

Early life history research has been crucial for understanding and managing fisheries in the Laurentian Great Lakes and beyond. Much is known about spawning sites, temperatures at spawning, incubation periods, spawning substrates, and other factors surrounding reproduction for many species of Great Lakes fishes, particularly sport and commercial species and fishes most closely tied to those species (e.g., primary prey, predators, or parasites). However, there are still many fish species in the Great Lakes about which little is known of basic spawning and nursery requirements. For example, spawning habits of deepwater sculpin (*Myoxocephalus thompsoni*), one of the most abundant forage fishes in the system, remain largely a mystery, and it was only recently learned that newly hatched burbot (*Lota lota*) larvae can be found as late as August in offshore waters of the Great Lakes and that larval round gobies (*Neogobius melanostomus*) exhibit diel vertical migration behavior, which likely explains their propensity to be transported via ballast water. Future ichthyoplankton research is warranted to further elucidate basic life history strategies and improve management of Great Lakes fishes, and taxonomic references and methods must be updated to best deal with the challenges of the future, such as invasive species.

*This abstract does not necessarily reflect USEPA policy.*