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Bioassessment of an Outfall of the Mad River as well as Its Effects Downriver Using Aquatic Insects as Indicators

By: Kevin Sullivan

Advised by: Eric Benbow, Ph.D

Bioassessment-the evaluation of the conditions of waterbodies via direct measurement of certain organisms



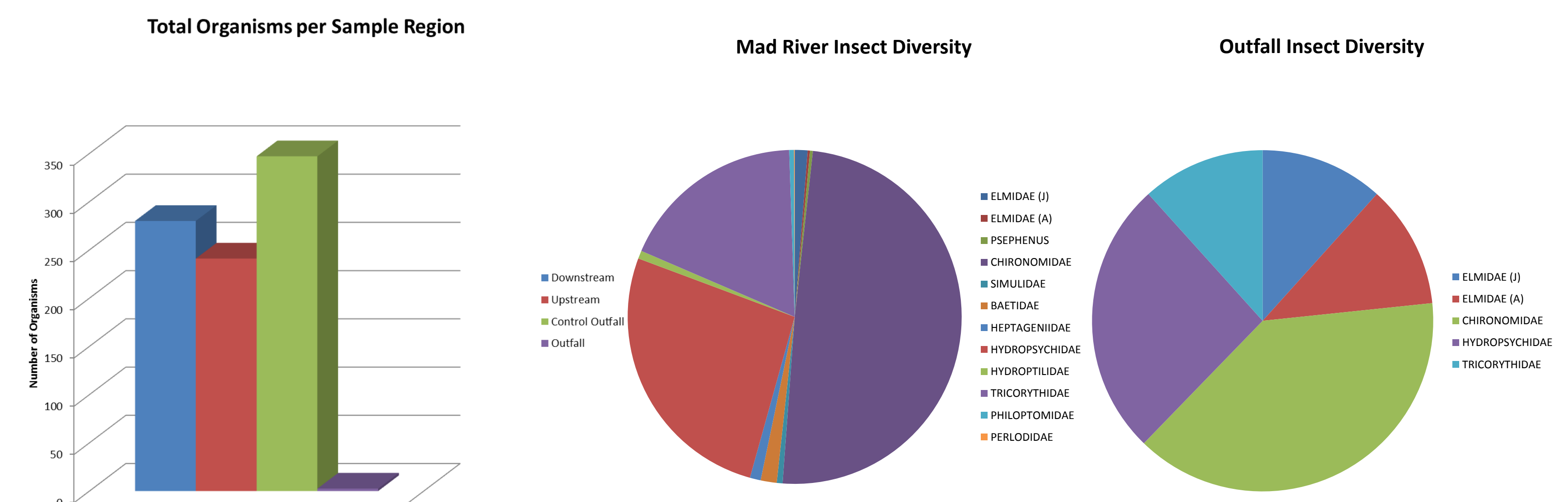
Methods-3 samples were collected from the outfall as well as areas upstream, downstream, and at another outfall. Samples were taken again 2 weeks later as a replication. Later, the insects found were identified.

Problem-what is the health of the Mad River's Findlay St. outfall?



Tolerance	Index
ELMIDAE (J)	4
ELMIDAE (A)	4
PSEPHENUS	4
CHIRONOMIDAE	6
SIMULIDAE	6
BAETIDAE	5
HEPTAGENIIDAE	3
HYDROPSYCHIDAE	5
HYDROPTILIDAE	4
TRICORYTHIDAE	4
PHILOPTOMIDAE	3
PERLODIDAE	2

Results-



EPT-OF1=5%, US=27%, DS=23%, OF=0%
 Tolerance: OF1=5.4, US=5.9, DS=7.5, OF=5.1

Hess Sampler-tool designed to sample stream organisms, using current to do so while filtering out impurities from upstream



Discussion-, while the Mad River and its outfalls were healthy, according to Ecological calculations, the outfall still had little to no life. My best hypothesis for such a finding is due to the ephemeral nature of the stream, which can be very difficult on aquatic life.