

IEP Data Management Plan

Basic Information

Year: 2020; PEN:072; Date Updated: 2019-05-23; Start Date: 2020-01-01

Study Title

Environmental Monitoring Program (EMP) – Phytoplankton

Principal Investigator

Individual(s) responsible for the project. Include name, agency, e-mail, & phone.

Sarah Lesmeister; California Department of Water Resources (DWR);

Sarah.Lesmeister@water.ca.gov; 916-376-9741

Point of Contact

Individuals who data users should contact for access to the data or questions about the data. Include name, agency, e-mail, & phone number or write "same as above."

Tiffany Brown; California Department of Water Resources;

Tiffany.Brown@water.ca.gov; 916-376-9723

Data Description

A very brief description of the information to be gathered; the nature and scale of the data that will be generated or collected. Include approximate size (in MB) of the resulting data set.

Since 1975, EMP has collected phytoplankton data within the Sacramento-San Joaquin Delta, Suisun Bay, and San Pablo Bay. The number of stations monitored has varied over time in response to programmatic reviews and new water right decisions. The EMP currently monitors phytoplankton abundance and biovolume at 24 fixed sites and two "floating" sites based on bottom specific conductance. The approximate size of the data is 49,528 KB (historical and currently used databases). Data is stored in a Microsoft Access database. Data is posted to the EMP website annually for public access.

Related Data

Optional. Existing datasets that you incorporate into analysis and reporting for this program element, existing data that are relevant to your study, or data that are collected simultaneously.

EMP is a comprehensive monitoring program in the San Francisco Bay-Delta Estuary that entails monthly sampling of benthos, phytoplankton, zooplankton, and continuous and discrete water quality. Discrete water quality data is collected at the same time as phytoplankton and zooplankton. The zooplankton data is managed by the California

Fish and Wildlife Services (PEN: 077). Benthos and continuous water quality are sampled near some of the discrete water quality stations.

Metadata

A description of the metadata to be provided along with the generated data, including the metadata standards used. Provide the file name and information on how users can access the metadata (e.g., a link).

Metadata was last updated online in 2016. DWR EMP staff follow the same metadata format for each data type. The Phytoplankton Metadata can be found on the [Bay Delta Live](#) page or requested by email to Tiffany.Brown@water.ca.gov.

Storage and Backup

A description of the short-term storage methods and backup procedures for the data, including the physical and electronic resources to be used for the short-term storage of the data.

Beginning in 2018, the Microsoft Access 2003 database (.mdb format) is kept in the cloud on a Microsoft OneDrive server dedicated to EMP data, which is managed by the Division of Technical Services (DTS) and backed up daily. Once data is entered into Microsoft Access 2003, it is QA/QC'ed for errors, and backed up to an external hard drive that is stored away from the office in case the main database (or the server housing it) is damaged.

Archiving and Preservation

The procedures for long-term archiving and preservation of the data, including succession plans for the data should the expected archiving entity go out of existence.

All electronic data, such as sample data, invoices, or COCs, is stored in the same OneDrive cloud server as the Microsoft Access 2003 Database. Physical samples are kept for 2 years after analysis before being discarded. Data prior to 2008 is stored in a Microsoft Access 2000 database (.mdb format). Data from 2008 on is stored in the Microsoft Access 2003 database. Prior to 2003, samples were analyzed by Bryte Laboratory using hard copy datasheets. Scanned versions of these datasheets are stored on the same OneDrive cloud server as the data. The original hard copy datasheets are stored in the DES office. The DWR is a long-established agency with no anticipated end date of existence.

Access and Sharing

A description of how data will be shared. Include (1) access procedures, (2) embargo periods, (3) technical mechanisms for dissemination (e.g., website addresses, listserv information), (3) whether access will be open or granted only to specific user groups, and (4) a timeframe for data sharing and publishing.

The data is currently available on the [California Estuary portal](#).

Data that is mandated to be publicly available is updated on an annual basis to avoid piecemeal files that would make data analysis or management difficult. If data requests are made before the annual update, data is provided to meet the specific needs of that request. Specific data requests can be made upon request to Tiffany.Brown@water.ca.gov.

In 2020, the EMP anticipates publishing a portion of the phytoplankton data on the Environmental Data Initiative website, where it will receive a permanent digital object identifier (DOI).

Format

Formats in which the data will be generated, maintained, and made available. Include BOTH general data type (e.g., spreadsheet, relational database) and file format (extension).

Phytoplankton samples are analyzed for abundance and biovolume by an outside contractor, who returns the data electronically as Excel spreadsheets (.xls or .xlsx formats). These spreadsheets are archived in their original format as they are received from the contractor, and any modifications made for entry into the Microsoft Access 2003 database (.mdb format) are saved as separate files (.xls or .xlsx formats).

Quality Assurance

Brief description of procedures for ensuring data quality. Provide links to Quality Assurance Project Plan and/or QA/QC Standard Operating Procedures.

Phytoplankton data is entered as it is received, usually on a monthly basis. The format of the database prevents typos and spelling errors in taxon names, so the QA/QC process is used to check for numerical or label typos (e.g. incorrect station number or incorrect organism count). A phytoplankton QAPP was completed in 2017. The QAPP is currently not available online, but a copy can be requested by email at Tiffany.Brown@water.ca.gov.

Rights and Requirements

A link to or instructions to locate the agency's rights and requirements for data use.

Currently none. However, users should provide citation and credit to the EMP when using EMP data. Reference DOIs when datasets are formally published.