MRP Attachment A

California Regional Water Quality Control Board
Lahontan Region

# Bioassessment Monitoring Requirements

### South Shore Project Waste Discharge Requirements

The discharger shall conduct bioassessment monitoring, as described in this section, to provide information about the biological integrity of receiving waters. Bioassessment shall include: 1) the collection, analysis and reporting of specified instream biological data, and 2) the collection and reporting of specified instream habitat data.

## Site Locations and Frequency

Annual bioassessment sampling shall commence at the site listed below upon adoption of these requirements, and shall continue until the Waste Discharge Requirements (Board Order No. R6T-2012-TENTATIVE) are rescinded. Bioassessment sampling shall be conducted once per calendar year at the following location:

Saxon Creek above Oneidas Street
Latitude: 38.87111  Longitude: 119.98144

The coordinates listed above are in NAD 83, and mark the lower (i.e., downstream) end of the sampling reach.

## Index Period

Bioassessment sampling shall be conducted between July 1 and August 15 each year, when stream flows have stabilized (i.e., after peak snowmelt flows have ceased, but before late-summer base flows).

## Field Methods for Macroinvertebrate Collections

In collecting macroinvertebrate samples, the discharger shall use the State of California's Reachwide Benthos (Multihabitat) Procedure according to the "Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California" (February 2007).[1]

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[1] Protocols for the RWB collection methods are located at: http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/standard-operating-procedures#bioassessment.

**Habitat Assessment Methods**

The discharger shall conduct, concurrently with macroinvertebrate collections, "Full" habitat measurements according to the "Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California" (February 2007).[2]

**Laboratory Methods**

Macroinvertebrates shall be identified and reported according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[3] and using a fixed-count of 600 organisms per sample.

**Quality Assurance**

The discharger shall prepare and make available to its relevant staff and/or consultants a Quality Assurance Project Plan (QAPP) that addresses the required bioassessment monitoring. The QAPP should follow USEPA guidance and requirements as found in *USEPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5, EPA/240/B-01-003, March 2001), and *USEPA Guidance for Quality Assurance Project Plans* (EPA QA/G-5, EPA/240/R-02/009, December 2002). Upon request from the discharger, the Water Board's Executive Officer may override any USEPA quality assurance requirements and/or guidance that are deemed inapplicable and/or unnecessary. Any such deviations must be submitted to the Water Board for written approval at least 45 days prior to initiation of the scheduled activity. An umbrella document, such as a Quality Assurance Management Plan or other project or program quality assurance document, may be used to meet this requirement if the umbrella document covers all relevant aspects of the required bioassessment sampling. The QAPP (or umbrella document) shall include, or be supplemented to include, a specific requirement for external quality assurance checks (i.e., verification of taxonomic identifications and correction of data where errors are identified). External QA checks shall be performed on not fewer than one macroinvertebrate sample per year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in advance by the Water Board's QA Officer.

[2] The habitat assessment methods and field forms are available at the State Water Board's website listed in Footnote #1. The "Full" habitat parameters are listed in the manual in Table 1, pp. 7-8.

[3] The SAFIT STEs are located at: http://www.safit.org/ste.html. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at SAFIT's website.

## Sample Preservation and Archiving

The original sample material[4] shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material[5] shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms[6] shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that the Project's Final Certification is accepted in writing by the Water Board's Executive Officer. All archived samples shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the Water Board upon request.

## Data Submittal

The habitat assessment and macroinvertebrate results (i.e., field data and taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the Water Board in electronic format, using standardized formats (Database v2.5) developed by the Water Board's Surface Water Ambient Monitoring Program (SWAMP). The data reporting templates are available via the Internet.[7]

## Exotic Species Prevention

In conducting the required bioassessment monitoring, the discharger and its employees and consultants shall take precautions to prevent the spread of exotic species. At minimum, the discharger shall follow the recommendations of the

[4] The "original sample material" is that material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

[5] The "remaining subsampled material" is that material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but this needs to be verified via QA completeness checks.)

[6] The "identified organisms" are those organisms within the subsample that are specifically identified and counted.

[7] SWAMP Database Templates v2.5 are available at: http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/database-management-systems/swamp-25-database/templates-25

California Department of Fish and Game to minimize the introduction or spread of the New Zealand (NZ) mudsnail. Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/.

**Alternative Methods**

Alternate methods that will provide equivalent or better performance may be used if approved in advance and in writing by the Water Board's Executive Officer. Any request to use alternate methods must explain in detail the proposed methods and should be received by the Water Board with ample time for review (i.e., at least 45 calendar days prior to the required bioassessment monitoring).