

Meeting Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Tuesday November 9th, 2004
City of Calabasas

The meeting began with a presentation given by Eric Stein of Southern California Coastal Watershed Research Project (SCCWRP). The presentation reviewed a study SCCWRP will be conducting, which will target natural landscape loadings throughout several southern Californian watersheds, from San Diego to Ventura. The project is scheduled to be conducted from December 2004 to the middle of 2006. Sites for the study will be monitored for several parameters including: nutrients, bacteria, metals, general constituents, and chlorophyll-a. SCCWRP will also be conducting the California Rapid Bioassessment at a majority of proposed sites for the project.

In order to keep natural landscape influences on water quality consistent, sites were chosen based on dominant geology and land cover. Additionally, sites were chosen based on no known historic land uses. In the Malibu Creek Watershed, Cold Creek (tested in dry weather), and Chesebro Creek (tested in dry and wet weather) were designated as sites for the study.

Natural landscape loadings can be used to determine ranges in natural background levels of non-anthropogenic sources of run-off. More information can be found on this presentation, including the project's work plan, by contacting Malibu Creek Watershed Monitoring Coordinator Jim Medlen, office number 818-871-0760, or e-mail jimmedlen@hotmail.com.

Copies of the Malibu Creek Watershed Monitoring Program were handed out to the group for comment. Comments on the monitoring plan are to be returned to monitoring coordinator Jim Medlen by November 23rd.

Access issues into channels throughout LA county and Ventura county were discussed, and the Malibu Creek Watershed Monitoring Coordinator (MCWMC) Jim Medlen will further discuss the matter with Darla Wise from the Ventura County Watershed Protection District, and Arfan Haidary from the LA County Public Works Department.

MCWMC Jim Medlen inquired about hand held flow meters at the meeting; the group recommended a company named Marsh-Mc Birney for flow meters. Jim will look into acquiring flow meters from this company.

The next meeting was scheduled for December 6th at the Calabasas city hall.

Summary of the Malibu Creek Watershed Advisory Council's Monitoring and Modeling Subcommittee Meeting

**Thursday, May 20, 2004 at 2:00 pm
City of Calabasas, City Hall**

Introductions (2:10-2:20)

The Malibu Creek Watershed Monitoring Coordinator, Jim Medlen, was introduced to the group. He will be coordinating the implementation of Malibu Creek Watershed Monitoring Program (MCWMP) funded by a Proposition 13 grant.

Watershed Monitoring Groups Project Overview (2:20-2:30)

The subcommittee members discussed the background of the MCWMP, including the 1999 draft monitoring plan, and upcoming TMDL compliance monitoring requirements. The program is focused on providing more consistent and complete data to assess the overall health of the Malibu Creek watershed, and to provide the Regional Water Quality Control Board (RWQCB) with data to assist in TMDL development and refinement.

Jim will update the schedule/timeline for the MCWMP and email it to the group.

Open discussion, ideas, thoughts, comments (2:30-3:00)

Shirley Birosik, from the Los Angeles RWQCB informed the subcommittee of the revised California Streamside Bioassessment Procedure, which was created by Jim Harrington of the California Department of Fish and Game. This revised procedure, created in December 2003, focuses on sampling low gradient, high gradient, sandy bottom, concrete substrate, and no flow condition streams, which are abundant conditions in Southern California streams. SCWRP was said to have been working on a bioassessment protocol for southern California that may be utilizing Jim Harrington's revised procedure.

Randal Orton from the Las Virgenes Municipal Water District (LVMWD) discussed how the MCWMP could dovetail with the LVMWD's Urban Runoff Reduction Program which consists of monitoring run-off from residents home in the watershed and offering and implementing irrigation efficiency improvements. The MWCMP can be used to help evaluate the effectiveness of this program.

Randal also discussed his experiences with stream depth (flow) gauges, which may have a place in the MCWMP.

Roles and Responsibilities of Technical Advisory Committee (TAC) (3:00-3:20)

It was agreed upon that each member of the subcommittee attending today's meeting would serve as part of the TAC team for the project. The defined roles of the TAC team for the meeting are as follows: review Quality Assurance Project Plan (QAPP) and Monitoring Plan for approval, review of annual and final reports, advise in technical issues, and attend TAC meetings for data and program management review.

The TAC team in attendance of today's meeting:

- Barbara Cameron, City of Malibu
- Melanie Irwin, City of Malibu
- Randal Orton, Las Virgenes Municipal Water District
- Rod Collins, Los Angeles Regional Water Quality Control Board
- Shirley Birosik, Los Angeles Regional Water Quality Control Board
- Frank Wu, Los Angeles County Department of Public Works
- Mark Davis, Ventura County Watershed Protection District
- Arne Anselm, City of Thousand Oaks
- Robin Hull, City of Calabasas

Monitoring and Modeling Subcommittee members who did not show up to this meeting will be invited via e-mail to join this Ad Hoc TAC.

Discussion (3:20-3:45)

Shirley discussed the Sacramento River Portal & Library's website, www.watershedportal.org, "designed to allow for stakeholders to find and enter reports, studies, datasets, websites, information about organizations and individuals, and other information." This project's goals include "saving time and resources while improving science and decision making through better access to information." The MCWMP may use this site as a model when creating its own data-exchanging website.

Barbara Cameron of the City of Malibu suggested that instead of developing two separate monitoring plans, one for the MCWMP and another for TMDL compliance, that the two are combined to form one comprehensive plan that can delineated/distinguished the two plans by using two different fonts.

Request for information from watershed monitoring groups

Jim requested the following be submitted by June 4th for assessment of data needs and gaps: List of sampling sites (GPS locations and landmarks), frequency of sampling events, list of parameters tested, types of sampling equipment and names of laboratories used, copies of databases, quality control information, and indication if GIS is being used for project/program.

Information can be submitted to Jim at jimmedlen@hotmail.com

**Summary of the Malibu Creek Watershed Advisory Council
Monitoring and Modeling Subcommittee/ Adhoc TAC**

**July 8, 2004 at 10:00 am
City of Calabasas, City Hall
Conference room #3**

Introductions (10:15-10:20)

Shirley Birosik	Los Angeles Regional Water Quality Control Board
Rod Collins	Los Angeles Regional Water Quality Control Board
Tom Moorhouse	Clean Lakes, Inc.
Darla Wise	Ventura County Watershed Protection District
Mark Davis	Ventura County Watershed Protection District
Frank Wu	LA County Department of Public Works
Arfan Haidary	LA County Department of Public Works
Arne Anselm	City of Thousand Oaks
Hersh Farberow	Surfrider Foundation, Calpoly Pomona
Robin Hull	City of Calabasas
Jim Medlen	Water Monitoring Consultant

Organization of TMDL Monitoring Plan (10:20-10:50)

The TAC members addressed the compatibility of the Malibu Creek Watershed Monitoring Program (MCWMP), monitoring baseline conditions, with the Malibu Creek Watershed Bacteria TMDL Compliance Monitoring Program. It was agreed that the two programs should be kept separate, though much of the baseline data collected through the MCWMP could be used to develop projects and programs in the Malibu Creek Watershed Bacteria TMDL Implementation Plan.

Future meetings will be divided into two parts: the first portion of the meeting will involve responsible agencies listed in the Malibu Creek Watershed Bacterial TMDL to begin addressing the Compliance Monitoring Plan, while the second portion of the meeting will be open to all interested stakeholders/TAC members to address the MCWMP (monitoring of baseline conditions). Robin Hull will start to develop the Compliance Monitoring Plan making sure that it is compatible with the Santa Monica Beaches Bacteria TMDL Coordinated Shoreline Monitoring Plan

Discussion of Amended Project Schedule (10:50-11:00)

An updated schedule for deliverable due dates, amended by Rod Collins and Jim Medlen, was handed out to the group. Any comments regarding the schedule should be directed to Jim.

Site Selection Criteria (11:00-11:40)

Robin and Jim developed proposed site selection criteria and distributed it to the TAC for review and comments. It was agreed that the group would choose sites based on the following: known recreation uses, land uses, and spatial representation. Recommended site locations are to be submitted to Jim by July 16, 2004. Rod Collins and Darla Wise will give Jim land use data for the Malibu Creek Watershed for further site selection analysis.

Shirley Birosik suggested Tapia Park as a potential site, as it is a known for contact recreation. Lake Sherwood was also noted as a recreationally used site. Cold Creek will be considered for the ambient or “pristine” site.

Jim will send out to the TAC a map of proposed sites. Members of the TAC can approve or edit the map to make their recommendations of site locations. This will be done via email.

Roles of the Technical Advisory Committee (11:40-11:45)

The group agreed upon the roles of the Technical Advisory Committee (TAC). Mark Abramson of Heal the Bay (via phone call by Shelley Luce) and Darla Wise of the Ventura County Watershed Protection District were also added to the TAC per request.

Open discussion, ideas, thoughts, and comments (11:50-12:00)

Darla is looking into the possibility of sharing their database so that it may be utilized for the Malibu Creek Watershed Monitoring Program. Darla and Jim will go back out into the field on the week of July 12, 2004 in order to assess additional sites in the watershed.

Information can be submitted to Watershed Monitoring Coordinator, Jim Medlen, at jimmedlen@hotmail.com

Minutes

**Malibu Creek Watershed Advisory Council
Monitoring and Modeling Subcommittee/
Technical Advisory Committee Meeting**

**September 30, 2004
City of Calabasas, City Hall**

Attendees:

- Robin Hull, City of Calabasas
- Rod Collins, Los Angeles Regional Water Quality Control Board
- Darla Wise, Ventura County Watershed Protection District
- Randal Orton, Las Virgenes Municipal Water District
- Arne Anselm, City of Thousand Oaks
- Arfan Haidary, Los Angeles County Department of Public Works
- Frank Wu, Los Angeles County Department of Public Works
- Jim Medlen, Malibu Creek Watershed Monitoring Coordinator

Review of current monitoring efforts

A table with current on-going monitoring efforts was handed out to the group for review. Rod suggested that historical monitoring efforts in the watershed be added. Jim will work to either add this information to the current table or create another table to represent historical monitoring efforts.

Rod will look into the SWAMP and UCLA studies and report back to this group to see if these studies should be included as baseline data for the Malibu Creek Watershed Monitoring Program.

The TAC conducted a precursory review of the existing monitoring sites on a map that Jim developed, and he received corrections and comments from the group.

Status of Draft Malibu Creek Watershed Monitoring Plan

The updated Malibu Creek Watershed Monitoring Plan will be distributed for review and comment in the next two weeks. The Quality Assurance Project Plan has been submitted to the Regional Board for approval as of September 21, 2004.

Selection of Monitoring Sites

Jim distributed copies of a map of the proposed sites that were accompanied by descriptive summaries of the sites that included GPS coordinates, surrounding land uses, and photos of the locations. The TAC had previously recommended that land use be considered when selecting baseline monitoring sites, but the TAC has since determined that land use instead be considered during the more focused “hot-spot” testing. TAC members also advised to include a monitoring site in the Hidden Valley subwatershed

(which currently has little or no historic data) and that the Medea Creek monitoring site should be moved upstream to avoid duplication of monitoring efforts.

Malibu Creek Watershed Bacteria TMDL

Compliance Monitoring Plan

Robin will continue working on the Malibu Creek Watershed Compliance Monitoring Plan and will propose recommended sites at the next subcommittee meeting. Robin is using the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan (<http://ladpw.org/wmd/NPDES/beachplan.cfm>) as a starting point to develop the Malibu Creek Compliance Monitoring Plan to remain consistent with monitoring that is occurring downstream and adjacent to the Malibu Creek Watershed. It was advised that the “Sampling Procedures” portion of the plan be left out until the responsible agencies determine who will be performing the monitoring activities.

Reference Watershed Study

Eric Stein of Southern California Coastal Water Research Project (SCCRWRP) is currently conducting a study on reference sites throughout Southern California, two of which are in the Malibu Creek Watershed. Darla will invite Mr. Stein to attend the next subcommittee meeting to present the background and findings of this study.

Coordinate with Existing Monitoring Programs

Darla offered to provide staff from the Ventura County Watershed Protection District to accompany Jim during his first few benthic macroinvertebrate bio-assessments to ensure regional consistency.

Rod suggested that the benthic macroinvertebrate bio-assessment study conducted by Jim Harrington and UCLA be looked at for historical data, along with efforts from other groups such as Heal the Bay, Ventura County Watershed Protection District, and Los Angeles County Department of Public Works in order to avoid redundancies. Historic and current bioassessment efforts in the watershed are possibly extensive enough to satisfy baseline data needs. Jim will further review current and historic efforts to assess bio-assessment data gaps if any.

