

8 MONITORING AND SURVEILLANCE PROGRAM

This section contains a description of the monitoring and surveillance activities to be undertaken by the Regional Board and the District. Monitoring and surveillance includes monitoring by the District, monitoring and investigations by the Regional Board, and surveillance and inspections by the Regional Board. Acquisition of data is a basic need of a water quality control program, and is required by both the federal CWA and the Porter-Cologne Water Quality Control Act.

8.1 PROPOSED ACTIVITIES

8.1.1 Discharger Monitoring

8.1.1.1 Water Quality Monitoring

The District operates the DCWWTP under Regional Board Order No. R5-2002-0210 (NPDES No. CA 0078662). This Order includes a Monitoring and Reporting Program, which requires the District to monitor Deer Creek temperature weekly at the R1 (upstream) and R2 (downstream) monitoring sites. This monitoring currently occurs and would continue as long as the District discharges treated municipal wastewater to Deer Creek. No additional program for collection of temperature data is necessary. However, upon final approval of the proposed site-specific temperature objectives by U.S. EPA, the NPDES permit for the DCWWTP should be re-opened by Regional Board staff and modified to include the adopted temperature objectives as receiving water temperature limitations. In addition, the NPDES permit's Monitoring and Reporting Program should be modified to require more frequent temperature monitoring, relative to the current NPDES permit, at the R2 (downstream) location.

The District will continue to monitor Deer Creek water temperature at the R1 and R2 monitoring stations defined in its DCWWTP NPDES Permit, and will conduct hourly temperature monitoring at the R2 location upon U.S. EPA approval and implementation of the proposed site-specific temperature objectives. In addition to the NPDES monitoring requirements, the following temporary monitoring of creek temperatures will be required of the District as a condition of the proposed site-specific temperature objective's adoption. *In situ* temperature probes shall be deployed in Deer Creek to monitor hourly creek temperatures at Latrobe Road, Scott Road, and Wilton Road during the months of September through December and again April through June, for a period of three years following adoption of the proposed temperature objectives. This monitoring is requested by Regional Board Basin Planning staff to provide additional data on Deer Creek's seasonal downstream temperature profile during the months specified. Findings shall be disclosed to Regional Board Basin Planning staff in an annual technical report. If there is no flow at the monitoring site during any period that monitoring is required, it shall be noted in the annual report.

8.1.1.3 Flow Monitoring

The District will continue to monitor Deer Creek flow rate at the R1 monitoring station, as defined in its NPDES Permit for the DCWWTP. In addition to the NPDES monitoring requirements, the District will develop rating curves for the staff gages located on Deer Creek upstream of Scott Road and at Wilton Road, which are currently operated by Sacramento County for flood control purposes. The rating curve developed for each gage shall be capable of converting the staff gage reading into Deer Creek flow rate (cfs). The rating curves for both gages shall be developed within one year following adoption of the proposed temperature objectives. Following development of rating curves for these gages, the District shall, using the rating curves developed, estimate and document daily Deer Creek flow rates upstream of Scott Road and at the Wilton Road crossing for the periods September through December and again April through June. This monitoring is requested by Regional Board Basin Planning staff to provide additional data on Deer Creek's seasonal downstream flow profile during the months specified. Findings shall be disclosed to Regional Board Basin Planning staff in an annual technical report. If there is no flow at the monitoring site during any period that monitoring is required, it shall be noted in the annual report.

8.1.1.2 Biological Monitoring

In addition to conducting water quality monitoring weekly (see above), the District shall fund biological assessments of Deer Creek's BMI community (using CDFG's California Stream Bioassessment Protocol) twice/year (spring and fall) for two years (total of four surveys). The District has committed to fund these surveys and has already funded the first of four surveys, which was conducted by Bioassessment Services in the October 2000. Findings from this October 2000 BMI survey are discussed in this Draft Staff Report (see Section 3.2.1.1).

The District also shall monitor the hydrologic conditions that occur in Deer Creek and the Cosumnes River during the period October through April, annually using data collected from the Scott Road and Wilton Road automated gauging stations which are operated by the County of Sacramento following adoption of the proposed temperature objectives. In the event that hydrologic conditions conducive to potential opportunistic use of Deer Creek by anadromous salmonids occur, the District shall fund a fish survey to investigate whether anadromous fish made opportunistic use of Deer Creek. Conditions conducive to potential opportunistic anadromous fish use of Deer Creek are: 1) surface flow hydraulic continuity throughout Deer Creek, between Deer Creek and the Cosumnes River, and the Cosumnes River with the Mokelumne River during the period October 15 through December 31; or 2) daily flows at Michigan Bar on the Cosumnes River that rank in the top 25th percentile of flows at that site historically during one or more of the months January through April, with concurrent hydraulic continuity throughout Deer Creek and between Deer Creek with the Cosumnes River. Upon identifying either of the hydrologic conditions defined above, the District and its consultant shall meet with staff from the Regional Board, CDFG, and NMFS to cooperatively develop a study design that, when implemented timely, will collect data

appropriate for assessing whether anadromous fish made opportunistic use of Deer Creek and, if so, the relative magnitude and geographic extent of such use..

The CDFG April 1998 BMI survey (CDFG 1998), coupled with a BMI survey conducted during the fall of 2000 (BAS 2001), will be used to characterize existing conditions. Subsequent BMI surveys, following U.S. EPA approval of the proposed temperature amendments and associated revisions to the receiving water temperature limits in the NPDES permit, would provide additional biological data to characterize the relative health of the aquatic community over time. The details of these surveys (i.e., exact timing, sites to be surveyed, etc.) will be determined through future meetings of District, Regional Board, and CDFG staff, following approval of the proposed temperature amendments by U.S. EPA.

8.1.2 Regional Board Surveillance and Inspection

Regional Board surveillance and inspection activities for Deer Creek, a seasonally effluent-dominated water body, would include those currently being conducted under the NPDES Program. These include, but are not limited to, the following activities:

- 1) inspections of the DCWWTP facilities, operations, and records;
- 2) inspections of the physical, chemical, and biological characteristics of Deer Creek upstream and downstream from the DCWWTP; and
- 3) review of discharger-submitted self monitoring reports.

In addition, the Regional Board will continue to conduct compliance monitoring to determine permit compliance and validate self-monitoring reports. Discharger compliance monitoring is the responsibility of the Regional Board staff.

Finally, Regional Board staff would conduct investigations of complaints, if any are made to the Regional Board. Complaints from public or governmental agencies to the Regional Board regarding the discharge of pollutants or creation of nuisance conditions would be investigated and pertinent information collected.

8.2 USE OF MONITORING DATA

Monitoring data collected would be used to: 1) determine whether the proposed site-specific water quality objectives for Deer Creek are being achieved; 2) characterize resultant instream conditions, both chemical and biological, under the site-specific water quality objectives; and 3) assess the relative health of Deer Creek's aquatic ecology in the future, and whether the frequency of opportunistic use of Deer Creek by anadromous salmonids changes, relative to existing conditions, due to Cosumnes River restoration activities.

These monitoring data will provide a technical basis from which to review the proposed site-specific temperature objectives for Deer Creek as part of the Regional Board's triennial review of the Basin Plan.