

# Floods, Droughts and River Food Webs



by **Dr. Mary Power** | Department of Integrative Biology | University of California, Berkeley |

Different river flow regimes lead to alternate algal-based summer food webs, with consequences for linked upland and coastal ecosystems. Flowing floods that rejuvenate food webs and scour away grazers, filamentous green macroalgae often proliferate. Over time, surfaces of macroalgal streamers become covered by nutritious films of epiphytic diatoms. These assemblages support aquatic grazers, and through them, fish and other predators in food webs. But nutritious distomrich algal assemblages persist only when sufficient summer base flows gently flush sunny channels, and keep temperatures from getting too warm. If drought for human water extraction allow sunlit channels to warm and stagnate, benthic cyanobacteria can overgrow the nutritious algal assemblages. Over the last decade, these toxic cyanobacteria have killed over a dozen dogs in the Eel and Russian Rivers. US Santa Cruz researchers linked sea otter deaths off Monterey Bay to river produced cyanotoxins. We need to quantify and document how human perturbation of hydrologic regimes, as well as our impacts on heat, nutrient, sediment, and carbon loading into rivers, will affect river food webs, and their linkages with upland and coastal ecosystems.

**Thursday, October 10, 2019**

**7 - 8 pm FSUCML Auditorium**

**Free & Open to the Public**

**Refreshments Available Before  
Lecture**

**Speaker Bio:**

**Mary E. Power, Ph.D.** is a professor in the Department of Integrative Biology at the University of California, Berkeley and Faculty Director of the Angelo Coast Range Reserve, a field reserve in Mendocino County, California protected for university teaching and research. She was awarded an honorary doctorate and the Kempe Medal for distinguished ecologists by Umea University and the Hutchinson Award from the American Society of Limnology and Oceanography. She is a member of the California Academy of Science. She is a 2019 Fellow of the Society for Freshwater Science.



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