

Science, Vol 291, Issue 5508, 1481 , 23 February 2001

[DOI: 10.1126/science.291.5508.1481b]

Isotopes track silence of the clams

By Mark Muro

Geoscientist Karl Flessa continues to "put the dead to work," as he describes it. Last year, the University of Arizona academic's team counted clam shells in the Gulf of California to quantify a precipitous decline in the Colorado River delta's biological richness after the river was dammed in the 1930s (*Science*, 15 December 2000, p. [2045](#)). Now, Flessa has again enlisted the mollusks' remains, this time to confirm why the clams crashed.

Comparing old, predam shells with those of living clams, Flessa's team looked for the incidence of a type of oxygen isotope that reflects the salinity of the water in which each clam grew. At the annual meeting of the American Association for the Advancement of Science this month in San Francisco, Flessa reported finding far lower levels of the isotope, reflecting fresher water, in the predam shells. Because the clams had flourished prior to the dams' construction, he now infers that their decline is the direct result of the drop in the quantity of fresh water flowing to the delta. "This is the smoking gun," says Flessa. The scene has now been set for the next step: calculating just how much fresh water would be needed to support a clam rebound.