39	0.46	1,160	NS	NS	
RBC12	8/1/2012	0.024	Flowing	7.05	2.56	5	3.59	23.7	NS	NS	103.00	NS	NS	NS	NS	NS	NS	NS
	8/3/2012	0.019125	Flowing	7.12	2.00	6	3.34	24.0	NS	NS	60.90	NS	NS	NS	NS	NS	NS	NS
RBC13	8/3/2012	0.035	Flowing	6.74	2.22	1	2.96	23.4	NS	NS	45.40	NS	NS	NS	NS	NS	NS	NS
RBC14	8/3/2012	0.005	Flowing	6.58	1.72	4	6.97	26.2	NS	NS	36.40	NS	NS	NS	NS	NS	NS	NS
RBC15	8/3/2012	0.016	Flowing	6.82	1.57	13	5.31	26.0	NS	NS	44.00	NS	NS	NS	NS	NS	NS	NS
SMG03	8/1/2012	0.03	Flowing	7.60	2.25	0	7.35	21.1	NS	NS	29.59	NS	NS	NS	NS	NS	NS	NS

Rainbow Creek TMDI Monitoring Results

FY 2012-13

Site ID	Date	Discharge (cfs)	Flow Observed	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (oC)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Iron (mg/L)	Sulfate (mg/L)
	Field Measurements								Laboratory Measurements									
RGT01	7/16/2012	0.156	Flowing	7.79	1.79	1	7.78	18.1	<0.02	<0.3	8.23	0.01	8.39	0.23	0.37	1,030	<0.05	220
	8/15/2012	0.108	Flowing	7.98	1.59	0	7.80	20.2	0.05	<0.3	6.26	<0.007	6.41	0.39	0.40	1,040	NS	NS
	9/19/2012	0.108	Flowing	7.97	1.76	2	9.31	18.7	<0.02	<0.3	9.40	<0.007	9.55	0.04	0.05	1,060	NS	NS
	10/25/2012	0.408	Flowing	7.54	1.85	2	8.47	14.7	<0.02	1.20	9.21	<0.007	10.41	0.32	0.36	1,130	<0.05	259
	11/8/2012	0.21	Flowing	7.98	1.85	2	9.69	15.8	<0.02	4.80	8.55	<0.007	13.35	0.14	0.15	1,090	NS	NS
	12/7/2012	0.368	Flowing	8.23	1.91	2	NS	14.6	<0.02	36.30	12.90	<0.007	49.20	0.09	0.10	1,120	NS	NS
	1/9/2013	0.4845	Flowing	8.30	1.74	9	13.57	12.4	0.03	0.40	5.71	<0.007	6.11	0.05	0.18	1,100	0.050	246
	2/7/2013	0.416	Flowing	7.86	1.99	8	12.33	11.4	<0.02	<0.3	6.72	<0.007	6.87	0.15	0.16	1,120	NS	NS
	3/12/2013	0.102	Flowing	7.92	1.69	4	9.81	13.8	<0.02	1.70	3.95	<0.007	5.65	0.11	0.21	998	NS	NS
	4/10/2013	0.096	Flowing	7.91	1.90	5	11.58	13.7	<0.02	<0.3	10.20	<0.007	10.35	0.04	0.09	1,030	<0.05	272
	5/21/2013	0.0455	Flowing	7.53	1.79	7	11.32	20.0	0.06	<0.3	7.39	<0.007	7.54	0.08	0.12	1,000	NS	NS
6/24/2013	0.1365	Flowing	7.81	1.83	4	10.14	18.7	0.02	0.40	6.78	<0.007	7.18	0.28	0.30	982	NS	NS	
RVT02	7/16/2012	0.0324	Flowing	6.89	1.49	0	3.18	18.8	0.36	1.30	26.90	0.14	28.34	0.55	0.61	1020.00	0.05	249
	8/1/2012	0.02	Flowing	7.23	1.57	4	9.45	24.6	NS	NS	20.57	NS	NS	NS	NS	NS	NS	NS
