**Title:** Modified von Bertalanffy Growth Function to Estimate Age to Reach a Critical Length

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**Abstract:**

Critical points in a fish’s life (e.g., age at maturity or recruitment to fishery) are often defined for management purposes. Understanding the time required for a fish to reach these critical points (*tr*) is important, as this time is directly related to growth rates and cumulative mortality. Consequently, estimates of *tr* are vital parameters in yield-per-recruit and dynamic pool models. Values of *tr* that are based on defining a critical length (*Lr*; e.g., mean length at recruitment) are often estimated by fitting a traditional von Bertalanffy growth function (VBGF) to estimate *L*∞, *K*, and *t0*, and then solving for *tr* (i.e., age) for a specified value of *Lr*. While this method produces a valid point estimate of *tr*, interval estimates and statistical comparisons of *tr* among groups cannot be directly obtained. We derive a simple modification of the VBGF that produces a direct estimate of *tr*, while still providing direct estimates of *L*∞ and *K*. We demonstrate the utility of this new function by fitting the function to length and age data observed for Lake Whitefish (*Coregonus clupeaformis*) sampled from two locations in Lake Michigan. We recommend using this modified VBGF because it can be simply adjusted to directly estimate values of *tr*, *t0* or *Lr* (if *tr* is specified).