

## ATU Worksheet Instructions

As part of the reporting requirements for your classroom incubation project fish resource permit, average daily temperatures are to be recorded (in Celsius) and Accumulated Temperature Units (ATUs) noted at certain life stages in the final report form. ATUs are used by hatcheries and researchers as a method to follow and predict salmon development for different life stages. This worksheet can be a learning tool to show this relationship for egg/fry development in your classroom. Comparing results from year to year can show your students how predictable hatch can be.

I have created a worksheet for recording ATUs to use if you like. You may use your own forms if you have something that works well for you. This will help you and your students calculate numbers for your final report at the end of the school year, or even estimate when your eggs will hatch.

The form is setup so that a single sheet can be used for 2 months of data. Fill in the month at the top of the column for reference and start recording daily temperatures on the day you receive your eggs. If you conduct your own egg take, then that number is zero. If you have eggs shipped to you, then your provider should tell you at what ATUs your eggs are at. For coho salmon, which is the most common species used in classroom incubation projects, this will be around 220 ATUs. Add the average daily temperature (in Celsius!) to the total each day to calculate the ATUs. Hatch generally occurs between 400-500 ATUs for coho salmon. You can adjust your tank temperature to control when you would like hatch to occur, generally before or after winter break.

There is a space for comments where students can record major events (eyed, hatch, swim up) that need to be referenced in your final report. There is more space at the bottom for additional comments for observations or notes of trouble with your aquarium.

The second tab on the worksheet that has an example of a filled out form. A third tab is available for calculating % survival, another field in the final report.

These forms can be printed out and kept near your tank to be filled out by your students, or you can create formulas on the spreadsheet and have it totaled for you. If you need any help doing so, please let me know.

These forms will also be available on the salmon in the classroom web page at [http://www.adfg.alaska.gov/index.cfm?adfg=otherlicense.aquatic\\_incubation](http://www.adfg.alaska.gov/index.cfm?adfg=otherlicense.aquatic_incubation)

Good luck with your project this year!

Michelle Morris

Permit Coordinator

907-465-4724

[Dfg.fmpd.permitcoordinator@alaska.gov](mailto:Dfg.fmpd.permitcoordinator@alaska.gov)