Darla then suggested consideration of a new protocol being created by the Department of Fish and Game for conducting benthic macroinvertebrate bioassessments in non-wadeable streams. Jim will follow up to obtain more information if any sites fall under this category.

*The next Monitoring and Modeling Subcommittee meeting is tentatively scheduled for Oct. 25th at the City of Calabasas. **[NOTE: This meeting has been rescheduled for November 9th from 9 am to 11 am at the City of Calabasas, Conference Room 1.]**

Meeting Summary

**Malibu Creek Watershed Advisory Council
Monitoring and Modeling Subcommittee/ TAC**

Monday, February 14, 2005
10 a.m. to noon

Conference Room 2
Calabasas City Hall
26135 Mureau Road
Calabasas, CA 91302

Introductions

Stakeholders at the meeting included:

Randall Orton	Las Virgenes Municipal Water District
Darla Wise	Ventura County Watershed Protection District
Tom Moorhouse	Clean Lakes Incorporated
Robin Hull	City of Calabasas
Frank Wu	Los Angeles County Department of Public Works
Arfan Haidary	Los Angeles County Department of Public Works
Rod Collins	Los Angeles Regional Water Quality Control Board
Dan Fluoresco	Hidden Hills
Jim Medlen	Malibu Creek Watershed Monitoring Coordinator
Chris Hardenbrook	Malibu Creek Watershed Monitoring Program intern
John Hess	Malibu Creek Watershed Monitoring Program intern

Project updates from TAC members:

Los Angeles County Department of Public Works has currently begun monitoring seven sites in the upper Malibu Creek Watershed. Sampling parameters for their project include: bacteria, algae, metals, and general chemistry.

The Las Virgenes Municipal Water District under the supervision of Randall Orton will begin their urban run-off reduction program within the next month, or two. The program has mapped out residential homes in the watershed and has computed their monthly water usage. Field exercises have been conducted in order to find areas computed by computer that may be over-watering due to misinformed practices, which will hopefully be resolved with public education and outreach.

The **Malibu Creek Watershed Monitoring Program's (MCWMP's)** QAPP was approved February 7th, but monitoring effort's were postponed the due to predicted rain on the start date. The program's permit received from Los Angeles County Flood

Control is conditional upon weather. Sampling in flood control channels during rain events can not be performed.

The MCWMP project is also in the process of updating all of its maps into ARC 9 with the help of five newly hired interns.

The project is under the process of being extended an additional year so that further baseline data can be collected.

Malibu Creek Watershed Bacteria TMDL Compliance Monitoring

Proposed Sites:

Robin Hull, the Environmental Services Manager at the city of Calabasas used the Malibu Creek Watershed Baseline Monitoring Plan as a base map in order to find out where compliance monitoring sites should be placed in the watershed. The lowest possible area in each sub-watershed was designated as target areas for compliance monitoring sites. Known water recreational areas are also being focused on as potential compliance monitoring sites.

Randall Orton of the Las Virgenes Municipal Water District will talk further with Mark Abramson from Heal the Bay for cooperation in monitoring efforts for the TMDL compliance monitoring plan.

Outline of monitoring plan (divvy out sections):

Different sections of the monitoring plan were given out to responsible TMDL compliance members at the table.

Robin Hull of the city of Calabasas has started the intro and the sites, Frank Wu (LACDPW) will work on section 2, Arfan Haidary (LACDPW) will work on section 1, and section 4 will be split between Agoura, Thousand Oaks, and Malibu.

The state board plans on hearing the Malibu Creek Watershed TMDL bacterial plan in April; it will take an additional 60-90 days to go from the office of administrative law to and then to the EPA before it is in effect.

Cost Sharing Agreement:

Frank Wu and Robin Hull agreed to work on the cost sharing agreement for the TMDL plan. The lead agency for the TMDL program will probably be Los Angeles County Department of Public Works depending on the decision of the county's management.

Southern California's Coastal Watershed Research Project will have a meeting on Wednesday the 16th regarding their reference watershed study.

Darla Wise from the Ventura County Watershed Protection District is not sure if Ventura County will be cooperating with other responsible agencies in the watershed. The decision is still being made by the county. Regardless, Ventura County will be responsible for their eight drains that cross the LA/Ventura County line as stated in the TMDL.

The cost sharing agreement is based on land area, and no one is exempt from monitoring costs under the TMDL plan, whether monitoring efforts are made collectively or individually.

A few organizations and agencies need to still be contacted for cooperation including Ron Schaefer at the Santa Monica Mountains Conservancy and Nat from State Parks.

The next Malibu Creek Watershed Advisory Council's Monitoring and Modeling Subcommittee will be held at the city of Calabasas Monday March 21, 2005 at 10:00am.

Meeting Minutes/ Summary

Malibu Creek Watershed Advisory Council Monitoring and modeling Subcommittee/ TAC

Monday April 18th, 2005
10:30 am to noon
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members whom attended the meeting were as follows:

Mark Baker, CRG Labs
Michael Machuzak, ABC Labs
Joe Belloma, Westlake Village, Calabasas
Arfan Haidary, LACDPW
Alex Farassati, City of Calabasas
Frank Wu, LACDPW
Bob Wu, Caltrans
Mark Davis, VCWPD
Rod Collins, LARWQCB
Robin Hull, City of Calabasas
Tara Erfani, City of Malibu
Tom West, RMC Water
Jim Medlen, Consultant for Calabasas

10:30

Robin Hull, Environmental Services Manager for Calabasas named Frank Wu of the Los Angeles County Department of Public Works as the new co-chair since she would be leaving the city. Alex Farassati was introduced to the group since he would be taking Robin's place at the city.

10:45

Darla Wise began discussing the Prop 50 grants, which would give moneys to organizations and agencies to improve water quality through water quality implementation plans. Members of the group threw in ideas of how to coordinate between different projects for the prop 50 grant. The Malibu Creek Watershed Monitoring Program seeks to coordinate with the grants in order to show how water quality in the watershed has improved due to findings of the project.

11:00

The rest of the meeting was spent talking about the Malibu Creek Watershed bacterial TMDL Compliance Plan. Robin Hull discussed the progress of the Malibu Creek Watershed Bacterial TMDL Compliance Plan. She stated that most of her sites were located, but there were still some issues such as steep banks. Robin stated that she had taken pictures of the sites though to show access issues.

11:15

Darlas Wise told the group that she did not know whether or not the VCWPD would be involved in the TMDL plan since it was the county's decision and they would not know for a couple of months. The dry and wet weather bacterial TMDL is to be approved in late 2005.

11:30

Robin Hull told the group that a map of the final sites would be made for the TMDL plan.

11:35

Two remaining section of the TMDL plan remained, and were taken by TAC members.

11:40-12:00

The group talked about bacterial analysis for the TMDL, and how it would be contracted out to a professional lab. The group wondered whether or not the LVMWD would be interested in analyzing the bacteria at their in-house laboratory.

Meeting Minutes/ Summary

Malibu Creek Watershed Advisory Council Monitoring and modeling Subcommittee/ TAC

Monday May 23rd, 2005
10:30 am to noon
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members whom attended the meeting were as follows:

Joe Bellomo, Westlake Village, Calabasas
Mark Baker, CRG labs
Randal Orton, LVMWD
Alex Farassati, City of Calabasas
Frank Wu, LACDPW
Arne Anselm, City of 1000 Oaks
Dave Thomas, VCWPD
Rod Collins, LARWQCB
Jim Medlen, Consultant for Calabasas

10:45

Malibu Creek Watershed Monitoring Coordinator Jim Medlen introduced the new co-chair Frank Wu. Jim then asked the group to talk about updates on their projects.

10:50

The group talked about Eric Stein and his sampling event out at Chesebro creek the weekend prior. Eric Stein's project is finding Natural Landscape Loadings throughout Southern California.

11:00-11:15

Randal Orton talked about his urban run-off reduction program. The program had started sending letters to people about watering their yards wisely. The program targets neighborhoods and individual homes that are using more water than needed for their property size. The program seeks to use light and heavy intervention. The LVMWD hopes to receive a grant in order to help home owners with excess water usage fix their irrigation system. The project also seeks to test run-off from these neighborhoods in Las Virgenes Creek.

11:30

The group was given an update for the Malibu Creek Watershed Monitoring Program. The program's database is almost complete, the program has a fully functioning GIS, and the program had collected 4 months of data.

Rod Collins updated the group on projects that he had been working on including the LVMWD run-off reduction program, and the North Santa Monica Bay improvement project. Rod talked about the bacterial TMDL and how it was stuck on the state board level for approval. The nutrient TMDL is on the management level and seeks a peer review before public release.

11:45

Frank Wu from the Los Angeles County Department of Public Work announced that their water quality consultant MEC Weston was finishing up a report on findings for wet weather monitoring sites at some of the county's MS4 sites in the Malibu Creek Watershed.

The next meeting was scheduled for Monday, July 25th, 2005 at the city of Calabasas.

Meeting Minutes/ Summary

Malibu Creek Watershed Advisory Council Monitoring and modeling Subcommittee/ TAC

Monday, July 25th, 2005
10:30 am to noon
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members whom attended the meeting were as follows:

Joe Bellomo, Westlake Village, Calabasas
Alex Farassati, City of Calabasas
Frank Wu, LADPW
Arne Anselm, City of 1000 Oaks
Darla Wise, VCWPD
Jim Medlen, Consultant for Calabasas
Tara Erfani, City of Malibu
Michael Antos, Cal State Northridge
Scott Johnson, ABC laboratories Ventura
Lane Cameron, National Park Service
Matt Horns, National Park Service

10:30

The meeting began with introductions around the group, and then an update of stakeholder's water quality monitoring programs in the watershed.

The National Park Service (NPS) program will monitor several sites throughout the watershed. Lane Cameron of the NPS with the help of Matt Horns will create a water monitoring program from federal grant money. Issues addressed in the monitoring program will include amphibian reproduction (water quality) and testing for 303-d listed parameters in streams. The monitoring sites will be chosen based on access issues and areas of public lands. The program seeks to coordinate with other programs to compare data collection.

Joe Bellomo from Westlake Village updated the group on his water quality program that will monitor a neighborhood that releases run-off into the Westlake Lake. Joe stated that the project was still gong through contract negotiations with the regional board. The regional board wants the program to monitor a different site, and to monitor for more pollutants.

Jim Medlen, water quality consultant for the city of Calabasas, announced at the meeting that he had released his draft baseline monitoring report for comment, and gave all members of the group a copy. Jim asked the group to comment on the report by the following week so that changes could be made before finalizing the report.

Scott Johnson talked to the group about the bioaccumulation collection he was going to be conducting throughout the Malibu Creek Watershed for the Malibu Creek Watershed Monitoring Program. Issues that Scott brought up were whether, or not the group thought that the collection of Steelhead and Tidewater Goby for bioaccumulation analysis on fish tissue would benefit the watershed. Scott with the help of Cam Swift had the proper permits for the collection of endangered species, but still wanted to know if the group had objections. The group decided to take non-native exotic species instead.

11:45

The group reported that there had been no movement on the TMDL compliance monitoring plan, and the meeting ended.

The next meeting was scheduled for Monday, September 19th, 2005 at the city of Calabasas.

Meeting Minutes/ Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Monday, September 26th, 2005

10:30 am to noon

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members whom attended the meeting were as follows:

Joe Bellomo, Westlake Village, Calabasas

Alex Farassati, City of Calabasas

Frank Wu, LADPW

Arne Anselm, City of 1000 Oaks

Darla Wise, VCWPD

Jim Medlen, Consultant for Calabasas

Mark Baker, CRG Labs

10:30

The meeting began with introductions around the group, and then an update of stakeholder's water quality monitoring programs in the watershed.

Pre meeting talks of a TMDL meeting at SCCWRP were discussed between TAC members. Joe Bellomo from Westlake Lake commented that since the frequency of TMDL monitoring was going to be so great, geographic locations could be changed. Joe commented that when it comes down to it we have to work with the best of what we have for monitoring sites. The reference monitoring sites for the TMDL study are still under negotiations with the state board.

Joe Bellomo from Westlake Village updated the group on his water quality program that will monitor a neighborhood that releases run-off into the Westlake Lake. Joe is still waiting on QAPP approval, and believes that he may need to make further modifications on the QAPP before it is approved. Joe has filled out the QAPP checklist several times, and has two progress reports that he turned into the state with nothing to report. Joe's project is behind schedule.

