



KATHLEEN E. CARPENTER

1891-1970, UNITED KINGDOM

Freshwater ecologist known for her research on the effects of metal mine pollution on the stream biota and ecology of Welsh rivers.

She studied and lectured at the Aberystwyth University. Later on, she moved to North America, where she was a researcher at the University of Illinois, the Radcliffe College, the McGill University and the Washington College. She returned to the United Kingdom to lecture at the University of Liverpool during the World War II.

She published the book *Life in Inland Waters*, the first British freshwater textbook.

HERSTORY

She was one of the first female limnologists in UK and USA. She used to say that “passion makes people take notice and realize that some things are special”.

FAUNA OF RIVERS POLLUTED BY LEAD MINING

Lead mining and washing operations affect rivers by:

1. Discharging galena particles into their waters
2. Forming lead salts in diffusible form.

The fauna and flora of the receiving rivers is impoverished by the presence of lead salts in diffusible form.

The presence of lead grit can be directly harmful to fish.

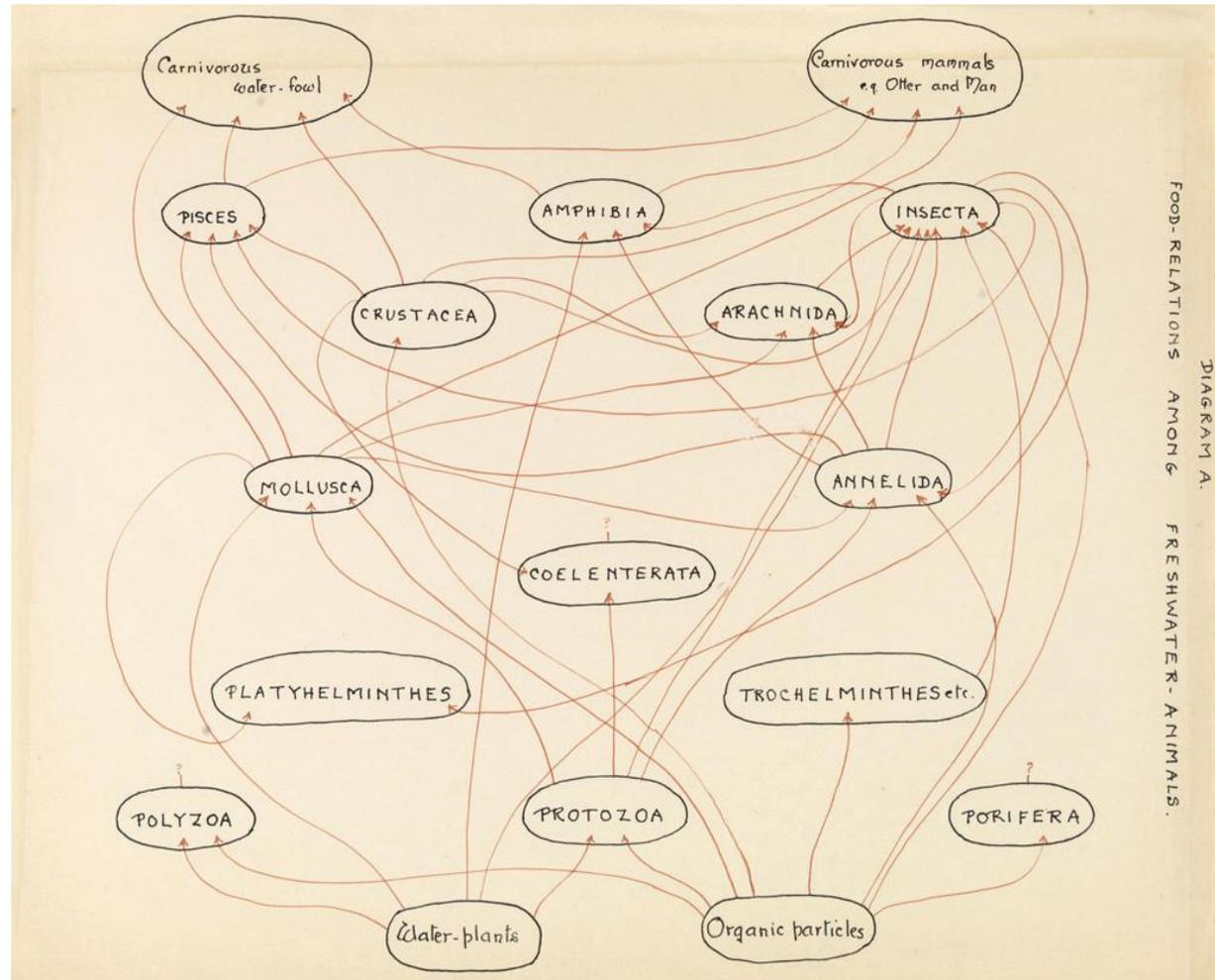


**Old lead mining level and ford.
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**Kathleen E. Carpenter. (1924).
Annals of Applied Biology**

FOOD WEB

A **food web** describes the feeding relationships among species within a community (Smith & Smith, 2009), revealing species interactions and community structure, and implying transfer of food and energy from primary producers to top predators (Krebs, 2009).



First diagrammatic representation of a British freshwater food web: food relations among freshwater animals Kathleen E. Carpenter. (1925). PhD Thesis

RELEVANT CONTRIBUTIONS

Carpenter, K. E. (1922). The fauna of the Clarach stream (Cardiganshire) and its tributaries. *Aberystwyth Studies by Members of the University College of Wales*, 4, 251–258.

Carpenter, K. E. (1924). A study of the fauna of rivers polluted by lead mining in the Aberystwyth district of Cardiganshire. *Annals of Applied Biology*, 9, 1–23.

Carpenter, K. E. (1925). On the biological factors involved in the destruction of river-fisheries by pollution due to lead-mining. *Annals of Applied Biology*, 12, 1–13.

Carpenter, K. E. (1926). The lead mine as an active agent in river pollution. *Annals of Applied Biology*, 13, 395–401.

Carpenter, K. E. (1927). The lethal action of soluble metallic salts on fishes. *Journal of Experimental Biology*, 4, 378–390.

Carpenter, K. E. (1928). *Life in inland waters, with especial references to animals*. London.

LOOKING
FOR MORE?

You can find more information about her story and research at:

https://en.wikipedia.org/wiki/Kathleen_E._Carpenter

Warner, P. C., Ewing, M. S. (2002). Wading in the water: women aquatic biologists coping with clothing, 1877–1945. *BioScience*, 52, 97–104.