

**Name of Student:** Zachary Eisenhauer  
**Name of Mentor:** Arwin Provonsha  
**Name of Academic Advisor:** Dr. Jonathan Neal

**Title:**

Lotic Insect Behavior of the Appalachia: A guide to the prevalence and presentation of predominant aquatic insects used in fly fishing

**Objective:**

To provide a database for fly fishermen that contains essential information needed for identifying the insects prevalent throughout the year and their relative behavior during periods of increased predation.

**Reason for selecting region:**

The Appalachian Mountains contain many of our nation's most pristine waterways, is home to vast aquatic biodiversity, and is an area of reoccurring biological concern. Natural gas extraction by means of hydraulic fracturing threatens to negatively impact the integrity of thousands of waterways. In an attempt to raise environmental awareness, an online resource was created that provides the emergence dates and behavior of the predominant insects mimicked in fly fishing. With this resource, novice and experienced fishermen can spend less time figuring out what the fish are feeding on and more time enjoying their experience on the water perfecting the art of fly fishing. This would ideally increase the likelihood of going fishing, promoting fly fishing to others, and being exposed to environmental chance first hand.

**Website:**

The opening page of the website represents a year round hatch chart containing common mayflies, stoneflies, and caddisflies found in the Appalachia. Along with the estimated emergence date and general behavior, the common and family name, relative time of day, and recommended hook size were also included for each insect. After choosing an insect to mimic relative to the time of year, users can click on the family name underlined in the hatch chart or click on the insect's order located in a reference box next to the hatch chart. From this next page users have access to the behavior of that insect's order as it pertains to fly fishing. Lower on the page, they can click on the family name again and the side of the screen will populate with a photograph of the insect and diagnostic characteristics.