Diversification within Lake charr *Salvelinus namaycush*  has been recorded in a relatively small number of North American lakes. Although this intraspecific diversity was generally thought to be associated with the use of different depth-related habitats, likely a result of specialized foraging, and restricted to large (>2000 km2), deep, “great” lakes, recent studies have shown this model to be incomplete. In Great Bear Lake, four morphs co-exist solely within shallow waters, with another morph suspected to occupy greater depths. This degree of endemic diversity matches the iconic example of Arctic charr in Lake Thingvallavatn. The four shallow-water morphs are differentiated by morphology, habitat use, diet, life-history, and genetics.

The second challenge to the current conceptual model of Lake charr diversity is the co-occurrence of a shallow- and deep-water morph in Rush Lake, a small (1.3km2) postglacial lake. These morphs show differences in morphology, habitat use, diet, and life-history, but little differentiation based on neutral genetic markers. The Great Bear and Rush Lake examples expand previous models of the origin and/or maintenance of Lake charr diversity and show that we still have much to learn about variability in Lake charr.