Frank Wu from the Los Angeles County Department of Public Works reported that their dry season report for several storm drain monitoring sites will be released at the end of the week.

Mark Baker from CRG laboratories talked to the group about synthetic pyrethroids, and natural pyrethroids, derived from the chrysanthemum plant. The two pyrethroids are used as an herbicide and pesticide.

Mark then went on to talk about one of the first monitoring events held by Southern California Coastal Water Resources Project. SCCWRP were some of the first people to monitor storm water in rivers and creeks. During their first sampling event they found cracks in the channel filled with bullet shells and engine blocks drifting down the river.

Jim Medlen, Malibu Creek Watershed Monitoring Coordinator updated the group on the Malibu Creek Watershed Monitoring Program. The program's baseline report had been completed and was distributed to group members. The program had just conducted its first bioaccumulation study. Fish collected in the collection included blue gills, sunfish, large mouth bass, Arroyo Chubs, and Fat Head Minnows. Jim announced that the project was also working on a documentary film about water monitoring in the watershed. A referral for proposal (RFP) for the installation of flow meters at two of the project's sites was sent out that week to several consulting firms. The group took the RFP and distributed it to other consulting firms after the meeting.

Darla Wise brought up the Bioassessment study that was conducted the previous week by Scott Johnson of ABC labs. Scott had several members from watershed groups helping out in the field. The bioassessment compared different methods of bioassessment procedures to compare them to a new protocol for low gradient streams. SCCWRP partially funded the event.

The next meeting was scheduled for Monday, November 8th, 2005 at 10:30am to noon at the city of Calabasas.

Meeting Minutes/ Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Tuesday, November 8th, 2005

10:30 am to noon

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members whom attended the meeting were as follows:

Jennifer Voccola, City of Malibu

Alex Farassati, City of Calabasas

Frank Wu, LADPW

Arne Anselm, City of 1000 Oaks

Jim Medlen, Consultant for Calabasas

Darrel Siegrist, Ventura County RMA

Carrie Wiley, LADPW

Melina Watts, Resource Conservation District Santa Monica Mountains

Randal Orton, LVMWD

10:30

The meeting began with introductions around the group, and then an update of stakeholder's water quality monitoring programs in the watershed.

Jim Medlen gave an update on the status of the Malibu Creek Watershed Monitoring Program to the TAC members. Jim told the group about buying 2 flow meters for the program. Originally, Jim had wanted to contract a consulting firm, but the firm was too costly for the project. With the aid of intern Matt Horns the flow meters will be put into two tributaries of the Malibu Creek Watershed.

Jim mentioned that if any of the members had other sites that they wanted monitored for flow that he would be willing to coordinate efforts and install an extra meter as long as it was in the watershed.

Alex announced that interns for the project were being interviewed, and that if anyone knew people interested to send them his direction.

10:40

Randal Orton of the Las Virgenes Municipal Water District stated that the district's R4 spot would be a good site to install a flow meter due to its uniform shape.

In a water sample taken by Malibu Creek Watershed Monitoring Coordinator Jim Medlen for the Las Virgenes Municipal Water District's urban run-off reduction program (ran by Randall Orton) high levels of Strontium in a water sample were analyzed. It was concluded that these high levels could possibly be attributed from the areas geology from ancient ocean deposits.

10:50

Alex Farassati, Environmental Services Division Manager for the city of Calabasas, talked about the city's remediation project, which would stop urban run-off into the Las Virgenes Creek from surrounding neighborhoods on Lost Hills Road. The project should be finished shortly.

10:55

Melina Watts from the Santa Monica Mountains Resource Conservation District solicited the group for funding on her educational watershed film. Melina needs from 500 to 600 dollars in order to edit the sound for the film.

11:00

Jennifer Voccola from the city of Malibu talked about Malibu Creek Treatment in the chili cook-off area through wetland filtration, which could filter trash, remove organics, metals and disinfect water.

11:05

The Las Virgenes Municipal Water District received their new NPDES permit.

11:20

Melina Watts presented her film "The Clean Water Act and Our Backyard."

The next meeting was scheduled for Tuesday, January 10th, 2005 at 10:30am to noon at the city of Calabasas.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Tuesday, January 10th, 2006
10:30 AM to 12:00 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, Malibu Creek Watershed Monitoring Project
Alex Farassati, City of Calabasas
Frank Wu, Los Angeles County Department of Public Works
Joe Bellomo, Cities of Westlake Village and Agoura Hills
Michael Hart, Malibou Lake Mountain Club
Donny Reid, Malibu Creek Watershed Monitoring Project Intern
Debbie Bruschaber, Mountains Restoration Trust
Tommy Liddell, Ventura County Watershed Protection District
Darla Wise, Ventura County Watershed Protection District
Melina Watts, Resource Conservation District of the Santa Monica Mountains
Carrie Wiley, Los Angeles County Department of Public Works
Michael Lyons, Los Angeles Regional Water Quality Control Board
Randal Orton, Las Virgenes Municipal Water District
Sonia Flores, City of Calabasas

10:30

The meeting began with introductions around the group and a reiteration the Mission Statement.

Jamie Rinehart introduced herself as the new Malibu Creek Watershed Monitoring Program Coordinator replacing Jim Medlen.

Alex Farassati, Environmental Services Division Manager for the City of Calabasas, introduced himself and announced that four new interns were hired and have begun monitoring.

10:35

Minutes for November 8th, 2005 were approved by committee.

10:36

Jamie gave an update of the monitoring program stating that in February it will be a year of monitoring and sampling will be cut from two days a week, two weeks per month to two days a week, one week per month to focus on hot spots. The monitoring will continue until December 2006.

Jamie spoke about the progress of implementing two flow meters and the cost to rent the flow meters range from \$15,000-\$30,000 for a year. It was suggested to contact others for information on getting the flow meters.

Darla Wise, Ventura County Watershed Protection District mentioned that there may be someone that can be able to get the flow meters and to solve this problem.

Alex mentioned that a check was sent for the Ventura County Watershed Protection District Permitting and the permit to enter the Potrero Creek has not been issued. For that reason no monitoring has been able to take place at that site.

10:55

Jamie mentioned that the Malibu Creek Monitoring Program website is up and running, www.mcwmp.net, and will be updated. If any one has suggestions they can also be added to the webpage.

11:00

Frank Wu, Los Angeles Department of Public Works spoke about splitting the TAC meeting and discussing TMDLs during the meetings. Stating that the TAC committee should be more involved with the TMDLs and this can be done by extending the meetings in order to discuss both monitoring and TMDL progress.

Melina Watts, RCDSMM mentioned that nutrient TMDLs should be considered for peer review. TMDL requires one monitoring location in the watershed areas where recreation is heavy.

11:10

Michael Lyons, LARWQCB SWAMP coordinator stated that the program was granted \$3.5 million and half of the money is allocated to programs that have a good structure and can fill in the gaps.

11:20

Frank gave an overview of the creeks and locations that Carrie Wiley from Los Angeles County DPW has been developing. There was some trouble in locating some of the creeks sites, Alex was willing to show them after the meeting.

Next meeting was scheduled for Wednesday, February 8, 2006 at 9:00 AM to Noon at the City of Calabasas.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, February 15th, 2006
10:00 AM to 12:00 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Sonia Flores, City of Calabasas	Tom Moorhouse, Clean Lakes, Inc.
Jamie Rinehart, MCWMP	Randal Orton, LVMWD
Allen Nazemi, MCWMP	Arne Anselm, City of Thousand Oaks
Donny Reid, MCWMP	Roxanne Hughes, City of Westlake Village
Darrell Siegrist, VCRMA	Scott Johnson, ABC Labs
Melinda Talent, VCRMA	Frank Wu, LADPW
Rich Gossett, CRG Labs	Carrie Wiley, LADPW
Tommy Liddell, VCWPD	Matt Horns, SMMNRA, MCWMP,
Darla Wise, VCWPD	Topanga Watershed Committee
Michael Lyons, LARWQCB	Liesl Tiefenthaler, SCCWRP
Alex Farassati, City of Calabasas	Eric Stein, SCCWRP
Joe Bellomo, Cities of Agoura & Westlake	Melinda Becker, LARWQCB

10:00

The meeting began with introductions around the group and a reiteration the Mission Statement.

Minutes for January 10, 2006 were approved by committee.

10:05

Jamie mentioned that two new interns have been hired for the Malibu Creek Watershed Monitoring Program and have began sampling. The two new hires are Amir Nazemi and Mark Milligan.

Jamie mentioned that sampling at Hidden Valley has been cancelled due to the fact that the location is on private property and has been difficult to enter. Also it has been determined that the samples are more lake water than creek water which defeats the objective of the monitoring program.

Hot spot will begin testing next month, March, and five sites have been proposed. A pie chart was handed out; it lists all twelve sites that have been monitored for the past year. The five sites under consideration are, Liberty Canyon, Lindero 1, Las Virgenes 2, Medea Creek 1 and Russell. These are the top polluters based on mean values for all

parameters. Lindero 2 and Las Virgenes 1 had the same percentage as Medea 1, though they were not chosen since the upper and lower stream of these creeks will be hot spot tested. A new concern is that Liberty Canyon and Russell have a low flow and this may become a problem in the dry weather season. A suggestion by Darla Wise was made to choose the most populated creeks by the 303(d) list of impairments.

Four Hobo water level loggers were purchased. It was decided to place the four flow meters in Las Virgenes Creek, two upstream at location Las Virgenes 1 and two downstream at location Las Virgenes 2. The creek meets the flow meter requirements and will be installed this week or next, depending on delivery. They were purchased at a total of approximately \$2,000 dollars.

Copies of Malibu Creek Watershed Monitoring Program Progress Report No. 8 were handed to the stakeholders in attendance at the meeting.

10:40

Randall Orton of the LVMWD discussed progress they have made with water research. He also mentioned the importance in noting land use and types of areas surrounding monitoring sites when taking into account pollution. LVMWD will be looking more closely at Las Virgenes Creek and will be sampling for nutrients and composites.

10:50

Eric Stein and Liesl Tiefenthaler of SCCWRP, gave a presentation entitled "Bacteria Reference Watershed Study." The presentation described the monitoring program they have developed in order to receive support from the TAC committee. They listed twenty sites in five counties that are proposed to be monitored. The Malibu Creek Watershed has one proposed site, Cold Creek. A list of site disqualifications was shown, including those with fires in the watershed within the past three years, as an example of why a site was disqualified.

There was much concern regarding site exclusion based on fire since the Malibu Creek watershed is an area known to have natural fire cycles. Many feel that the program should recognize areas prone to fires as natural conditions and include them in the study.

Moreover, the Cheseboro site was sampled before the fire and recently burned. Eric Stein is waiting to sample the site again to determine the effects of the fire. The SCCWRP program has completed two-thirds of data collection last year and anticipates more sampling this wet weather season. There is concern however that this is a dry year. The first storm of the year will be sampled for three days straight after 24 hours of rain. One study will be done to mainly focus on bacteria and will add a bacterial indicator for human source. In order to participate in the study, funding must be considered and is estimated at \$33,000 per site.

12:00

Frank Wu, LADPW, proposed a separate meeting before the next TAC meeting to discuss the Reference Study Project in more detail.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, March 15th, 2006

9:00 AM to 12:00 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Darrell Siegrist, VCRMA

Tommy Liddell, VCWPD

Michael Lyons, LARWQCB

Alex Farassati, City of Calabasas

Joe Bellomo, Cities of Agoura & Westlake

Tom Moorhouse, Clean Lakes, Inc.

Randal Orton, LVMWD

Frank Wu, LADPW

Carrie Wiley, LADPW

Matt Horns, SMMNRA, MCWMP

Stephen Estes, UCLA

Nat Coz, CA State Parks

Dan Florescu, CAA, City of Hidden Hills

Gary Busted, NPS

Holly Andrews, VC Environmental Health

Jennifer Voccola, City of Malibu

9:00 AM

The meeting began with introductions around the group and a reiteration the Mission Statement.

9:05 AM

Matthew Horns discusses and proposes questions regarding the installation of the Hobo Water Level Loggers, specifically location in channel, bolting, and the importance of low flow or high flow rating curves. Tommy Liddell comments and they arrange to meet after the meeting for further discussion.

