

Recent advances in trophic ecology have revealed the interconnectedness of diverse habitats in support of aquatic food webs. Understanding the degree to which different habitats support fish can be valuable for fisheries management and ecosystem protection. For example, stable isotope analyses of the Lake Superior food web indicate that at least half of deepwater chub nutrition derives from planktonic pathways. This highlights the ecological importance of benthic-pelagic linkages to deepwater biota, and it provides useful information for ecosystem-scale fisheries models. In coastal zones, exchanges among watersheds, wetlands, and nearshore habitats enable a range of multi-habitat support; across the Great Lakes, coastal wetlands export juvenile and forage fishes to the nearshore, and nearshore subsidies to wetland fish communities vary up to ~80%. The significance of these exchange processes emphasizes the critical role of coastal habitats in fisheries production and the importance of hydrologic connectivity in maintaining the integrity of coastal systems. Impact statement: This product outlines the importance of interactions among coastal Great Lakes systems in fisheries support ecosystem services. It highlights the roles of benthic-pelagic coupling in offshore food webs and watershed management and maintenance of hydrologic connections among coastal systems in the restoration of the Great Lakes.