San Diego Stormwater Copermittees

Dry Weather Monitoring Workgroup

February 15, 2006 Meeting Summary

1. Introductions/Updates

Attendees

Name	Organization
Bechter, Danis	City of Poway
Campagna, Laurence	Weston Solutions
Crumpacker, Andrea	Weston Solutions
Cruz, Dan	PBS & J
Dadkhah, Arsalan	D-Max Engineering
Davy, Paul	County of San Diego, Agriculture
Erickson, Jessica	City of San Diego
Hartman, Paul	City of Encinitas
He, Li-Ming	County of San Diego, Watershed Protection Program
Lahr, Roger	Calscience Labs
Matlaga, Julie	City of Oceanside
Shrake, Jay	MACTEC
Silynroberts, Greta	PBS & J
Sonksen, Andre	City of San Diego
Stransky, Chris	Nautilus
Wang, P.F.	Space and Naval Warfare Systems Center San Diego
White, Michelle	Port of San Diego

2. 2005 Dry Weather Monitoring Data

- Datasharing format and data submittal
  Considering a proper regional data analysis to be conducted in a timely manner, dry weather monitoring data collected by Copermittees in 2005 must be submitted to Weston Solution (Susie.Watts@WestonSolutions.com) by **April 19, Friday, 2006** using the finalized datasharing format. The same format was used for submitting 2004 dry weather monitoring data. However, a drop-down list of valid (standardized) entries has been added for each of the particular fields in order to compile data with a unified format. Andrea Crumpacker (Weston Solutions) demonstrated the application of drop-down lists and answered questions related to the additional improvement. The finalized datasharing format is attached.

- Discussion on the recommendation of feasible database development
  The goal of a feasible database development is to make it easier for data entry, storage, retrieval, reporting, and analysis. Arsalan Dadkhah gave an introduction of the development of database. While dry weather monitoring data were collected, a traditional way to store them was to use a table, within which each row contained data from only one sampling event. The data would include site ID, date, time, location, and values for various constituents. Information about analytical methods used and associated reporting limits would be found in a separate table, as would sample matrix and lab information. The units used would typically be in column headers.

  Beginning in 2004, a new data sharing format was introduced and used by Copermittees to report the 2004 dry weather monitoring data to a central location. The four tables used in the format were designed to be compatible with a model database developed by SCCWRP according to SMC guidelines. While this was a helpful step for data analysis, it required additional time for data entry because a number of fields required repetitive data entries, particularly in the Field Measurements table. The processes may introduce risk of errors in recording/transferring data, and take longer time as well. It had been reported that a fair amount of errors had been observed in the dry weather monitoring data provided to Weston Solutions. To address these concerns, the idea of developing a database that would programmatically convert data to the format now required was raised. The proposed database would not be intended to replace or substitute for a regional database including information from multiple Copermittees; its main function would be to provide a more efficient and accurate means of converting data to the required format. Depending on the scope of a project/program, that sort of database could potentially be used for other monitoring efforts such as coastal storm drain outfall monitoring.

  During discussion, Paul Hartman pointed out that a database was the base for managing historical data for data analysis. As the database is handy to individual end user, a centralized database is also important for watershed-based or regional data analysis and water quality assessment. An ideal centralized database would be one that an interested user is able to access to the database whenever they need to obtain information. It was realized that both individualized and centralized databases are necessary for effective watershed-based water quality assessment and management. This issue has been recommended to the Regional Monitoring Workgroup for further consideration and management.

- Data quality related to the SWAMP Program
  In order to produce scientifically sound and reliable data, quality assurance and control is the central part of the whole process of data generation. State Board requires that all SWAMP programs use the developed Quality Assurance Project Plan (QAPP). Although our Dry Weather Monitoring Programs are not exactly same as SWAMP in terms of sampling size, analytes, and coverage, many of the requirements and procedures described there are similar and can be modified to fit our needs. Li-Ming (Lee) He introduced to the Workgroup with a summary of SWAMP QAPP elements. Please see the appendix for an example of a general QAPP.

3. Presentation

The regional dry weather monitoring data indicated that the majority of exceedances of dry weather monitoring action levels included fecal indicator bacteria among all measured parameters. To address this issue, the Workgroup invited Dr. P.F. Wang of the Space and Naval Warfare Systems Center San Diego to give a presentation on bacterial TMDLs. The presentation is entitled “TMDL of Fecal Coliform for Sinclair/Dyes Inlets, WA”. This project was conducted in collaboration with many Federal, State, and local governmental agencies. The goal of this study was to identify microbial pollution problems within the Sinclair-Dyes Inlet watershed and to develop a fecal coliform TMDL to address the pollutant and all identifiable sources in the watershed. FC levels were higher in more developed watersheds with greater

population densities, in areas with a greater percentage of impervious area, and in areas served by older sewer infrastructure or onsite wastewater treatment (septic) systems (OWTS). Higher FC levels and violations of water-quality standards (WQS) were also more likely following a major storm event that produces stormwater runoff that entered the marine receiving waters via streams and stormwater outfalls. The loss of natural forest cover and the increase in impervious surfaces associated with suburban and urban levels of development were found to be correlated with FC contamination levels and the resultant violations of WQS. A HSPF Model has been developed that consisted of 224 open channel drainage basins, resulting in 392 "pour points" into the Inlets. The developed model included a receiving water model dealing with fresh water inflows from the watershed, benthic contaminant transport model, and a bacteria die-off and growth model. The model was successfully applied to the development of FC TMDL in Sinclair/Dyes Inlets.

4. Next Meeting

Next meeting will be held on March 15, Wednesday, 2006 from 10 am to noon at the County's facility on 9325 Hazard Way. An agenda will be sent out at least one week ahead of time.

Appendix. Quality Assurance Project Plan Elements

For distribution and discussion within
Dry Weather Monitoring Workgroup
February 15, 2006

1 Project Management

1.1 PROGRAM ORGANIZATION
1.2 PROBLEM DEFINITION/BACKGROUND
1.3 PROGRAM DESCRIPTION
1.4 QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA
1.4.1 Data Quality Definitions
1.4.2 Data Quality Objectives for Field Measurements
1.4.3 Data Quality Objectives for Laboratory Analysis
1.5 SPECIAL TRAINING REQUIREMENTS/SAFETY
1.6 DOCUMENTATION AND RECORDS

2 Data Generation and Acquisition

2.1 SAMPLING PROCESS DESIGN
2.2 SAMPLING METHODS REQUIREMENTS
2.3 SAMPLE HANDLING AND CUSTODY REQUIREMENTS
2.4 ANALYTICAL METHODS REQUIREMENTS
2.5 QUALITY CONTROL REQUIREMENTS
2.6 INSTRUMENT/EQUIPMENT CALIBRATION, TESTING, INSPECTION, AND MAINTENANCE REQUIREMENTS
2.7 INSPECTION/ACCEPTANCE REQUIREMENTS FOR SUPPLIES AND CONSUMABLES
2.8 DATA ACQUISITION REQUIREMENTS (NON-DIRECT MEASUREMENTS)
2.9 DATA MANAGEMENT

3 Assessment/Oversight

3.1 ASSESSMENTS AND RESPONSE ACTIONS
3.2 REPORTS TO MANAGEMENT

4 Data Validation and Usability

4.1 DATA REVIEW, VALIDATION, AND VERIFICATION REQUIREMENTS
4.2 VALIDATION AND VERIFICATION METHODS
4.3 RECONCILIATION WITH USER REQUIREMENTS

--After SWAMP QAPP