The Rate of Embryonic Development in Oncorhynchus mykiss When Exposed to Heavy Metal Solutions

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As the native trout species of Wyoming swims up the Wood River (near Meeteetse, Wyoming) and returns to its historical spawning grounds near an old mining town named Kirwin, the amount of chemicals in the water could damage the population size. This then begs the question, what will the chemicals do to the development of the trout? After looking at water quality data from the Meeteetse Conservation District I determined that Copper and Molybdenum are the two chemicals with the highest levels in the river, so to model the project, I used three fish tanks to put the chemicals and trout eggs in. I received two hundred and fifty Fall Spawning Rainbow Trout eggs from the Wyoming Game&Fish. I then divided them into the three tanks, one with Copper Nitrate Solution, one with Sodium Molybdate, and one control tank. After a week of growth I could better determine the stage of development, so I began to take sixteen eggs out of each tank every day to determine what stage they were in. After seven days of watching the development, I determined that Copper had accelerated the rate of growth and Molybdenum slowed it down. Copper is very healthy for embryo development, that is why women take copper supplements during pregnancy. Molybdenum, while it is known as a micronutrient, at excessive levels it can be harmful. In the end I determined that my hypothesis was supported, that Copper would accelerate the rate of growth and Molybdenum would inhibit it.

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