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David T. Saalfeld

Warren C. Conway

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Growth and Condition of American Alligators (*Alligator mississippiensis*) in an Inland Wetland of East Texas

David T. Saalfeld^{1,*}, Kevin K. Webb^{1,2}, Warren
C. Conway¹, Gary E. Calkins³, and Jeffrey P.
Duguay^{1,4}

Abstract - Since removal from the endangered species list, *Alligator mississippiensis* (American Alligator) populations have recovered to allow regulated harvest throughout most of their range. However, harvest/population management is complicated since alligators are long-lived, reach sexual maturity at a minimum size rather than age, and experience differential growth rates depending on geographic location, growing season length, local environmental conditions, habitat, and population density. To date, few data exist on age, sex, growth, and size structure of inland alligator populations. In this study, alligator growth rate and condition were quantified through an intensive mark-recapture study conducted at Angelina-Neches/Dam B Wildlife Management Area. Between May 2003 and October 2004, 279 alligators ranging in size from 29.7 cm to 348.0 cm (total length [TL]) were captured, and 48 subadult alligators were recaptured (<125 cm TL). As recaptured individuals were biased towards smaller individuals, recaptured subadult alligators were divided into two size classes: size class 1 (<50 cm) and size class 2 (50–125 cm). Mean growth rates for size class 1 were 32.4 cm/year and for size class 2 were 27.6 cm/year. For both size classes, mean body condition was 1.8. Overall, subadult alligators within our inland study area exhibited faster growth rates and lower body condition than most other populations studied throughout their range.