	8/15/2012	0.016	Flowing	7.22	1.55	0	4.88	22.1	0.16	<0.3	28.20	0.09	28.44	0.82	0.97	1,030	NS	NS
	9/19/2012	0.0012	Flowing	6.82	1.63	7	0.87	20.4	0.35	<0.3	52.30	0.23	52.68	0.54	0.65	1,100	NS	NS
	10/25/2012	0.06	Flowing	6.70	1.61	4	1.99	15.8	<0.02	0.60	45.90	0.09	46.59	0.52	0.55	1,030	<0.05	329
	11/8/2012	0.018	Flowing	6.88	1.70	2	2.57	17.0	0.38	0.60	36.10	0.25	36.95	0.46	0.53	1,090	NS	NS
	12/7/2012	0.03	Flowing	7.17	1.63	0	NS	14.6	0.05	6.10	42.90	0.05	49.05	0.52	0.58	1,070	NS	NS
	1/9/2013	0.072	Flowing	6.95	1.84	9	7.72	12.6	0.05	0.40	29.60	0.09	30.09	0.56	0.59	1,170	<0.05	396
	2/6/2013	0.0825	Flowing	6.83	1.82	1	7.68	13.7	0.03	0.70	18.60	0.08	19.38	0.56	0.59	1,110	NS	NS
	3/12/2013	0.08	Flowing	6.34	1.42	10	6.48	14.0	3.54	3.60	15.90	0.14	19.64	0.54	0.56	931	NS	NS
	4/10/2013	0.018	Flowing	6.84	1.71	2	7.35	15.2	<0.02	0.50	20.70	0.11	21.31	0.52	0.59	1,060	<0.05	348
5/21/2013	0.018	Flowing	6.67	1.72	4	10.13	19.7	0.02	<0.3	30.00	0.10	30.25	0.76	0.83	1,090	NS	NS	
6/24/2013	0.00528	Flowing	7.02	1.67	1	9.66	20.5	0.07	0.90	31.70	0.10	32.70	0.52	0.55	1,090	NS	NS	
SMG05	7/16/2012	0.34	Flowing	7.65	1.59	0	8.55	19.3	<0.02	0.90	15.10	0.01	16.01	0.17	0.20	1,020	<0.05	289
	8/15/2012	0.096	Flowing	7.71	1.57	0	9.08	20.6	0.03	1.80	8.86	<0.007	10.66	0.75	0.79	968	NS	NS
	9/19/2012	0.168	Flowing	7.50	1.54	2	8.27	19.3	<0.02	7.90	17.10	<0.007	25.00	0.18	0.22	1,000	NS	NS
	10/25/2012	0.336	Flowing	6.98	1.74	0	9.23	15.4	<0.02	2.90	12.20	<0.007	15.10	0.24	0.28	1,040	<0.05	302
	11/8/2012	0.216	Flowing	7.63	1.58	0	9.17	16.1	<0.02	5.10	7.08	<0.007	12.18	0.16	0.21	1,050	NS	NS
	12/7/2012	0.672	Flowing	8.03	1.81	1	NS	14.6	<0.02	1.10	11.00	<0.007	12.10	0.32	0.38	1,050	NS	NS
	1/15/2013	0.78	Flowing	7.58	1.75	1	12.65	6.9	0.24	0.30	20.90	0.12	21.32	0.21	0.26	1,060	<0.05	371
	2/7/2013	1.974	Flowing	7.98	1.83	1	14.49	11.1	<0.02	<0.3	10.90	0.01	11.06	0.15	0.19	1,090	NS	NS
	3/13/2013	1.152	Flowing	7.98	1.80	4	12.59	15.3	0.18	<0.3	14.70	0.03	14.88	0.26	0.32	1,080	NS	NS
	4/11/2013	0.4	Flowing	7.72	1.79	3	11.25	13.6	0.08	<0.3	19.20	0.02	19.37	0.17	0.18	1,090	<0.05	366
	5/22/2013	0.112	Flowing	7.37	1.67	1	8.86	18.0	0.03	<0.3	12.80	0.01	12.96	0.21	0.21	1,040	NS	NS
6/24/2013	0.204	Flowing	7.56	1.69	9	9.71	19.6	0.03	0.60	12.40	<0.007	13.00	0.33	0.38	1,020	NS	NS	