9:33 AM

Frank Wu discusses the Reference Watershed Study and sites being proposed. Jamie Rinehart distributes a list compiled by Matt Horns of potential sites. The group discusses each and decides that Big Sycamore is pristine but ephemeral. Frank proposes that the list be reduced based on walking distance from parking to sampling. Matt suggests Cheseboro and Palo Comado as potential sites based on similarity. Randal Orton and Frank Wu discuss Cold Creek as being an appropriate site for the Malibu Creek Watershed, based on differences in TDS and alluvium. They decide that Cold Creek is not necessarily pristine but a good reference site for bacteria. Gary Busted suggests Upper Conejo Creek at the Chumash Museum in Thousand Oaks. Upper Carlisle Canyon is suggested as access into Box Canyon. Nat Cox does not recommend Wood Canyon. Michael Lyons recommends Upper Arroyo Sequit. Cheseboro is recommended again despite the recent burn; discussions ensue regarding appropriateness of including a burn site in the Malibu Creek Watershed. The west fork of Las Virgenes Creek is chosen over the east fork. Gary Busted recommends Lobo Westlake Tributary for easy access and Upper Carlisle. Final topic discussion focuses on in-kind/monetary contributions to the

project and single contract/single sourcing per city. By next TAC meeting figure preliminary cost per agency and email out prior.

10:20 AM

Frank Wu and Carrie Wiley introduce Malibu Creek Bacteria TMDL. Carrie discusses sites being proposed and hands out maps. Nat recommends that SMMC (MRCA) should be added to the list of responsible parties based on the fact that they have acquired more land than that presented on the map. Nat discusses fairness of monetary contribution based on land use. Darrell Siegrist agrees but notes that time limits the development of other methods of qualification. Randal offers to ask if Las Virgenes would like to contribute monetary funds despite not being included as a stakeholder. Frank Wu notes that Cal-Trans will also be included in the revised calculations. The group decides that regions with less than 1% contributions will be recalculated and redistributed amongst the other stakeholders. Carrie agrees to look into the transfer of land before the recalculations are proposed.

11:10 AM

The next TAC Meeting is set for April 19th from 9 AM to 11 AM at the Calabasas City Hall.

11:15 AM

Matthew Horns gives a presentation on "Life in the Malibu Creek Watershed."

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, April 19th, 2006

9:00 AM to 12:00 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP	Rich Gossett, CRG Labs
Darrell Siegrist, VCRMA	Scott Johnson, ABC Labs
Tommy Liddell, VCWPD	Kirsten James, Heal the Bay
Michael Lyons, LARWQCB	Maryann Jones, LARWQCB
Alex Farassati, City of Calabasas	Lane Cameron, National Park Service
Joe Bellomo, Cities of Agoura & Westlake	Arne Anselm, City of Thousand Oaks
Tom Moorhouse, Clean Lakes, Inc.	Melinda Becker, LARWQCB
Randal Orton, LVMWD	Jay Arceo, CalTrans
Frank Wu, LADPW	Eric Chan, CalTrans
Carrie Wiley, LADPW	Bob Wu, CalTrans
Dan Florescu, CAA, City of Hidden Hills	

9:00 AM

The meeting began with introductions around the group and a reiteration the Mission Statement.

9:05 AM

Jamie Rinehart of the MCWMP discussed the Baseline Report Draft 1 and handed out electronic copies to those stakeholders who requested. All other stakeholders were provided copies via email in four parts. Jamie Rinehart also requested match minutes for inclusion in Quarterly Progress Report No. 9.

9:20 AM

Michael Lyons discusses future water sampling sites with input from Tom Moorhouse. An agenda item is added to the next meeting for future discussion on the subject.

9:45 AM

Frank Wu discusses the Compliance Monitoring Plan and discussion ensues regarding cost share. Lane Cameron has concern over National Park's contribution. Melinda Becker suggests in-kind service as an alternative.

11:15 AM

Frank Wu gives a brief update on the reference watershed study, with monitoring scheduled to begin in May.

11:30 AM

The next TAC Meeting is set for May 17th from 9 AM to 11 AM at the Calabasas City Hall.

Malibu Creek Watershed Monitoring Program
Technical Advisory Committee (TAC)
Meeting Agenda

Wednesday, May 17, 2006
9:00 AM – 11:00 AM

Calabasas City Hall
Council Chamber (Second Floor)
26135 Mureau Road
Calabasas, CA 91302

1. Introductions and Sign-In Sheet (5 minutes)
2. Mission Statement:
 “To identify impairments, establish base line data, coordinate all monitoring efforts, better evaluate success of restoration projects, and provide a central location for data sharing pertaining to the Malibu Creek Watershed.”
3. Approve Revised Minutes from April’s TAC Meeting
4. Malibu Creek Watershed Monitoring Project Update (30 minutes)
 - a) Annual Report
 - b) Progress Report
 - c) Staff Report (coming)
5. Water Sampling Sites, Tapia & MCWMP – Randal Orton (30 minutes)
6. Reference Watershed Study Update – Frank Wu (30 minutes)
7. Plan Next Meeting (5 minutes)
8. Malibu Creek Watershed Monitoring Program Video (10 minutes)

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, May 17th, 2006

9:00 AM to 10:30 AM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Frank Wu, LADPW

Tommy Liddell, VCWPD

Carrie Wiley, LADPW

Alex Farassati, City of Calabasas

Steve Estes, MCWMP

Randal Orton, LVMWD

Holly Andrews, VCRMA

Arne Anselm, City of Thousand Oaks

Melinda Talent, VCWPD

Scott Johnson, ABC Labs

Eric Chau, CalTrans

9:00 AM

The meeting began with introductions around the group and a reiteration the Mission Statement. Meeting Minutes for April, 2006 were approved by committee.

9:05 AM

Jamie Rinehart distributed the Malibu Creek Watershed Monitoring Program's *2006 Annual Baseline Report*. She also announced the near completion of Progress Report No. 9. The report is complete minus invoice/expenditures from the Calabasas Grant Administrator. Alex Farassati announced a staff report will be released soon outlining the results of the MCWMP's *Baseline Report* for distribution to the public, stakeholder boards and councils. Jamie Rinehart also informed stakeholders of the \$1000 reimbursement from the Ventura County Department of Public Works.

9:15 AM

The Malibu Creek Watershed Monitoring Program video was presented.

9:20 AM

Scott Johnson announced confirmation of New Zealand Mud Snails (NZMS) at Medea Creek. A report will be released soon outlining the results of the fish tissue study for the MCWMP that will also include a segment on the NZMS.

9:25 AM

Frank Wu asked for updates on city agreements with SCCWRP regarding the Reference Watershed Study. He also encouraged stakeholders to communicate with Eric Stein directly and to provide him with oral agreements for participation in the study in order to initiate monitoring. Five sites have been finalized for monitoring.

9:30 AM

Frank Wu also announced the latest Coordinated Monitoring Program is complete and ready to be submitted to the Regional Board on May 24th, 2006. The upper estimate for the study is \$250,000 per year for approximately eighteen sites, monitored weekly without accelerated monitoring. The cost sharing agreement was figured without contributions by the National Park Service, California State Parks or the Santa Monica Mountains Conservancy, due to a lack of legal leverage under the TMDL. The study has not secured in-kind service with the NPS. The Monitoring Plan is available on the Los Angeles County Department of Public Works FTP site: ftp://dpwftp.co.la.ca.us/pub/WMD_2/Malibu%20Creek%20CMP/ Monitoring is scheduled to begin in six months after the plan is approved by the Regional Water Quality Control Board. Frank Wu will email the final PDF version the week of May 24th. The group anticipates REC-1 site requirements by the Regional Board or Heal the Bay. The Cheseboro site is still included in the plan despite concern by Heal the Bay.

9:50 AM

Tommy Liddell announced Darla Wise's retirement and the availability of her position. The Draft Permit is scheduled to be available in June. Tommy also gave a brief summation of the National Monitoring Conference in San Jose the week of May 8th, noting presentations on Triclosan and the effects of resurfaced streets on water contamination.

9:55 AM

Arne Anselm announced the near release of the Calleguas Creek Biological Source Tracking Study. According to Arne, the study suggests huge bacteria spikes in effluent do not appear to be from human run-off, rather dog and cow contamination during rain events.

10:00 AM

Randal Orton discussed the Las Virgenes Municipal Water District's Tapia effluent monitoring program. The District is proposing to the Regional Board to discontinue monitoring of the R3 and R9 sites, due to a redundancy in results from nearby monitoring stations. The District is also proposing to reduce monitoring frequency and several monitoring parameters. By mutual agreement between the Regional Board and the District, the monitoring plan can be amended to potentially include other sites for gap analysis in the watershed. The District is interested in making a revenue mutual amendment to the monitoring plan. A meeting is set for Friday, May 19th between Randal Orton, Michael Lyons and Jamie Rinehart to discuss the gap analysis. The topic will be discussed in more detail at the next TAC meeting.

10:30 AM

A request was made to encourage attendance by Heal the Bay at the next TAC Meeting to address issues on several projects. The next TAC Meeting is scheduled for Wednesday, June 21st, 2006 at 10:00AM at the Calabasas City Hall, Main Council Chamber.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, June 21st, 2006
10:00 AM to 12:30 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP	Darrell Siegrist, VCRMA
Mark D. Baker, CRG Laboratories	Joe Bellomo, Agoura and Westlake
Frank Wu, LACDPW	Alex Farassati, City of Calabasas
Carrie Wiley, LACDPW	Mark Abramson, Heal the Bay
Daniel Dang, LACDPW	Eric Chau, CalTrans
Stephen Estes, UCLA/MCWMP	Damon Wing, RCDSMM
Jack Topel, SMBRC	Rosi Dagit, RCDSMM
Arne Anselm, Thousand Oaks City	

10:00 AM

The meeting began with introductions around the group and a reiteration the Mission Statement. Meeting minutes for May, 2006 were approved by committee.

10:05 AM

Agenda Item 5 was summarized by Jamie Rinehart, but the item was postponed until next meeting due to the absences of Michael Lyons and Randal Orton.

10:10 AM

Jamie Rinehart presented the Malibu Creek Watershed Monitoring Program's website for comment and recommendations. The TAC recommended that: the website be linked to the Ventura County water quality webpage, the MCWMP movie be added, links on other agency pages are checked, information be added about the New Zealand Mud Snails, some of the report links be corrected, and links to other water quality agencies be re-added.

10:25 AM

Frank Wu gave an update on the Reference Watershed Study. He reported that the County agreement is in the process of being approved, hopefully by July. SCCWRP has not started monitoring yet. Monitoring protocol is being debated as to whether 10, 50 and 90% grab samples should be used or whether the AB method (25, 50, 75%) should be used. Mark Abramson recommended the 10, 50, 90% method in order to capture the effects of bank algal growth. Frank also reported that Westlake Village has submitted their contract. Joe Bellomo reported that Agoura Hills is filing today. Alex Farassati reported that Calabasas has submitted their report for signature. Arne Anselm reported that Thousand Oaks cannot submit until the County version is officially approved. Five sites are still being proposed for monitoring.

SCCWRP sampling protocol may have to be adjusted to account for the New Zealand Mud Snail discovery. Eric Stein will be contacted at SCCWRP to discuss the effects of the snail on monitoring.

10:35 AM

Frank Wu announced that the Compliance Monitoring Plan was submitted on May 24th, 2006. A final cost sharing agreement is still being developed. Frank anticipates a draft will be circulated soon because it has gone through Council review. The program's next step is to hire a consultant. Weston Solutions has previously monitored for Los Angeles County but their contract is expiring. Frank is going to recommend that the Regional Water Quality Control Board communicate directly with the National Parks Service and California State Parks as to their legal contributions to the Compliance Monitoring Plan. In-kind service through National Parks is still being contemplated in consideration of their large land area. No communication has occurred with State Parks yet. Recommendations were made that the Regional Board enforce compliance across the board to send a strong message.

10:50 AM

Darrell Siegrist distributed a sample MSDS for copper sulfate, a recommended chemical for decontamination of New Zealand Mud Snails.

11:00 AM

Mark Abramson reports that New Zealand Mud Snails have been discovered at the MCWMP sites: MED1, MED2, LV1, LIN1 and MAL. Heal the Bay studies also found 200 snails at HtB-07 site on Medea Creek, between MED1 and MED2. Densities of New Zealand Mud Snails, per 500 macroinvertebrates at each site, as of September 2005, are as follows: MED1 – 422, MED2 – 489, LV1 – 1, LIN1 – 1, MAL – 3.

