

# Food Habits, Life-History, and Genetics of Eastern Hellbenders

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**Goals:**

1. Compare dietary habits in relation to macroinvertebrate assemblages across local and regional scales
2. Estimate reproductive and recruitment success
3. Evaluate long-term population viability using a stage-structured, life-history model
4. Develop molecular markers to assess levels of genetic variation and structure at both local and regional scales

**Statement of Problem:**

The Eastern hellbender *Cryptobranchus alleganiensis alleganiensis* is a large, primitive species of aquatic salamander which has experienced substantial declines throughout its geographical range. These declines have largely been attributed to habitat alteration, habitat degradation, and illegal harvesting for the aquarium trade. Furthermore, the percentage of individuals within hellbender populations with physical abnormalities has increased in many areas during this same time frame. Because these population declines and physical abnormalities have been documented throughout much of the hellbender's range and likely have multiple causes, it is critical to examine the food habits, life-history attributes, degree of reproductive and recruitment success, and levels of genetic variation in order to develop appropriate conservation and rehabilitation strategies for this species.

**Current Activities:**

This project is scheduled to begin as early as May 2008. In the interim, however, tissue samples have been collected from three states (Indiana, West Virginia, and Pennsylvania) with additional sampling expected to occur in Missouri, Kentucky, and Tennessee among others. Graduate students interested in this project are encouraged to apply before the February 29 deadline.