

**Impact of various land use types on the water qualities at
Sakaerat Environmental Research Station (SERS).**

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ABSTRACT

Impact studies of various land use types on the water qualities such pH, turbidity, hardness, electrical conductivity, color and temperature were conducted at Sakaerat Environmental Research Station (SERS) during April, 1979 to March, 1980. The results indicated that turbidity, hardness, electrical conductivity and color of the stream water from the swidden area (Huay Namkham) were higher than those of the dry evergreen forest (Huay Wanasart) except that of pH value. The turbidity and color of stream water from the old clearing area (Huay Tayoo) were also higher than those of the dry evergreen forest, while the pH, hardness, and electrical conductivity of the water from the former were much more lower than the later area.

The average values of stream qualities of the dry evergreen forest, swidden land, and old clearing area were as follows: pH 6.84, 6.69 and 6.10; turbidity 3.85, 19.65 and 15.25 JTU; hardness 24.49, 51.28 and 14.60 ppm. CaCO₃; electrical conductivity 0.147, 0.367 and 0.095 mmho/cm.; and color 12, 223 and 220 units; respectively. The results also showed that the stream water temperature of the dry evergreen forest was less fluctuated than those of the swidden and old clearing areas. It was the swidden and old clearing areas could affect the water qualities more especially turbidity and color of stream water than the evergreen forest. This study confirmed that the change of land use pattern from forested land into agricultural or swidden land will lower the water quality especially for potable uses. However, the quality of all the stream water from these areas can be utilized for agricultural as well as for the other general purposes.