Stephen Estes of UCLA announces his intention to focus his PhD thesis on the snails and their effects on local fish populations.

Mark Abramson proposes that the Santa Monica Bay Restoration Commission create a datasheet and maintain the database for the New Zealand Mud Snail Presence/Absence Survey. Jamie Rinehart agrees to distribute information on the snails to the stakeholders.

Los Angeles County Department of Public Works agrees to consider changing their Fall scheduled macroinvertebrate study to the Spring, in order to further characterize the spread of the snails through out the watershed.

The monitoring groups agree to devise a protocol for minimizing the spread of the snails and to establish the best decontamination technique. Jamie Rinehart and Mark Abramson agree to stop conducting flow measurements at their monitoring sites in order to avoid entering the creek water. All monitoring from here on out will be conducted from the bank, by sampling pole if necessary. Mark Abramson intends on freezing his boots to minimize spreading the snails. Jamie Rinehart agrees to use different sets of boots at each site.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, July 19, 2006
10:00 AM to 12:00 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP	Joe Bellomo, Agoura and Westlake
Richard Gossett, CRG Laboratories	Eric Chau, CalTrans
Carrie Wiley, LACDPW	Richard Hauge, County of Ventura
Daniel Dang, LACDPW	Michael Lyons, RWQCB
Arne Anselm, Thousand Oaks City	Tommy Liddell, VCWPD

10:15 AM

The meeting began with introductions around the group and a reiteration the Mission Statement. Meeting minutes for June, 2006 were approved by committee.

10:20 AM

Jamie Rinehart distributed a *Summary of Charges for the Malibu Creek Watershed Monitoring Program* which contained three tables. Table 1 outlined the costs associated with each task number since the beginning of the program by Total Prop 13 Spent, Total Match Spent, Total Spent, Total Spent Each Quarter and Total Remaining as of 01/01/2006. On average, approximately \$37,220.96 has been spent per quarter for all tasks combined. This leaves approximately \$557,707.20 remaining in the fund as of 01/01/2006.

Table 2 details the cost per quarter for all tasks combined from 10/2004 through 12/2005. Based on quarters 3, 4 and 5 (04/2005 through 12/2005) on average the program spends approximately \$50,000 per quarter. Based on this estimate, as of 07/2006 the fund should have approximately \$450,000 remaining. Also based on the \$50,000 per quarter estimate, by 03/2007 when the Malibu Creek Watershed Monitoring Program is scheduled to end, the fund should have approximately \$300,000 remaining. Since this money will be reabsorbed by the state if unused, the group discussed potential other tasks that could be included in the contract amendment which would satisfy the original scope of work and benefit the watershed monitoring program.

Table 3 listed four proposed tasks that the excess funds could be applied to. The first proposed task is to extend the monitoring by one quarter to compensate for the loss of data from June through August in response to the monitoring suspension from New Zealand Mud Snails. This is estimated to cost \$50,000. The second proposed task is to contract Aquatic Bioassay Laboratories to write a formal fish toxicity report based on the data from the fish bioaccumulation study they conducted on behalf of the program in 2005. This is estimated to cost \$1500. The third proposed task is to spend roughly \$1,000 in conjunction with the Resource

Conservation District of the Santa Monica Mountains to create a public service announcement regarding the New Zealand Mud Snails as a Task 11 Outreach activity. The fourth proposed task is to begin weekly bacteria monitoring at eighteen sites in the Malibu Creek Watershed beginning in December, 2006 to gather data for the Compliance Monitoring Plan. It was also suggested that a fifth task be added to develop the QAPP for the Compliance Monitoring Plan. The Compliance Monitoring Plan is estimated to cost the watershed's stakeholder agencies approximately \$250,000 per year. According to the *Summary of Charges the Malibu Creek Watershed Monitoring Program* there should be approximately \$200,000 remaining in the MCWMP fund to contribute to this effort. The group agreed unanimously to approve all five proposed tasks and include them in the contract amendment being submitted to the Regional Water Quality Control Board this month.

Jamie Rinehart also discussed collecting data from each agency outlining the monitoring efforts in the watershed in order to determine the need for future monitoring. An email will be sent out again requesting information on monitoring sites, costs, parameters and timelines to each agency.

11:00 AM

Jamie Rinehart gave a brief update on the Reference Watershed Study based on an email received from Eric Stein. According to Dr. Stein, SCCWRP has received agreements from Westlake Village, Agoura Hills, Malibu and Calabasas. He is still awaiting agreements from Ventura County, Los Angeles Department of Public Works and the City of Thousand Oaks. Moreover, sampling was initiated on May 15th for the entire southern California study area. Only one instance required the need to sample for bacteroides at a site in San Bernardino County. Following email discussion, SCCWRP agreed to sample by the 10%, 50% and 90% protocol as outlined in their original SOP, however several counties are also conducting flow monitoring at the 25% and 50% points to compare the two approaches. Lastly, SCCWRP has continued to sample the Santa Monica Mountains sites and are taking all appropriate precautions for the New Zealand Mud Snails, including alternating sets of boots and cleaning boots and equipment with a 409 or mild acid solution between sampling sites.

11:05 AM

Agenda item 7 was briefly re-discussed and Michael Lyons explained the need to coordinate monitoring efforts in the future to maintain data collection in the watershed.

11:15 AM

Michael Lyons also gave a brief update on the New Zealand Mud Snail issue and Jamie Rinehart agreed to forward information on sampling and cleaning protocol once agreed upon by Heal the Bay and the Bay Commission, who are currently conducted a presence/absence survey in the watershed.

The next TAC meeting will be held on September 20, 2006 at the Calabasas City Hall in the Main Council Chambers on the second floor at 10:00 AM. In light of the fact that many stakeholders are on vacation in August, the group agreed to meet next in September.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, September 20, 2006

10:00 AM to 12:30 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Joe Bellomo, Agoura and Westlake

Matthew Horns, MCWMP

Eric Chau, CalTrans

Alex Farassati, City of Calabasas

Tommy Liddell, VCWPD

Richard Gossett, CRG Laboratories

Scott Johnson, ABC Labs

Richard Hauge, Ventura County

Randal Orton, LVMWD

Daniel Dang, LACDPW

10:15 AM

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for July, 2006 were approved by committee.

10:20 AM

Jamie Rinehart distributes literature from the Malibu Creek Watershed Monitoring Program's (MCWMP) Monitoring Plan which outlines the acute/chronic toxicity guidance, as well as an informal cost estimate from ABC Laboratories on running toxicity testing for the water flea and fathead minnow. The Monitoring Plan recommends running four toxicity events, twice during the dry season and twice during the wet season at all thirteen sites. This results in a cost of approximately \$51,740. Ms. Rinehart asks the stakeholders present if they are willing to spend this quantity of money on toxicity testing.

Scott Johnson recommends conducting toxicity testing due to the recent inclusion of such analysis in new NPDES permits and the usefulness of toxicity testing when applying the triad approach to water quality analysis. However, he also suggests that the program save money by reducing the number of monitoring locations to main tributary branches and repeating the analysis the following season if toxicity hits are found.

Randal Orton comments that the Las Virgenes Municipal Water District (LVMWD) is also beginning their toxicity testing this fall in the lower watershed, so the MCWMP can save money by concentrating their analysis to the upper watershed.

Joe Bellomo recommends that the money be spent on the Compliance Monitoring Plan instead.

Randal Orton advises monitoring the toxicity testing at choke points in the upper watershed only and then combining collected data with the LVMWD toxicity data.

Matthew Horns comments that Heal the Bay also conducts periodic toxicity testing and that historically they have gotten all non-detects except for the chemical glyphosate (an ingredient typically found in herbicides like Round-UpTM).

Tommy Liddell recommends only conducting wet weather toxicity testing because from his experience dry weather testing always results in non-detects.

Randal Orton proposes holding weekly water samples for testing if a positive toxic is discovered.

Tommy Liddell comments that the transit time is too short to capture toxics and Richard Gossett comments that the water would not be capable of preservation for more than a week.

Tommy Liddell also suggests that instead of testing for a narrow range of toxics, we could expand to a larger list of water chemistry analyses.

Richard Gossett comments that dry weather effluent is predictable so long as sites have been historically under detection limits and industrial contributors are in control.

Matthew Horns comments that natural disasters such as landslides have the potential to dislodge toxics that previously were not leaching into the water systems, and that we could reserve our toxicity testing funds for natural disaster type testing.

Randal Orton suggests testing one dry weather and one wet weather event in the upper watershed only and at the main tributaries to save money.

The group agrees to give the issue further consideration and request input by other stakeholders.

10:45 AM

Jamie Rinehart reports on the successful installation of flow meter casings, with the aid of Tommy Liddell, at Las Virgenes Creek below Meadow Creek Lane. She reports however that the two metal casings installed last spring, in Upper Las Virgenes Creek, have corroded shut so she will be replacing all four casings with PVC pipe.

Randal Orton discusses uploading real time flow data from the county gage in Malibu Creek. He asks the group for support on petitioning the County for getting the project underway. Dr. Orton will also ask for support from the Prop 50 participants and that the Las Virgenes Municipal Water District is willing to pay for the installation.

The group agrees to support Dr. Orton, and Ms. Rinehart agrees to sign a letter evidencing support and coordination on behalf of the MCWMP. The letter will CC all the program's stakeholders.

10:55 AM

Jamie Rinehart gives an update on the New Zealand Mud Snail infestation and the MCWMP's protocol for safe monitoring.

Randal Orton asks if the Regional Board has required the MCWMP to file a Hazard Analysis and Critical Control Point (HACCP). He comments that the LVMWD was asked to file such a report, in addition to being requested to avoid using neoprene waders and sampling by extension pole.

Jamie Rinehart comments that the MCWMP stopped collecting flow data in order to avoid trekking across creeks and that most of their sites do not require entrance into the creek for collection of water quality data.

Matthew Horns comments that State Parks is using the same sampling protocol as before the NZMS discovery, which includes disinfection by a diluted bleach solution.

Scott Johnson reports ABC Labs are using a 409-solution to rinse off boots and nets and disposal of non-reusable gear.

11:05 AM

Daniel Dang reports that Los Angeles County agreed to use funds from the MCWMP for first year monitoring for TMDL compliance. However, the Regional Board has not officially approved the Compliance Monitoring Plan (CMP) yet. The group discusses starting the Quality Assurance Project Plan (QAPP) for the CMP using funds from the MCWMP.

Jamie Rinehart verifies that the utilization of MCWMP funds has been approved by Maryann Jones of the Regional Board.

Alex Farassati comments that we should not wait for Regional Board approval of the CMP before beginning upfront administration or else monitoring in January will be delayed. The group agrees Jamie Rinehart should begin the QAPP.

Joe Bellomo requests a cost estimate from Jamie Rinehart on behalf of Agoura Hills and Westlake Village for the Compliance Monitoring. Ventura County is asked for their cost sharing agreement based on land area. Joe Bellomo requests that National Park Service and California State Parks be asked back for October's TAC Meeting to discuss contributions to the CMP.

Daniel Dang reports that the Reference Watershed Study is underway and that SCCWRP has requested a one time payment. The Calabasas contract has been signed and executed.

The group unanimously agrees to use remaining funds in the MCWMP for the CMP.

Randal Orton reports that the LVMWD is maintaining their regularly scheduled monitoring program and that a request was made to the Regional Board to change their monitoring plan, however the change cannot be implemented because it will result in a higher cost. The request was to reduce 8 monitoring locations to 3 (above Tapia, below Tapia, and at the lagoon) and reduce the frequency of some parameters based on a predictable data set from 20 years of collection. LVMWD had proposed using the money saved from reducing their monitoring to help extend the monitoring efforts of the MCWMP. Dr. Orton proposes to give a presentation on the LVMWD's monitoring plan at the next TAC Meeting, including an explanation of the

monitoring plan, and to draft a letter for the MCWMP stakeholders to sign to evidence cooperation and support to change the plan in order to collect new data and try creative ideas.

Dr. Orton agrees to write a letter outlining the proposal and give a presentation.

Joe Bellomo suggests using the money saved through changing the LVMWD's monitoring program for confirmation of anthropogenic/DNA testing of the watershed.

Randal Orton warns that voluntary testing for scientific purposes has often resulted in special projects being incorporated into new permits.

11:45 AM

Matt Horns distributes literature on how to effectively comment on the Draft Local Coastal Plan for the Santa Monica Mountains.

