

Bell-McCaulou, T. M. 1993. *Corbicula fluminea* as a bioindicator on the lower Colorado River. M.S. thesis. University of Arizona. Tucson, Arizona. 69 pp.

I determined that *Corbicula fluminea* can be used as a bioindicator on the lower Colorado River. I analyzed tissue samples for trace element concentrations. Selenium and arsenic were elevated above U.S. background levels at 89% and 83% (respectively), of the sites. Selenium concentrations were significantly higher in backwaters than at river sites. Selenium in clams predicts the contamination state of a site 78% of the time. There is a strong correlation between selenium concentrations in clams and selenium concentrations in vascular aquatic plants ($r = 0.98$) and carnivorous birds ($r = 0.999$). The white morph of *C. fluminea* is more prevalent at northern and backwater sites than the purple morph. Selenium levels in clams at several sites exceeded levels that have been shown to result in teratogenicity for birds in laboratory studies. Birds that eat clams in the study area could have increased risk of lowered reproductive success.