

Rusk, M. K. 1991. Selenium risk to Yuma clapper rails and other marsh birds of the lower Colorado River. M.S. thesis. University of Arizona. Tucson, Arizona. 75 pp.

I estimated the risk of selenium toxicity to endangered Yuma clapper rail and other marsh birds of the lower Colorado River (LCR). I collected sediment, invertebrates, Virginia rails, and least bitterns from 4 locations within the LCR valley, in May-August 1990, and collected additional bird species from 1 of the sites in April 1991. I analyzed the samples for selenium and other trace elements. Selenium accumulated in the backwater marshes of the LCR and was uniformly distributed among the backwaters sampled. Selenium increased 1-16X between successive trophic levels, however, selenium levels did not differ significantly among species with different diets. Based on the selenium levels in bird tissues and prey species, marsh birds in the LCR valley are at low risk of adult mortality, but moderate to high risk of teratogenicity. The rate of selenium accumulation in the backwaters must be reduced to decrease the risk of toxicity.