11:50 AM

Scott Johnson gives a PowerPoint Presentation on the macroinvertebrate study and fish tissue data and comparative studies.

Jamie Rinehart reminds stakeholders we agreed last meeting to pay ABC Laboratories an additional \$1500 for a formal report on the fish tissue analysis, because such a report was not included in the initial cost estimate for the monitoring.

12:25 PM

Randal Orton announces his intention to submit the MCWMP for the Roosevelt Environmental Award.

The next meeting will be held on October 18th at the Calabasas City Hall.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, October 18, 2006

10:00 AM to 12:00 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Frank Wu, LA County DPW

Richard Hauge, Ventura County

Scott Johnson, ABC Labs

Eric Chau, CalTrans

Lane Cameron, NPS

Randal Orton, LVMWD

Roxanne Hughes, Westlake Village

Gary Busted, NPS

Jennifer Voccola, Malibu

Joe Bellomo, Agoura Hills

Alex Farassati, City of Calabasas

10:15 AM

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for September, 2006 were approved by committee.

10:20 AM

Jamie Rinehart proposes a plan for toxicity testing which includes conducting chronic and acute toxicity testing at five sites in the upper watershed (TRI, LIN2, MED2, LC, LV2) once during the dry season and once during the wet season. The projected cost for total analyses is \$11,000.

Gary Busted recommends including Las Virgenes Creek Site 1 (LV1) as a reference site.

Roxanne Hughes states that the testing is being conducted with the assumption that a natural reference site should not have any toxicity.

Scott Johnson reiterates the assumption and adds that toxicity hits are not usually seen in dry weather sampling regardless of natural or urban environments.

Gary Busted comments on the potential for Rocketdyne contamination like jet fuel at LV1.

Lane Cameron adds that National Parks Service will begin quarterly monitoring at eight or nine sites within park property that includes general chemistry, nutrients and microbiology. Lane distributes a handout detailing the monitoring plan and comments that all collected data will be made public.

Randal Orton suggests that toxicity testing be conducted for the wet season during the first rain flush and that dry weather sampling be conducted next season. He also recommends that Malibu Creek (MAL) be included in the dry weather sampling because it was not included in the toxicity

analysis ran by LVWMD earlier this season.

The group agrees to conduct wet weather toxicity testing this season during the first flush at the proposed five sites. If toxicity hits are seen during the wet weather monitoring, a supplemental dry weather monitoring will take place which also includes MAL.

Randal Orton asks if toxicity hits occur during wet weather monitoring, if a Toxicity Identification Evaluation (TIE) becomes part of the afflicted jurisdiction's permit.

Gary Busted recommends that the TRI site be moved farther downstream to Kanan Road in order to capture the bacterial contributions from the horse stables.

Scott Johnson comments that according to the TRIAD approach to water quality testing, toxicity analysis is usually conducted at the same time as hot spot monitoring and bioassessment at the same locations. Thus if we move the TRI site downstream for toxicity testing, we should conduct all future monitoring there as well.

Roxanne Hughes recommends moving the TRI site downstream and using Heal the Bay's historical data for reference conditions. She also suggests reviewing watershed wide monitoring locations to determine the hot spots and not base hot spot analysis solely on data collected by the MCWMP. She references the Malibu Creek Watershed Bacterial Total Maximum Daily Load Draft Implementation Plan for review of watershed wide data and trend analysis, specifically citing Figure 3.

Lane Cameron comments that the National Parks Service writes watershed health reports and that the Malibu Creek Watershed is slated to be analyzed soon and that perhaps a joint effort between the MCWMP and NPS could facilitate the MCW being chosen for analysis as well as monetary contributions.

Jamie Rinehart and Lane Cameron agree to work on the project together.

10:50 AM

Jamie Rinehart distributes graphs of the Meadow Creek Lane Hobo flow logger from September 19th through October 14th which includes pressure and temperature measurements.

11:00 AM

Jamie Rinehart tells the TAC that she sent a draft contract amendment to Maryann Jones which includes an addition to Task 3 for writing the Compliance Monitoring Plan QAPP and an addition to Task 7 for Compliance Monitoring. The amendment also includes a year extension, prolonging the Program until March 2008.

Jamie Rinehart distributes a document by scientists at the Southern California Coastal Water Research Project regarding microbial source tracking techniques. She also comments that she has been in communication with Dr. Stephen Weisberg of SCCWRP, Dr. Jeanette Papp of

UCLA and Dr. Jed Fuhrman of USC regarding source tracking laboratory analyses.

Roxanne Hughes recommends that DNA source tracking be prioritized before compliance monitoring. The group requests that Jamie Rinehart produce a proposal for source tracking which includes a cost estimate.

Frank Wu informs Jamie Rinehart that a consultant just recently produced a report on Marina Del Rey source analysis and that he will put her in contact with them. Frank also recommends an EPA Guidance Document.

Randal Orton states that he is not comfortable using grant dollars for compliance monitoring and would prefer the funds be used for source tracking.

Roxanne Hughes suggests conducting source tracking when compliance monitoring sites have bacterial exceedances.

Lane Cameron comments that usually when NPS has a bacterial exceedance they monitor upstream to determine where the contribution was made.

Randal Orton comments that unless the source is chronic, by the time the data is received from the laboratory to evidence the exceedance the source will likely be gone.

Jamie Rinehart agrees to get back to the TAC with a source tracking cost estimate and plan. She also agrees to place source tracking ahead of compliance monitoring for the time being and to include in the scope of work visual monitoring and inspection of the sites to determine potential bacterial sources.

Richard Hauge comments that source tracking is a very expensive and controversial subject. He cautions that data collected from source tracking will likely be very complex and potentially not very useful.

Randal Orton mentions using other techniques coupled with the source tracking like caffeine tracing.

Jennifer Voccola notes that caffeine tracing does not always indicate a sewage leak due to caffeine often being passed through treated wastewater.

Frank Wu suggests approaching the source tracking with bird watching.

11:30 AM

Randal Orton gives an update on the real time flow data gage at Malibu Creek. He says that the use for real time flow data would forewarn surfers of impending berm openings when the gage reads flows greater than 10 cfs. Surfrider contacted the LVMWD to find out if Tapia is discharging and the idea of real time flow data was conceived.

Randal Orton comments that at the last meeting we agreed to send a letter to the Los Angeles County Department of Public Works evidencing the TAC's support of the gage. LVMWD agrees to pay \$5000 towards the installation and maintenance of the gage.

Lane Cameron recommends utilizing USGS's SCADA system.

Randal Orton reports that the LVMWD's SCADA system does not use the same protocol as USGS. Moreover, LVMWD employees are currently trying to determine whether a modem installation could be used instead of radio reception. Randal also reports that Adam Walden of Los Angeles County and Michael McIntyre of LVMWD are conference calling this week to discuss the installation.

Randal Orton asks Jamie Rinehart to send the draft letter out to the TAC.

11:40 AM

Randal Orton briefly outlines LVMWD's monitoring program and proposed reduction in monitoring sites to the Regional Board. Originally LVMWD monitored three sites near the Tapia outfall to determine the impacts of long term discharge. This was later expanded to seven sites. LVMWD proposes to reduce the amount of monitoring sites near the outfall and use the money saved to extend watershed wide monitoring while still saving public dollars. Two stations are proposed to be dropped from monitoring based on twenty years of historical data. Randal Orton explains that the difference, magnitude of difference and pattern between the two sites has been determined and further monitoring is unnecessary.

12:00 PM

The next meeting will be held on November 15, 2006 at the Calabasas City Hall.

Meeting Minutes / Summary

Malibu Creek Watershed Advisory Council Monitoring and Modeling Subcommittee/ TAC

Wednesday, November 22, 2006

10:00 AM to 11:15 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Gary Busted, NPS

Richard Hauge, Ventura County

Alex Farassati, City of Calabasas

Eric Chau, CalTrans

Tommy Liddell, VCWMP

10:00 AM

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for October, 2006 were approved by committee.

10:10 AM

Jamie Rinehart gave an update on the MCWMP. She informed the group that the Hobo Water Level Loggers installed at Upper Las Virgenes Creek were accidentally scraped out by Los Angeles County Flood Control District during maintenance cleaning of the channel. She is in the process of filing a complaint with LACFCD for reimbursement of the two loggers.

The acute and chronic toxicity testing is postponed until the next rain event.

Maryann Jones is holding the contract amendment to incorporate Compliance Monitoring into the Program until we decide whether we are also going to include Microbial Source Tracking and/or reallocate the funding between tasks.

Alex Farassati comments that the contract should still include Compliance Monitoring, depending on how much money is remaining in the Program and whether source tracking is pursued or not.

10:20 AM

Jamie Rinehart gives a presentation on microbial source tracking as a follow up to the October's TAC meeting.

(The presentation is included as an attachment to these meeting notes.)

Tommy Liddell comments that Periphyton analysis is planned for Callegus Creek.

Gary Busted offers upper watershed labor in collecting Periphyton samples.

Alex Farassati distributes the Las Virgenes Pollution Source Investigation, prepared by Matt Horns.

Tommy comments that a study is currently underway in New Hampshire on pharmaceutical contributions to creek systems. This particular study is addressing the effluent contribution of a retirement home to a nearby creek. Tommy agrees to email Jamie the study for dissemination to the group.

Gary asks if the steel head trout populations are being effected in both the Malibu Creek and Topanga Watersheds. Jamie agrees to follow up with Rosy Dagit and report back to Gary.

Gary comments that benthic macroinvertebrate studies address water quality issues while also investigating the NZMS and steel head trout.

Richard Hauge comments that he has a preference for the epidemiology study. Jamie points out that the epidemiology study is still planned for Surfrider Beach whether the MCWMP contributes money or not. The benefit of contributing funds would be to focus on the upper watershed and study fresh water indicators.

Tommy comments that the City of Santa Barbara recently conducted a study on Arroyo Buru Creek that may have created a genetic library for MST. He also believes that Callegus Creek may have created a library.

Tommy comments that Periphyton studies are a new direction monitoring programs are starting to take and may soon be included in newly issued permits.

Gary asks why Periphyton is preferred over BMIs. Tommy explains that Periphyton doesn't "grow up and fly away," its growth can be tracked to measure nutrients and it's also a stationary sorber of many water contaminants. Periphyton can also be ground up and examined for metals and other pollutants unlike BMIs. Periphyton communities can also be tracked after scouring.

Richard comments that Tree Raine is preparing a septic system density map.

Gary comments that a BMI study is especially useful in that it addresses more than one water quality issue at once and should be considered if Heal the Bay is out of BMI funding.

The group agrees to disfavor focus on the Ramirez Canyon Project, Lake/Sediment Monitoring and projects that will occur whether MCWMP funds are contributed or not. The group also agrees to discuss this issue in more detail at the next meeting.

Alex requests the PowerPoint presentation be given again at the next meeting. In addition he agrees to have Matt Horns present his findings from the Las Virgenes Pollution Source Investigation.

11:10 AM

The group agrees to cancel the December TAC meeting and resume on January 17, 2007.

Meeting Minutes / Summary

Malibu Creek Watershed Monitoring Program Technical Advisory Committee Meeting

Wednesday, January 17, 2007

10:00 AM to 12:00 PM

City of Calabasas

26135 Mureau Road

Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP

Mark Baker, CRG Laboratories

Antony Basil, CRG Laboratories

Melina Watts, RCDSMM

Alex Farassati, City of Calabasas

Jennifer Voccola, City of Malibu

Richard Hauge, Ventura County Health

Roxanne Hughes, Westlake and Agoura

Randal Orton, LVMWD

Eric Chau, CalTrans

Tommy Liddell, VCWPD

Daniel Dang, LAC DPW

10:00 AM – Agenda Items 1, 2 and 3

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for November, 2006 were approved by committee.

10:10 AM – Agenda Item 4.a

Jamie Rinehart distributes Progress Report No. 12 and Invoice No. 6 to stakeholder agencies.

10:15 AM – Agenda Items 4.b and 4.c

Jamie Rinehart gives Microbial Source Tracking PowerPoint presentation again. (Attached in meeting handouts)

Roxanne Hughes proposes putting Compliance Monitoring back on the table and using the excess funds in the MCWMP for Compliance Monitoring, perhaps in an effort to reestablish bacteria TMDL limits.

Tommy Liddell comments that he thinks the TMDL is in place and will not be revoked or revised.

Roxanne comments that the TMDL standards are not feasible and asks how agencies can comply with an unrealistic standard.

