and

Among more readily measured habitat features, elevation, stream gradient and drainage basin area have been successfully related to diversity, density and biomass. Platts (1976) reported that higher

at the United States Forest Service (USFS) Ranger Station near Tiller (elevation 330 m). More than two-thirds (68%) of the annual precipitation occurs from October to March (Unpublished data,

Vegetation surrounding the 10 study streams

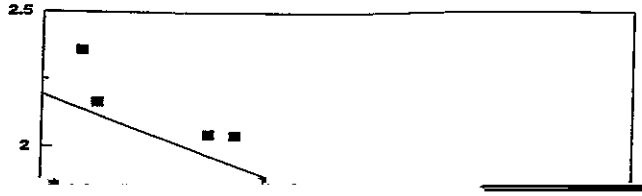
TABLE 1. Basin characteristics of the ten small streams sur-

individuals from the ith species). A larger H' indicated greater species diversity (Zar 1984).

Population estimates, by species, for each pool were calculated using maximum-likelihood methods described by Van Deventer and Platts (1985). Biomass per pool was then estimated by multi-

Results

in the ten streams (Table 2). Days Creek and Stouts Creek, the two streams lowest in elevation, had the most species (8), and Beaver Creek and Brownie Creek, the two streams next lowest in



cases, lower elevations and lower gradients were associated with higher vertebrate diversity.

Neither individual densities nor total aggregate densities were significantly related to elevation, gradient or basin area ($P>0.05$). Total den-

0.4

age 1 and

Discussion

Our results indicated that in streams of similar

al. (1987) reported that more species are typically added to northwestern USA streams in a predictable pattern, consistent with the river

populations and aquatic geomorphology in an Idaho river drainage. Fisheries 4(2):5-9.

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