Watch It He's Angry: Movements of Little, Individual Trout in Response to Electrofishing

David Schmetterling, Montana Fish, Wildlife and Parks, 3201 Spurgin Rd., Missoula, MT 59804, dschmetterling@mt.gov

Michael Young, mkyoung@fs.fed.us

Estimating abundance is fundamental to enlightened management and ecological understanding of stream fishes. Commonly used estimators assume that fish do not leave sample sections; movement would lead to biased measures of abundance. To prevent fish movement, biologists often install block nets at the boundaries of sampling reaches, which is time-consuming, may be logistically impossible, and detracts from effort that could be invested in sampling additional areas. We individually electrofished 124 trout (ca. 125 mm) of three species implanted with radio transmitters in six small, montane streams in western Montana to quantify movement and the influence of habitat. Most fish (60%) remained in a habitat unit when electrofishing commenced, and only 10 percent moved more than two habitat units. Forty-three percent were captured on the first electrofishing pass, and all fish were eventually recaptured. Capture efficiency was lower in the largest stream sampled, but

there were no differences among other streams or species. Habitat variables including water depth, substrate size, and percent cover did not explain fish movement nor capture probability. These data help define the level of bias in estimates of fish abundance produced by fish movement and will help define parameters to monitor fish densities.