Mark Baker comments that the MCWMP seems to be going in two directions, either continuing watershed research or answering questions about regulations.

Roxanne comments that the epidemiology study could create a subset of bacterial indicators in the new regulation, i.e. human *E.Coli* versus general *E.Coli*.

Jennifer Voccola expresses interest in participating in a SCCWRP study.

Melina Watts expresses interest in pursuing a pharmaceutical water quality study.

Jennifer comments that such a program should include outreach to stop pharmaceutical inputs to the sewer system.

Randal Orton comments that in LVMWD studies, elevated levels of bacteria existed with incidences of cryptosporidium and giardia but correlation is not necessarily causation.

Tommy thinks that money spent on the epidemiology study will be wasted since the study will go forward regardless of contributions by MCWMP funds and the TMDL will still be in place.

Roxanne comments that giving money to the epidemiology study could allow for a freshwater standard, which is information we might not get otherwise.

Randal comments that approximately 200 persons wading in freshwater in the watershed would be required to determine any sort of correlation and that it is unlikely to find so many freshwater bathers in the watershed.

Roxanne comments that the bacteria TMDL is not the only upcoming TMDL.

Tommy recommends continuing the benthic macro-invertebrate studies. He also states that he thought Periphyton studies might be included in Ventura County's new NPDES permit but its not. They are however seeing increased BMI studies.

Daniel Dang doesn't think that the TMDL will be dismissed, and either way future research conducted by the MCWMP will not change TMDL standards in the short term.

Roxanne asks if the watershed-wide database is included in the estimated remaining dollars.

Jamie Rinehart comments that it is not, nor is the cost of writing the final report. She also reports that the wet weather toxicity testing came back with reduced survival endpoints for the fat-head minnow from samples collected at Lower Triunfo Creek and Lower Lindero Creek. Jamie also comments on Matt Horns investigation of pollutant loadings to Las Virgenes Creek and asks for suggestions from the TAC. So far Matt has not found any obvious sources of pollution to the system.

Randal comments that LVWMD conducted analyses of storm drains and got non-detects for CTR tests. Elevated levels of metals and nutrients were found but were not considered a concern. This cost LVMWD approximately \$5000 per sample.

Roxanne sites a study by Robin Hull at Calabasas that monitored storm drains with "significant dry weather runoff" and found only two drains with elevated pollutant loadings of concern. Roxanne also requests that Matt's data be included in the watershed wide database.

Roxanne requests that the issue of how to use the remaining funds be revisited after the database and final report have been produced. At which point, the stakeholders can go to their decision makers with proposals and recommend which they would like to pursue while remaining within the context of the original scope of work.

Randal comments that after the final report is produced we may find pollution issues that are not currently regulated and might be interested in pursuing research in those areas.

Mark says he would like to see the program go in one of two directions. 1) If we could get SCCWRP to commit to using MCWMP funds for the epidemiology study to establish a freshwater standard in writing, he thinks it would be useful and interesting for the program. 2) Source Tracking with a new direction, maybe optical brighteners, maybe sorting the watershed into likely sources of bacteria like horse stables, campgrounds...etc.

Roxanne says that as a contingency of the grant, extra money was allotted for unforeseen problems that may come up in the watershed and that it may come down to using extra money for such problems or for offsetting costly regulations.

Tommy states that Periphyton is coming up fast and probably just not included in their permit because not enough information is available yet.

Roxanne suggests that depending on how much money remains that we might want to choose four projects for consideration by city managers and then choose one and a backup.

11:40 AM – Agenda Item 5

Melina Watts discusses pharmaceutical contributions to the watershed and asks what can we do and what should we do? She reports that Los Angeles County hazardous waste pick up does not include pharmaceuticals, but that they will unofficially take them back. Agoura Hills is the only city in the watershed that accepts drugs. Melina thinks drug stores should be responsible for take back programs, but of 10 she called within the watershed, none accept used or expired drugs.

Tommy mentions a program set up with drop boxes at sheriff's stations.

Melina feels that is an undue charge for police departments. One pharmacy she called said they would take drugs back off the record. Incineration is the preferred method of disposal. Melina thinks we should work to have drug companies take back drugs along with the County and in local hazardous waste take back programs.

Randal suggests taking the issue to the Bay Commission, for support by a "strong parent."

Melina recommends talking to Mark Gold about the issue and getting Heal the Bay's support.

Mark comments that a take-back program has to be convenient and easy to work.

Randal thinks take back programs should be available at local chain stores. He comments that Tapia has an incinerator but that the LVMWD does not want custodianship of narcotics. But

maybe a program can be designed to put collection cans at pharmacies and then somebody would assume the responsibility to collect the cans and carry out proper disposal. Randal recommends we look into having such a project grant funded.

Melina also suggests that grant money be pursued, especially to include outreach and a public service announcement to encourage people to reduce drug intake and not to flush drugs down the toilet.

Randal suggests inclusion in Round Two of the IRWMP funding.

Alex Farassati offers for Calabasas to do a pilot take back program.

Melina offers to pursue contacts at UCLA to see if their hospital will create a take back program and then also reach out to local doctors.

Randal states that he is not convinced that pharmacies cannot be won.

Melina offers to write a grant to get funding and see if the Waste Management Board has information or contacts to contribute.

Richard Hauge comments that the Waste Management Board is currently working on a sharps (needles) take-back program to divert them from landfills.

Tommy suggests Melina contact Keiser Permanente because they took back expired medications, but that it may be on a case by case basis.

Randal suggests moving this discussion to the IRWMP table for funding and include a list of drug stores in the watershed and check companies and agencies with other take back programs in place that might expand to include pharmaceuticals.

Mark comments that once you have one pharmacy agree to take them back that you can use that as leverage to convince other pharmacies to do the same.

Randal says he would like to see mini MSDS on drug labels that includes disposal instructions.

11:50 AM – Agenda Item 6

Los Angeles County has no new information to report about compliance monitoring or the reference watershed study.

11:52 AM – Agenda Item 7

Randal Orton distributes photographs of LVMWD pipes that broke during the recent freeze. He states that forty pipes broke each costing about \$1400 for repair and that the LVMWD received some 200 calls from customers about broken pipes.

The next meeting will be held on February 21, 2007 at 10:00 AM at the Calabasas City Hall in Conference Room No. 3

Meeting Minutes / Summary

Malibu Creek Watershed Monitoring Program Technical Advisory Committee Meeting

Wednesday, February 21, 2007
10:00 AM to 12:00 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP	Eric Chau, CalTrans
Mark Baker, CRG Laboratories	Daniel Dang, LAC DPW
Antony Basil, CRG Laboratories	Michael Lyons, Regional Board
Melina Watts, RCDSMM	Casey Burns, NRCS
Alex Farassati, City of Calabasas	Matthew Horns, City of Calabasas
Richard Hauge, Ventura County Health	

10:15 AM – Agenda Items 1, 2 and 3

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for January, 2007 were approved by committee.

10:20 AM – Agenda Item 4

Casey Burns asks for a brief summation of the Malibu Creek Watershed Monitoring Program.

Jamie Rinehart explains the MCWMP, the stakeholders and the purpose of the technical advisory committee meetings. Jamie also gives the following updates on the Program:

- a) Toxicity results from the first flush on December 11th, 2006 came back with reduced survivability for the fathead minnow at both Triunfo Creek and Lower Lindero Creek.
- b) In response to these results, dry weather toxicity testing was repeated at these sites in conjunction with Hot Spot testing at seven sites: Liberty Canyon Creek, Triunfo Creek Alternate (HtB-17), Russell Creek, Lindero Creek Site 2, Medea Creek Site 1, Malibou Lake Outfall (HtB-4) and Las Virgenes Creek Site 2.
- c) The second year annual report, data compilation and quality control checking is underway. The draft report is planned to be released in May for comment.
- d) The flow meters are performing well, although one flow meter casing in upper Las Virgenes Creek was damaged; the meter itself was unharmed and continues to log data. The casing will be replaced next week.
- e) ABC Laboratory released their draft fish bioaccumulation study and the final report will be released to stakeholder agencies when made available, likely by the next TAC meeting.

Michael Lyons suggests that if toxicity results are found again at Triunfo and Lindero Creeks that a complete TIE study be performed.

10:30 AM – Agenda Item 5 was temporarily skipped

10:30 AM – Agenda Item 6

Randal Orton is unable to present on Agenda Item 6 so Jamie Rinehart hands out an update on the steelhead trout population crash from Rosi Dagit of the Resource Conservation District of the Santa Monica Mountains. (*See attachment b*)

Melina Watts offers to give a brief summation of the findings to date:

- a) In the spring of 2006, 245 steelhead trout were reported by the RCD in Malibu Creek. Surveying was not performed in July due to the New Zealand Mud Snail. In August, 145 healthy-looking steelhead trout were observed and 37 yellow-colored trout were observed. In October, only 2 regularly colored trout were observed and in November no trout were observed.
- b) The RCD received approval to sacrifice 3 steelhead for analysis. Results from basic analysis of the trout did not indicate any obvious reason for the die off.
- c) Supplemental analyses by specialists noted the presence of trematodes on the fish. The trematodes are apparently not associated with the New Zealand Mud Snail.
- d) No spills or discrete pollution events are known to have occurred during the die off period between May and November, 2006.
- e) The Las Virgenes Municipal Water District performed a toxicity study in the fall but did not find anything unusual.
- f) A BT application occurred during this period but was within normal quantities.
- g) The summer of 2006 is noted as having been hot, but not beyond the range tolerable by steelhead trout.
- h) No yellow trout have been reported as the result of a NZMS infestation anywhere in the world.
- i) Unusual quantities of “muck” were observed during the surveying but do not translate into an obvious cause for the die off.
- j) Rosi Dagit is releasing a full report on the situation in March 2007.
- k) The theory that fire retardant exposed to high UV levels could result in toxic conditions is still under investigation.
- l) Other invasive species including the bullfrog, crayfish, bass and bluegill are also reported to be reduced in numbers.
- m) Anecdotal reports say fish populations upstream from Rindge Dam still exist.
- n) Bobcats, deer and coyotes are also reported to be experiencing population shifts with bobcats and coyotes contracting range and reducing in numbers and deer increasing in numbers.

Matt Horns reports seeing one yellow trout approximately three years ago during the first snorkel survey in Malibu Creek. He reports that approximately nine steelhead trout were recorded then. Matt also comments that when he did a search through Google for “trout and yellow coloring” he found several articles on pesticides, though he could not find in the articles where yellow coloring was observed.

Mark Baker suggests making a list of these pesticides and comparing it to the toxicity analysis list to see if the correct toxics are being tested for.

Melina Watts and Michael Lyons suggest the possibility of synergistic effects by pesticides/toxics causing the die off.

Michael Lyons announces the Santa Monica Bay Restoration Commission's Aquatic Invasive Species Conference at Loyola Marymount University on February 22, 2007.

11:00 AM – Agenda Item 5

Matt Horns begins his presentation on the Las Virgenes Creek Pollution Source Investigation. He discusses the creek's 303(d) listed impairments but notes that he has not ever seen scum/foam but does often see a thick muck on the creek bottom. Matt suggests that reducing the nutrient impairment would likely result in reductions of other impairments. He reports that per the 303(d) listing impairment for coliform, Calabasas sampled for total coliform at all sites and had coliform hits above the City of Calabasas boundary.

Mark Baker offers to have CRG review the data results.

Michael Lyons comments that limits of 1600 for total coliform indicate a low dilution series.

Antony Basil recommends conducting fecal coliform analysis in addition to total coliform because the price for both is less than the price for each separate. He also suggests requesting more dilutions.

Matt reports that the storm drains they sampled had less coliform, though the result might be an effect from rain in November flushing out the storm drains. Matt also reports excess irrigation of one cubic foot per second at Poppyseed Lane that had hits for coliform.

Melina Watts suggests that pet cats be kept indoors to reduce the amount of cat scat in the environment, and notes that the ratio of cats is likely a hundred times that of coyotes. She also comments that dog owners are conditioned to pick up dog scat but cat owners do not typically pick up after their outdoor cats.

Matt reports that coliform samples were taken of the influent and effluent to the treatment wetland area at the Calabasas Bark Park and that the effluent coliform sample was the cleanest collected, indicating that the treatment wetland is performing. Matt also notes that he saw storm drain flow without surface flow suggesting groundwater intrusion into the storm drain system and the possibility that storm drains breed bacteria.

Alex Farassati comments that the CBI installed at Lost Hills Road produces more bacteria.

