

CRAWFISH FORAGING BEHAVIORS

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BACKGROUND

- PROCAMBARUS SP.
- PEARL/PASCAGOULA DRAINAGES
- CLEAR, PRISTINE STREAMS
- OMNIVOROUS
 - FISH/CRAWFISH
 - AQUATIC PLANTS





Photo by C. Lieboup

OPTIMAL FORAGING THEORY

- PREDICTS BEHAVIOR WHEN SEARCHING FOR FOOD
- ANIMAL WANTS TO GAIN THE MOST ENERGY FOR THE LOWEST COST
- ASSUMES MOST BENEFICIAL PATTERN WILL BE SELECTED



- CRAYFISH ARE KNOWN TO EAT BOTH PLANTS AND ANIMALS IN THE WILD. WHICH WILL THEY CHOOSE WHEN GIVEN THE OPPORTUNITY FOR BOTH?

METHODS – CRAWFISH COLLECTION

- DEPLOYED MINNOW TRAPS AT PRIEST CREEK, HATTIESBURG, MS
- TRAPS WERE FILLED WITH DOG FOOD
- SET IN DEEP POOLS NEAR WOODY DEBRIS





TANK SET UP

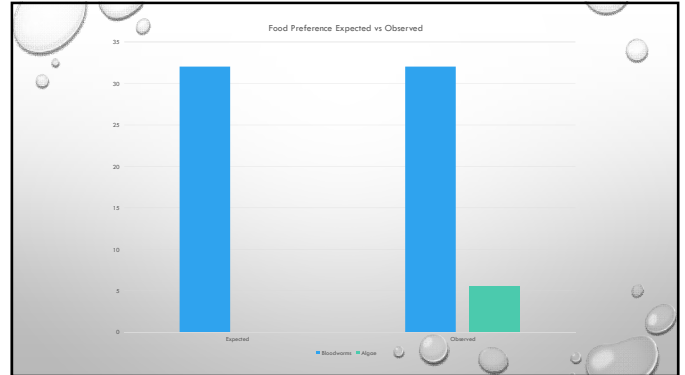


FOOD CHOICES



RESULTS

- ALL BLOODWORMS WERE CONSUMED DURING EACH TRIAL BY EACH CRAWFISH
- ALGAE WAS CONSUMED BY 2 CRAWFISH ON 3 SEPARATE OCCASIONS
- THE TWO LARGEST CRAWFISH CONSUMED BOTH FOOD ITEMS
- CHI SQUARED ANALYSIS SHOWED SIGNIFICANT RESULTS ($P < 0.05$)



CHI SQUARED RESULTS

	Observed	Expected	Total
Bloodworms	32	32	32
Algae	5.5	0	5.5
Total	37.5	32	37.5

$\chi^2 = 5.5$
 $0.02 > p > 0.01$

WHY IT MATTERS

- ECOSYSTEM ENGINEERS
 - MAKE BURROWS
- INDICATORS OF WATER QUALITY
- MAY ACT AS AN UMBRELLA SPECIES FOR THE CONSERVATION OF COMMUNITIES



FUTURE DIRECTIONS

- RELATIONSHIP BETWEEN ABIOTIC INFLUENCES ON PREY PREFERENCE
- INTRODUCE ABIOTIC VARIABLES SUCH AS VEGETATIVE STRUCTURE AND DIFFERENCES IN SUBSTRATE



QUESTIONS?

