**Zooplankton Study Documentation for Matrices**

November 26, 2024

The 3 Excel zooplankton files, ***1972-2023\_CBMatrix\_Public.xlsx***, ***1972-2023\_MysidMatrix\_Public.xlsx***, and ***1972-2023\_PumpMatrix\_Publice.xlsx***, each contain 8 worksheets with the standardized information listed below:

Worksheet 1 – Notes from CDFW documenting special conditions for the matrix construction.

Worksheet 2 – Metadata explaining each of the fields in associated matrix.

Worksheet 3 – Station lookup table with station location information and years sampled.

Worksheet 4 – CDFW region lookup table explaining CDFW’s region codes.

Worksheet 5 – DWR’s regional map (we used the DWR regions in our 2022 and 2023 annual reports).

Worksheet 6 – Taxa lookup table for associated matrix.

Worksheet 7 – Equation used for calculating CPUE for associated matrix.

Worksheet 8 – Catch-per-unit-effort (CPUE) data matrix for each valid sample, 1972-2023 with ancillary station information.

Each matrix includes CPUE for each taxon in number per cubic meter and ancillary station information including Core station and Region codes, as well as Secchi, Chlorophyll-a, Temperature, and EC data (blank is for missing environmental data). More information about these data fields are in worksheets 2-5 of each file. CPUE for each taxon in number per cubic meter is in the columns labeled with the taxon codes (worksheet 6).

Each matrix includes CPUE data for taxa efficiently sampled by that gear. The CB matrix contains CPUE data for mesozooplankton including adult copepods, copepodids, and cladocera. The pump matrix contains CPUE data for microzooplankton including copepod nauplii, small adult cyclopoid copepods of the genera *Oithona* and *Limnoithona*, and rotifers. The mysid matrix contains CPUE data for mysids.

For long-term data analysis, we encourage you to use core stations 1 and 2, as these stations have been consistently sampled since at least 1974, and the months sampled most years (surveys 3-11) to standardize the data set. If you would like to analyze data prior to 1974, use only core stations coded 1, as these stations have been consistently sampled since 1972 (see worksheet 3 in each file for station specifics). If you are using data from a subset of the years or months, you may be able to use all the stations sampled or another group of months in your analyses. Check that all the stations were sampled during the months and years of your analysis so you can compare between months or years. A current station map is located in the file ***ZooplanktonStudy\_Core&CurrentStations\_2023.ppt***. A historical station map is located in the file ***ZP Monitoring Station Map Historic.ppt.***

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