Matt asks the TAC if it's possible to clean storm drains.

Antony comments that its very likely storm drains regenerate bacteria.

Matt reports that selenium was found in every sample collected, but very little was found in the imported water supply. He comments that selenium is likely contributed by marine shale in the area, but also thinks a more complex relationship exists between selenium in anoxic and aerobic

conditions. He suggests that selenium dissolves and precipitates as it moves through a system and this may be determined by nitrate concentrations. Dr. Hibbs of Cal State Los Angeles is working with Matt on the possible relationship between selenium and nitrates. Matt asks if anybody is aware of the chemistry behind such an interaction.

Mark suggests asking Rich Gossett.

Jamie Rinehart suggests Matt research loco weed's ability to store and release quantities of selenium.

Matt reports that the highest concentration of selenium was coupled with the highest concentration of nitrate in water collected from a weep hole in the culvert by City Hall in Las Virgenes Creek.

Antony recommends comparing the low and high concentrations of both selenium and nitrate to see a relationship actually exists.

Matt will present the full report including data at the next TAC meeting.

Melina recommends Calabasas utilize the maps produced by the LVMWD which show each household and those that over irrigate, as a method for addressing reduction of urban runoff. She suggests Calabasas partner with the LVMWD on their project to discourage over-irrigation.

Mark suggests Matt look into the City of Newport Beach's run-off reduction program and ordinance. (*Contact info: Bob Stein, Principal Civil Engineer, (949) 644 – 3322, rstein@city.newport-beach.ca.us*)

Alex notes that Randal Orton presented his program to the City Council and is scheduled to present at the next Environmental Commission meeting.

Melina suggests looking into the program established by the Central Coast Vineyards Association. She also notes a recent ordinance passed in Lake Tahoe which holds individual homeowners responsible for runoff reduction for TMDL compliance.

Alex asks what the stakeholders would like to see in Matt's report and how it be submitted. The group suggests electronic data submittal for peer review, inclusion of EPA guidance on urban runoff reduction and review of SCCWRP's RRR study.

Richard Hauge comments that reducing urban runoff will eventually need to become a behavior modification similar to the water conservation efforts made during droughts and litter reduction programs.

Matt's recommendations for improving the water quality of Las Virgenes Creek include: reducing urban runoff, creating more treatment wetlands, modifying the CBI unit at Lost Hills Road, encouraging changes in gardening with metered runoff and public education.

For further comments or suggestions on the Las Virgenes Creek Pollution Source Investigation please contact Matt Horns via email at mhorns_1@hotmail.com.

11:50 AM – Agenda Item 7

Daniel Dang reports that the Reference Watershed Study went through County Council and onto fiscal for processing.

11:55 AM – Agenda Item 8

Mark notes that John Griffith of SCCWRP reported that the LA River Watershed should not include ribotyping in its toolbox. Due to the complexity of the watershed, a sufficiently large library could not be created, and that they are moving away from library dependent methods. Their next proposal focuses on indicators including bacteroides and library independent methods.

The next meeting will be held on March 21, 2007.

Please note the following attachments for review:

- a) Matt Horn's Draft Las Virgenes Creek Pollution Source Investigation Report for comment*
- b) Malibu Creek Fish Die Off Update by Rosi Dagit of the RCDSMM*
- c) Assessment of Fecal Indicator Bacteria in both Dry Weather and Post-Storm Events from Reference Watersheds in southern California by SCCWRP*

Meeting Minutes / Summary

Malibu Creek Watershed Monitoring Program Technical Advisory Committee Meeting

Wednesday, March 21, 2007
10:00 AM to 12:00 PM
City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

TAC Members who attended the meeting were as follows:

Jamie Rinehart, MCWMP	Antony Basil, CRG Laboratories
Richard Hauge, Ventura County Health	Matthew Horns, City of Calabasas
Joe Bellomo, Cities of Westlake and Agoura	Gary Busted, National Park Service
Alex Farassati, City of Calabasas	Michael Lyons, LARWQCB
Randal Orton, LVMWD	Eric Chau, CalTrans
Scott Johnson, ABC Labs	Daniel Dang, LACDPW
Misty Mercier, CRB Labs	

10:15 AM – Agenda Items 1, 2 and 3

The meeting began with introductions around the group and a reiteration of the Mission Statement. Meeting minutes for February, 2007 were approved by committee.

10:20 AM – Agenda Item 4, 1

Jamie Rinehart distributes a hand out requesting technical advice from the committee on three topics. The first request for advice is in regards to whether or not we should pursue conducting a complete Toxicity Identification Evaluation (TIE) based on the results of previous toxicity and hot spot tests.

The first toxicity testing for wet weather was conducted in December 2006. The results came back with reduced survivability for fathead minnows at Lower Triunfo Creek (IC25 27.78% effluent) and Lower Lindero Creek (IC25 48.39% effluent). Toxicity testing was repeated during dry weather in February 2007 at the two sites with toxicity hits in December. The results came back with reduced survivability (IC25 16.48%) and reduced growth (IC25 18.76%) for fathead minnow at Lower Triunfo Creek and reduced survivability (IC25 40.28%) and reduced growth (IC25 37.61%) for fathead minnow at Lower Lindero Creek.

Hot Spot testing was conducted concurrently with the dry weather toxicity and found various trace metals, phthalates and naphthalenes in the watershed. No cyanide, chlorinated pesticides, PCB congeners or asbestos was detected. Trace metal, phthalates and naphthalene results appear to be below EPA recommended limits and unless they are combining to form synergistic effects, do not appear to be the cause of toxicity to the fat head minnow. Thus, Jamie thinks a complete TIE is warranted but would like technical input on the issue.

Scott Johnson comments that a full TIE cannot be conducted unless the water comes back as

toxic, which isn't a guarantee.

Randal Orton asks why LVMWD toxicity results conducted by the same lab, roughly a month prior in the lower watershed, had better survivability and if there is any connection.

Scott suggests that whatever is causing the toxicity in the upper watershed might be flushing as it moves down the system and may not show up in the lower watershed. He says he would not necessarily connect the two.

Randal suggests Jamie compare the three toxicity sampling events to rainfall data to see if flushing effects are causing the toxicity.

Scott recommends finding a SCCWRP publication that addresses flushing effects and toxicity.

Misty Mercier comments that SCCWRP's report is based on five years of rainfall.

Scott says ABC will not charge for determining whether the samples are toxic or not.

Randal asks how much the TIE's cost per site.

Jamie comments that ABC quoted \$3000 per site and two sites are being considered.

Scott forewarns that Phase I TIE characterization may only tell you types of compounds causing toxicity.

Randal mentions running the toxicity testing under UV light on the last day to see if toxicity is induced.

Jamie asks how fast the TIE results will become available.

Scott says about two to three weeks after collection.

Randal suggests conducting the TIE this week since a little rainfall recently contributed to the system. He also asks Daniel Dang if he knows anything about the status of the stream gage telemetry.

Daniel Dang comments that he hasn't heard anything but he will check up on it.

Randal says last he heard the equipment had been ordered but an issue arose with reporting live data without quality control checking. So instead the Las Virgenes Water District is going to report the raw data on their website as flood watch information.

Joe Bellomo asks for confirmation that no charge will be made for determining toxicity.

Scott explains that the sample must be confirmed toxic before a full TIE can be conducted, and confirmation of toxicity is not charged.

Jamie agrees to conduct the TIEs this week if possible.

Scott says he will find out how many liters are necessary and how fast the lab can mobilize for the testing and get back to Jamie.

10:40 AM – Agenda Item 4, 2

Jamie also asks for technical advice on purchasing advanced statistical and graphical software. She explains that though she is comfortable with Excel, it isn't quite sophisticated enough to produce multivariable correlations and quality graphics. She would like software with PCA and advanced graphing capabilities, that is Excel/Access compatible, is easy to learn/use, oriented for environmental data and of low cost.

Randal agrees Excel has limitations and better software may be valuable to the final report.

Gary Busted recommends PC Ord and offers to let Jamie come try it out at the NPS office.

Misty comments that CRG produces their graphics with Excel and manipulation through PowerPoint.

Jamie asks how much she should spend on the software.

Randal suggests emailing Edward Tufte for a software recommendation and comments that the cost is not an issue because he will also need to use the software.

Gary adds that NPS also has Systat software if Jamie would like to try that as well.

Jamie comments that she would like to see the software but is concerned with spending too much time trying to learn a new program.

Joe suggests sending Jamie to training to expedite the process.

Randal requests that all data shared in the group be in Excel format.

Michael Lyons recommends Access be included.

Gary agrees there are limits to moving large sets of data between Excel and Access.

Daniel requests that qualifiers be separated from quantities for the purpose of analysis and points out that greater than and less than signs often complicate data sets.

Randal recommends when combining data to include the lab qualifiers in color so sources can be easily distinguished. He also recommends drawing laboratory detection limits onto graphics in order to show the confidence of data.

10:50 AM – Agenda Item 4, 3

Jamie asks whether the TAC would like to repeat the hot spot testing as it is outlined in the

Monitoring Plan.

Michael comments that the Hot Spot testing doesn't seem worth repeating unless certain pollutants are nearing or exceeding CTR limits.

Randal suggests focusing the hot spot testing at one site and nearby storm drains.

Michael comments that there are techniques to reducing the detection limits of certain compounds in order to determine if "ND" are equal to "0." He recommends asking Keith at SCCWRP.

Misty says that large quantities of water can be filtered in the field and then the filter fibers are analyzed instead of collecting and analyzing many liters of water in the lab.

Randal recommends researching what compounds are known to kill fat head minnow in order to focus the hot spot testing.

Richard Hauge comments that the issue is a matter of how much money and time should be committed to determining the cause of the toxicity.

Michael recommends letting the TIE proceed and then determine whether Hot Spot testing is warranted.

Scott adds that the TIE findings can direct the Hot Spot testing towards classes of compounds.

10:55 AM – Agenda Item 5

Alex Farassati prefaces the agenda item by stating that the Source Investigation is not funded by the MCWMP but by the City of Calabasas in order to determine why pollutant loads increase within City boundaries.

Matt reports that per the recommendation of the TAC last meeting, resampling was conducted on Las Virgenes Creek to include fecal coliform, enterococcus, and E.coli. However, AET Lab mistakenly reduced the detection limits on the total coliform/fecal coliform samples and the resulting values did not provide any useful information. Matt also reports that the bacteria levels in general seem "suspiciously low" and asks the TAC for feedback on the issue.

Antony asks which methodologies AET used to analyze the samples.

Matt responds that he is uncertain but will provide Antony with a copy of the results after the meeting.

Scott comments that the bacteria loads from storm drains seem low.

Matt agrees that they seem suspiciously low.

Randal comments that if the lab followed protocol then the results are data, but it would be

worthwhile to confirm with the lab.

Matt asks if maybe there was a bacteria die-off associated with the recent cold spell.

Randal comments that bacteria can die from being frozen but its not likely given the micro environments provided by creeks.

Richard says that its hard to draw any conclusions from the data.

Antony adds that >23 could be any magnitude of bacteria.

Joe suggests repeating the testing.

Antony comments that high levels of E.coli usually accompany high levels of fecal coliform since a large number of E.coli bacteria are fecal coliform bacteria.

Matt responds that he would like to do more testing. Matt distributes a handout provided by Dr. Hibbs of Cal State Los Angeles showing a positive correlation between selenium and nitrate loads.

Randal comments that on the Las Virgenes Creek graph, if you remove the outlier the correlation decreases to 0.49.

Matt explains that the theory behind the relationship is when nitrate laden water percolates through selenium containing soils, selenium becomes oxidized and soluble. He thinks by reducing nitrate loads to the system that other impairments will be reduced. He suggests that the nitrate loading may be from the reclaimed water source.

Randal comments that Tapia has varied their nitrate loads and he offers to check if selenium loads have varied in response and will report back to the group.

Matt asks for comments regarding to direction of the selenium/nitrate project and distributes an updated draft of his report.

Joe asks for clarification on whether a single source is contributing both nitrate and selenium to the system or if the source of nitrate is causing a source of selenium.

Matt confirms that it appears the source of nitrates to the system is causing a source of selenium. He explains that the natural substrate of the upper watershed contains selenium.

Randal comments that it's possible the selenium is denitrifying the nitrate.

Scott suggests running other correlations to see if a group of conditions causes the increase in selenium, like pH.

Randal suggests also running a PCA on the data.

11:15 AM – Agenda Item 6