Assessment of the Conservation status and needs of Taylor's salamander.

Project report.

January 2017

Since the last report, we obtained the results from the ecotoxicology tests performed on the first set of tissue samples from Taylor's salamanders. Three enzymatic biomarkers, which indicate exposure to pesticides, hydrocarbons and oxidative stress were analysed: acetylcholinesterase, glutathione s transferase and catalase. The results show evidence of chemical pollution effects in seven from 18 salamanders, one of them with signs of severe intoxication and six more with signs of moderate intoxication. We did not find a spatial pattern on the distribution of the affected salamanders, which could suggest that all the different areas of the lake are equally affected, or salamanders move all around the lake; however we cannot perform final analyses until all the samples have been analysed. The second set of samples is being processed currently (17 tissue samples + 5 water samples + 5 dead salamanders) and will add to the existing results; we will additionally test for heavy metals.

We just restarted fieldwork this week (from January 30th to February 3rd), after some trouble with our vehicle, which we recently solved. We set 24 traps in the lake today; we are exploring a new category of depth between 30 and 40 meters. In the last months, we have seen an alarming decrease in the water level of the lake of about 30cm, which can be clearly seen because of the markings on the stromatolites from the edge of the lake (photo below; the black layer on the stromatolites just above the water shows the reduction in water level that has occurred recently). We will have a meeting with local authorities to talk to them about the recent results we have obtained: the evidence of chemical pollution and the decrease in the level of the lake, and seek for possible solutions with them.