

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

Absence of animal life in the site SC 2 in dry season and very few number of animals in wet season denotes severe pollution of this site suggesting suitability of use of macroinvertebrates as a bioindicator in water quality monitoring. This suitability further confirmed by the abundant presence of highly pollutant tolerant Tubificids in site SC 1 which is considered to be a highly polluted site. Most of the moderately impaired sites in the dry season showed improved condition in the wet season suggesting dilution of pollutant.

ASS are very easy to use compared to conventional methods especially Ekman grab. ASS provides little sorting time due to presence of less debris in the sample. Use of Ekman grab is very difficult and it collect less animals both in terms of taxa richness and abundance, in wet season and sites with high flow rates, due to which the bottom substrate flush off allowing inefficient sampling. This may be a main reason for indicating conflicting results of sites impairment recorded from WB sampler and conventional methods.

High abundance of animals in wet season in ASS suggests colonization of the drifting animals. Determination of optimum colonization time is only partially successful due to unexpected high water level in the site. However, it indicates that 8 weeks as a optimum colonization time.

Loss of ASS is a common incident. When ASS set in sites where local people use water for their needs, it is natural for them to remove these as they are strange objects. To mitigate this as well as seek people's participation in such studies, it is worth to educate or make people aware on the necessity of these studies.

Comparing the two sampling methods with two different surface areas after data standardization in to one unit, data can be under or over estimate. The recommended solution for this problem is either make a samples with more or less same surface area or taking many replicate samples until nearly same surface area is obtained.

As macroinvertebrates prefer specific substrate types, when Surber sample is used in water quality monitoring, it is better to take integrated sample covering all possible and existing substrate types.

RBP (II) is a good tool in water quality monitoring to get broad idea about site impairments. However, for Thailand and related region, some indices use in RBP (II) matrices have to be improved especially indices based on tolerance values. This improvement can be either by changing percent range of quality points or tolerance values.

Future research on ASS, the followings are suggested. i) A comparative study be under to study the efficiency of representative WMC sampler (filled with natural stones) with standard WMC sampler (filled with glass or plastic beads). ii) Investigation of effect of stone surface area on colonization, because of WMC filled with small stones provide more interspaces than those filled with large stones.