

Depth-specific analyses of the Lake Superior food web

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Characteristics of large, deep aquatic systems include depth gradients in community composition, in the quality and distribution of food resources, and in the strategies that organisms use to obtain their nutrition. In Lake Superior, nearshore communities that rely upon a combination of benthic and planktonic production give way to offshore communities that must use alternative foraging strategies to balance feeding and predator avoidance. We sampled food web components throughout Lake Superior and used stable isotope analyses to reveal nutritional pathways among benthic and planktonic invertebrates and nearshore and deepwater fishes. We identify differences among habitats in the food web relationships between benthic and pelagic communities, and we examine the role of vertical migration as a key strategy for deepwater consumers to access pelagic resources from resource-poor profundal zones.