

EFFECTS OF MULTIPLE LAND USE ON FISH COMMUNITIES IN HEADWATER STREAMS, KUCHING, SARAWAK

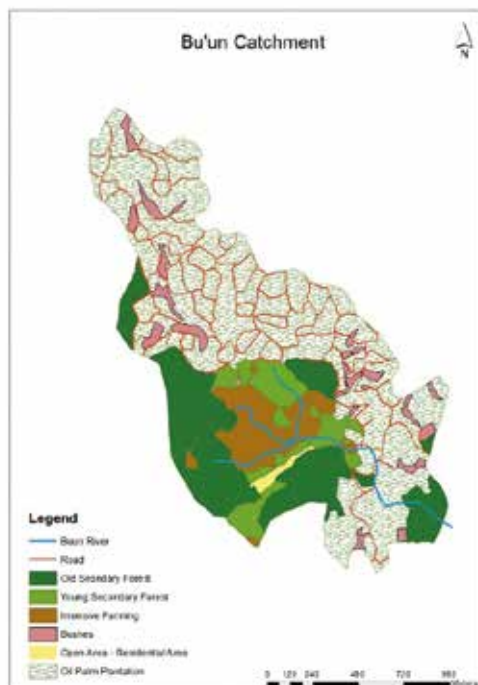


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Our understanding of effects of land use on fish communities is limited especially with regards to multiple agricultural activities within a watershed. The lack of this information has led to failure in preserving adequate ecological buffer zones along stream channel in each type of land use. This study investigates fish communities in three sub-catchments in Bau District, Sarawak. The sub-catchments have similar pattern of land use activities, which is dominated by oil palm plantation and subsistence farming. Fish fauna and environmental parameters including size of sub-catchment, type and size of vegetation cover, and above-ground biomass of each type of vegetation were assessed at downstream and upstream of each sub-catchment. The results show fish communities are significantly correlated with above-ground biomass. Effect of land use on fish communities is more severe in dry season. The results imply that size of ecological buffer zone along stream channel should be estimated by integrating information of above-ground biomass, precipitation and management program of each type of land use.

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Map of vegetation cover in one of the sub-catchments



High sedimentation had reduced aquatic habitat diversity and quality. This sedimentation is resulted from agricultural activities