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SURVIVAL AND MOVEMENT PATTERNS OF REINTRODUCED ZOO-RAISED EASTERN HELLBENDERS

Abstract

Zoo reintroduction programs are becoming more necessary to re-establish historic ranges or bolster wild populations of species whose numbers have declined due to human impacts. The Eastern Hellbender (Cryptobranchus alleganiensis alleganiensis) is an ideal candidate for captive reintroduction due to their fragmented and aging populations across their historic range. In Tennessee, Hellbender populations have declined considerably, especially in stream habitats within the Interior Plateau ecoregion. Due to these declines, our study evaluated the potential of re-introductions to bolster declining populations.

We released 7 year-old zoo-raised hellbenders (N=29, Cohort 1 [13], Cohort 2 [16]) during June and July 2021 in two sections of river that had a current, but aging population of Hellbenders. We used a combination of radiotelemetry and PIT-tag technology to assess Hellbender movements and survival.

This is an ongoing study, but as of January 2022, Cohort 1 had a survival rate of 23% (3/13) and Cohort 2 had a survival rate of 19% (3/16). There are four remaining hellbenders in the field with two hellbenders having been returned to the Nashville Zoo at Grassmere for veterinary care. The majority of the deceased animals (N=15) were lost during the month of August. Study animals showed high cover rock fidelity and rarely moved to new microhabitats. Of the four surviving hellbenders, three moved under five times, while one moved several times a month. This field season provided data to improve survival during the 2022 field season and the reintroduction of future captive hellbenders in other rearing facilities.