

## Community Service Opportunities at Lake Chelan Research Institute



Lake Chelan Research Institute has community service opportunities in the following areas.

1. Plotting and analysis of multiparameter probe data collected since 2017 at Sunset Marina.
2. Plotting and analysis of monthly depth profile data collected at 7 sites since 2017
3. In-field downloading of temperature loggers at Stink, First and 25 Mile Creeks.
4. Compilation and plotting of E. Coli and total coliform data from Sunset Marina and Manson Bay.
5. Assistance with calibration of a YSI EXO3 multiparameter probe.
6. Assistance with setup of Fluidion ALERT units for measuring E. Coli and total coliform.
7. Assistance with setup of a CE-QUAL-W2 model for Lake Chelan.
8. Collection and shipping of monthly periphyton samples at Sunset Marina.
9. Collection, documentation, and shipping of monthly periphyton samples in the Chelan River.

Each of the above areas is detailed below including description of the work, community service hours available, skills required, training and location.

### **Plotting and analysis of multi parameter probe data collected since 2017 at Sunset Marina.**

Description of work: Selection of valid data from monthly data files for plotting using Excel. Plotting data and organizing prior to uploading to Google drive.

Community service hours available: ~40

Skills required: Basic computer familiarity, practical knowledge of rudimentary Excel functions.

Training: ~2 hours hands on with Dr. Phil Long

Location: LCRI office, 601 Woodin Ave., Chelan.

### **Plotting and analysis of monthly depth profile data collected at 7 sites since 2017**

Description of work: Selection valid data from monthly profile data files for plotting using Excel. Plotting data and organizing prior to uploading to google drive.

Community service hours available: ~60

Skills required: basic computer familiarity, practical knowledge of rudimentary Excel functions

Training: ~2 hours hands on with Dr. Phil Long

Location: LCRI office, 601 Woodin Ave., Chelan.

### **In-field downloading of temperature loggers at Stink, First and 25 Mile Creeks. Includes plotting of data.**

Description of work: Retrieve and download temperature data at 3 locations, Stink, First and 25 Mile Creeks.

Community service hours available: ~30 hours.

Skills required: basic computer familiarity, practical knowledge of rudimentary Excel functions.

Training: ~4 hours hands on with Dr. Phil Long, student will be accompanied by Phil Long or others in the field during download process.

Location: Creek locations noted above and LCRI office, 601 Woodin Ave., Chelan.

### **Compilation and plotting of E. Coli and total coliform data from Sunset Marina and Manson Bay.**

Description of work: Transfer data from the Fluidion web site to a spreadsheet, develop various plots of the data using a spreadsheet.

Community service hours available: ~10 hours.

Skills required: Basic computer familiarity, practical knowledge of rudimentary Excel functions.

Training: ~1 hour with Dr. Phil Long.

Location: LCRI office, 601 Woodin Ave., Chelan or any location where the student has a computer with internet access.

**Assistance with calibration of a YSI EXO3 multiparameter probe.**

Description of work: Assist Dr. Long in calibration of a YSI EXO3 multiparameter probe once every 3 months.

Community service hours available: ~16 hours.

Skills required: Basic chemical measuring skills.

Training: ~4 hours with Dr. Phil Long. Work will be done under supervision by Dr. Long. Students can take an online course at EXO University and become certified in EXO calibration.

Location: LCRI office, 601 Woodin Ave., Chelan.

**Assistance with setup of Fluidion ALERT units for measuring E. Coli and total coliform.**

Description of work: Assist Dr. Long in ~monthly set up of two Fluidion Alert units to collect E. Coli and total coliform data.

Community service hours available: ~20 hours.

Skills required: Basic chemical measuring skills.

Training: ~3 hours with Dr. Phil Long. Work will be done under supervision by Dr. Long.

Location: LCRI office, 601 Woodin Ave., Chelan, Sunset Marina and Manson Bay.

**Assistance with setup of CE-QUAL-W2 model for Lake Chelan.**

Description of work: Assist Dr. Long in setting up a CE-QUAL-W2 model for lake Chelan.

Community service hours available: ~15 hours.

Skills required: Significant computer skills

Training: ~2 hours with Dr. Phil Long. Work will be done under supervision by Dr. Long.

Location: LCRI office, 601 Woodin Ave., Chelan.

**Collection and shipping of monthly periphyton samples at Sunset Marina.**

Description of work: Systematically sample attached algae monthly at Sunset Marina at the same location the EXO3 is deployed. Collected samples will then be shipped to UC Berkeley. Student may have the opportunity to review and curate resulting data.

Community service hours available: ~15 hours.

Skills required: Student will be trained in sample collection techniques, including avoidance of cross-contamination of samples.

Training: ~2 hours with Dr. Phil Long.

Location: LCRI office, 601 Woodin Ave., Chelan and Sunset Marina, A-22 dock.

**Collection, documentation, and shipping of monthly periphyton samples in the Chelan River.**

Description of work: Systematically sample attached algae monthly on the Chelan River below Chelan Dam. Collected samples will then be shipped to Western Washington University. Student may have the opportunity to work with drone data showing the extent of algae growth along the river.

Community service hours available: ~20 hours.

Skills required: Student will be trained in sample collection techniques, including avoidance of cross-contamination of samples.

Training: ~2 hours with Dr. Phil Long.

Location: LCRI office, 601 Woodin Ave., Chelan River Below the dam.

**Database setup for Lake Chelan historical and current nutrient and related data.**

Description of work: Develop data dictionary, implement and start populating a database using the software stack of Subsurface Insights.

Community service hours available: ~40 hours.

Skills required: Basic computer skills and rudimentary knowledge of database structure and utilization.

Training: ~4 hours with Dr. Phil Long and online with Dr. Roelof Versteeg, Subsurface Insights.

Location: LCRI office, 601 Woodin Ave., or any location where the student has a computer with internet access.