**Rainbow Creek TMDI Monitoring Results
FY 2012-13**

Site ID	Date	Discharge (cfs)	Flow Observed	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (oC)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Iron (mg/L)	Sulfate (mg/L)	
	Field Measurements								Laboratory Measurements										
SMG06	7/16/2012	0.81	Flowing	7.92	1.62	0	9.97	19.9	0.03	0.80	14.60	0.02	15.42	0.16	0.17	751	0.05	310	
	8/15/2012	0.39	Flowing	8.07	1.55	0	11.04	21.1	<0.02	0.70	11.70	0.01	12.41	0.25	0.31	969	NS	NS	
	9/19/2012	0.442	Flowing	7.88	1.60	1	11.10	20.1	<0.02	<0.3	18.30	0.01	18.46	0.11	0.14	1,010	NS	NS	
	10/25/2012	0.99	Flowing	7.12	1.74	0	9.92	15.9	<0.02	1.60	15.80	<0.007	17.40	0.09	0.20	1,070	<0.05	324	
	11/8/2012	0.495	Flowing	7.76	1.60	0	10.40	16.1	<0.02	2.70	4.99	0.01	7.70	0.14	0.18	1,080	NS	NS	
	12/7/2012	1	Flowing	8.06	1.77	0		14.9	0.03	1.00	14.60	0.01	15.61	0.11	0.15	1,110	NS	NS	
	1/15/2013	1.848	Flowing	7.81	1.76	1	13.08	8.2	0.05	0.50	17.60	0.05	18.15	0.18	0.20	1,050	0.150	333	
	2/7/2013	1.28	Flowing	8.23	1.80	1	15.24	12.5	<0.02	<0.3	10.60	<0.007	10.75	0.18	0.19	1,010	NS	NS	
	3/13/2013	1.672	Flowing	8.18	1.81	4	13.20	16.9	0.05	<0.3	16.40	0.02	16.57	0.20	0.20	1,060	NS	NS	
	4/11/2013	1.76	Flowing	7.83	1.74	8	10.66	15.2	0.17	0.40	20.30	0.01	20.71	0.21	0.25	1,080	<0.05	399	
	5/22/2013	0.468	Flowing	7.62	1.71	1	11.61	19.0	<0.02	<0.3	13.80	0.01	13.96	0.18	0.18	1,070	NS	NS	
	6/24/2013	0.286	Flowing	7.69	1.78	4	10.82	19.0	0.17	1.70	12.70	0.01	14.41	0.46	0.46	1,020	NS	NS	
VMT01	7/16/2012		Dry																
	8/15/2012		Dry																
	9/19/2012		Dry																
	10/25/2012		Dry																
	11/8/2012		Dry																
	12/7/2012		Dry																
	1/15/2013		Dry																
	2/7/2013		Dry																
	3/13/2013		Dry																
	4/11/2013		Dry																
5/22/2013		Dry																	
6/24/2013		Dry																	
WGT01	7/16/2012	0.0825	Flowing	8.37	1.84	2	9.18	18.2	<0.02	0.40	16.70	0.01	17.11	0.25	0.36	1,200	0.09	396	
	8/15/2012	0.112	Flowing	8.44	1.75	1	8.69	20.0	<0.02	0.60	15.40	<0.007	16.00	0.36	0.39	1,210	NS	NS	
	9/19/2012	0.036	Flowing	8.23	1.76	1	9.30	18.8	<0.02	2.60	24.30	<0.007	26.90	0.09	0.15	1,190	NS	NS	
	10/25/2012	0.1071	Flowing	7.60	1.84	2	10.21	14.5	<0.02	1.30	23.40	<0.007	24.70	0.06	0.10	1,260	0.125	408	
	11/8/2012	0.084	Flowing	8.35	1.80	3	8.71	15.7	<0.02	<0.3	34.20	<0.007	34.35	0.04	0.12	1,200	NS	NS	
	12/7/2012	0.09	Flowing	8.59	1.85	1		14.4	<0.02	2.50	23.00	<0.007	25.50	0.05	0.10	1,150	NS	NS	
	1/15/2013	0.165	Flowing	8.27	1.89	3	13.13	7.3	<0.02	0.30	13.80	0.01	14.11	0.20	0.21	1,160	0.182	370	
	2/7/2013	0.182	Flowing	8.25	1.74	2	12.60	11.8	<0.02	<0.3	11.80	<0.007	11.95	0.17	0.19	1,160	NS	NS	
	3/13/2013	0.162	Flowing	8.29	1.97	4	11.47	15.4	0.06	<0.3	11.10	<0.007	11.25	0.12	0.18	1,220	NS	NS	
	4/11/2013	0.07	Flowing	8.29	1.81	4	11.47	13.0	<0.02	<0.3	23.30	<0.007	23.45	0.16	0.18	1,170	<0.05	369	
	5/22/2013	0.028	Flowing	8.06	1.81	0	10.63	17.9	0.03	<0.3	15.10	0.01	15.26	0.08	0.08	1,160	NS	NS	
	6/24/2013	0.0798	Flowing	8.15	1.91	2	10.48	19.0	0.05	0.50	15.70	<0.007	16.20	0.13	0.20	1,160	NS	NS	