

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. We sampled food web components throughout Lake Superior and used a combination of stable isotope and diet analyses to reveal nutritional pathways among benthic and planktonic invertebrates and nearshore and deepwater fishes. Isotope analyses discriminated benthic and pelagic energy sources, and diet analyses helped to discriminate feeding niches of isotopically similar fishes. We identified differences among habitats in the food web relationships between benthic and pelagic communities, and we examine the role of vertical migration as a strategy for deepwater consumers to access pelagic resources from resource-poor profundal zones.