Geophysical Research Abstracts,
Vol. 11, EGU2009-8377, 2009
EGU General Assembly 2009

Assessing the ecological base and peak flow of the alpine streams in Central Taiwan

C. Wei (1), P.S. Yang (2), and P.L. Tian (1)

(1) National Taiwan University, Experimental Forest, JhuShan Township,Nantou.Taiwan (d87622005@ntu.edu.tw), (2) National Taiwan University, Department of Entomology, Taipei, Taiwan

The ecological base and peak flow are crucial for the assessment and design for habitat rehabilitation and recovery. The amount of discharge affects the aquatic creatures and may severely damage the existence and balance of the community under extreme conditions. Aquatic insects are selected as the target species in this study to evaluate the influence of the discharge and to estimate the ecological base and peak flow. The distribution of the number of species and abundance (density) versus discharge is assessed to define the critical discharge. Two streams located at the alpine area in central Taiwan are selected as the study area to evaluate the base and peak flow. From the preliminary data (Aug 2008 to Dec 2008) collected from one stream Creek C originating from Sitou Area in Central Taiwan shows that the abundance of several species varies with the discharge. The dominate family and genus of aquatic insects is Baetidae (Order Ephemeroptera) and Baetis spp. that accounts for 32.47% and 31.11%, respectively. The Hilsenhoff family biotic index (FBI) shows that the water quality is classified to “Good” and “Very Good” level while the river pollution index (RPI) indicates that the stream is non-polluted. The discharge of base flow interpreted from the 95% curve of duration for the daily discharge is 0.0234 cms. Consistent observations are yet to be collected to yield more accurate result and ecological peak flow in rainy and typhoon seasons.